As filed with the Securities and Exchange Commission on February 19, 2020.

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 20-F

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934

Or

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2019

Or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Or

SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of event requiring this shell company report ____________

For the transition period from N/A to N/A

Commission file number: 001-14930

HSBC Holdings plc

(Exact name of Registrant as specified in its charter)

N/A	**United Kingdom**
(Translation of Registrant's name into English)	(Jurisdiction of incorporation or organisation)

8 Canada Square
London E14 5HQ
United Kingdom
(Address of principal executive offices)

Anthony J Bloomfield
8 Canada Square
London E14 5HQ
United Kingdom
Tel +44 (0) 20 7991 8888
Fax +44 (0) 20 7992 4880
(Name, Telephone, Email and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Securities Exchange Act of 1934:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Ordinary Shares, nominal value US$0.50 each (GB0005405286)	HSBA	London Stock Exchange
	5	Hong Kong Stock Exchange
	HSB	Euronext Paris
	HSBC.BH	Bermuda Stock Exchange
	HSBC	New York Stock Exchange*
American Depository Shares, each representing 5 Ordinary Shares of nominal value US$0.50 each (US4042804066)	HSBC	New York Stock Exchange

6.20% Non-Cumulative Dollar Preference Shares, Series A (US4042806046)	HSBC A	New York Stock Exchange*
American Depositary Shares evidenced by American Depositary receipts, each representing one-fortieth of a Share of 6.20% Non- Cumulative Dollar Preference Shares, Series A (US4042806046)	HSBC A	New York Stock Exchange
7.625% Subordinated Notes due 2032 (US404280AF65)	HSBC/32A	New York Stock Exchange
7.35% Subordinated Notes due 2032 (US404280AE90)	HSBC/32B	New York Stock Exchange
6.5% Subordinated Notes 2036 (US404280AG49)	HSBC36	New York Stock Exchange
6.5% Subordinated Notes 2037 (US404280AH22)	HSBC37	New York Stock Exchange
6.8% Subordinated Notes Due 2038 (US404280AJ87)	HSBC38	New York Stock Exchange
5.10% Senior Unsecured Notes Due 2021 (US404280AK50)	HSBC21	New York Stock Exchange
4.875% Senior Unsecured Notes Due 2022 (US404280AL34)	HSBC22	New York Stock Exchange
6.100% Senior Unsecured Notes due 2042 (US404280AM17)	HSBC42	New York Stock Exchange
4.00% Senior Unsecured Notes Due 2022 (US404280AN99)	HSBC22A	New York Stock Exchange
4.250% Subordinated Notes due 2024 (US404280AP48)	HSBC24	New York Stock Exchange
5.250% Subordinated Notes due 2044 (US404280AQ21)	HSBC44	New York Stock Exchange
4.250% Subordinated Notes due 2025 (US404280AU33)	HSBC25	New York Stock Exchange
3.400% Senior Unsecured Notes due 2021 (US404280AV16)	HSBC21A	New York Stock Exchange
4.300% Senior Unsecured Notes due 2026 (US404280AW98)	HSBC26	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2021 (US404280AX71)	HSBC21B	New York Stock Exchange
2.950% Senior Unsecured Notes due 2021 (US404280AY54)	HSBC21C	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2021 (US404280AZ20)	HSBC21D	New York Stock Exchange
3.600% Senior Unsecured Notes due 2023 (US404280BA69)	HSBC23	New York Stock Exchange
3.900% Senior Unsecured Notes due 2026 (US404280BB43)	HSBC26A	New York Stock Exchange
2.650% Senior Unsecured Notes due 2022 (US404280BF56)	HSBC22B	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2022 (US404280BG30)	HSBC22C	New York Stock Exchange
4.375% Subordinated Notes due 2026 (US404280BH13)	HSBC26B	New York Stock Exchange
3.262% Fixed Rate/Floating Rate Senior Unsecured Notes due 2023 (US404280BJ78)	HSBC23A	New York Stock Exchange
4.041% Fixed Rate/Floating Rate Senior Unsecured Notes due 2028 (US404280BK42)	HSBC28	New York Stock Exchange
3.033% Fixed Rate/Floating Rate Senior Unsecured Notes due 2023 (US404280BM08)	HSBC23B	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2021 (US404280BQ12)	HSBC21E	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2024 (US404280BR94)	HSBC24A	New York Stock Exchange
3.950% Fixed Rate/Floating Rate Senior Unsecured Notes due 2024 (US404280BS77)	HSBC24B	New York Stock Exchange
4.583% Fixed Rate/Floating Rate Senior Unsecured Notes due 2029 (US404280BT50)	HSBC29	New York Stock Exchange
2.175% Resettable Senior Unsecured Notes due 2023 (XS1823595647)	N/A	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2021 (US404280BV07)	HSBC21F	New York Stock Exchange

Floating Rate Senior Unsecured Notes due 2026 (US404280BW89)	HSBC26D	New York Stock Exchange
4.292% Fixed Rate/Floating Rate Senior Unsecured Notes due 2026 (US404280BX62)	HSBC26C	New York Stock Exchange
3.803% Fixed Rate/Floating Rate Senior Unsecured Notes due 2025 (US404280BZ11)	HSBC25A	New York Stock Exchange
Floating Rate Senior Unsecured Notes due 2025 (US404280CA50)	HSBC25B	New York Stock Exchange
3.000% Resettable Senior Unsecured Notes due 2028 (XS1961843171)	HSBC28A	New York Stock Exchange
3.973% Fixed Rate/Floating Rate Senior Unsecured Notes due 2030 (US404280CC17)	HSBC30	New York Stock Exchange
3.00% Resettable Senior Unsecured Notes due 2030 (XS2003500142)	HSBC30A	New York Stock Exchange
2.633% Fixed Rate/Floating Rate Senior Unsecured Notes due 2025 (US404280CE72)	HSBC25C	New York Stock Exchange

* Not for trading, but only in connection with the registration of American Depositary Shares.

Securities registered or to be registered pursuant to Section 12(g) of the Securities Exchange Act of 1934: **None**

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Securities Exchange Act of 1934: **None**

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report:

Ordinary Shares, nominal value US$0.50 each **20,638,524,545**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. ☑ **Yes** ☐ No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. ☐ Yes ☑ **No**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. ☑ **Yes** ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit). ☑ **Yes** ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or an emerging growth company. See definition of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act.:

Large accelerated filer ☑	Accelerated filer	Non-accelerated filer	Emerging growth company

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP	International Financial Reporting Standards as issued by the International Accounting Standards Board ☑	Other

If "Other" has been checked in response to the previous question indicate by check mark which financial statement item the registrant has elected to follow.

☐ Item 17 ☐ Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

☐ Yes ☑ **No**

Connecting customers to opportunities

HSBC aims to be where the growth is, enabling businesses to thrive and economies to prosper, and ultimately helping people to fulfil their hopes and realise their ambitions.

We aim to deliver long-term value for our shareholders through...

...our extensive international network...

We are a leading international bank, serving more than 40 million personal, wealth and corporate customers.

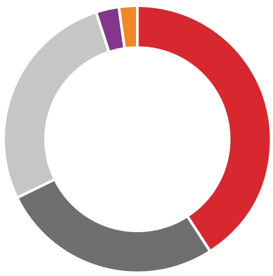
...our access to high-growth markets...

Our global footprint and market-leading transaction banking franchise provide extensive access to faster-growing markets, particularly in Asia and the Middle East.

...and our balance sheet strength.

We continue to maintain a strong capital, funding and liquidity position with a diversified business model.

Reported revenue by global business



- RBWM **41%**
- CMB **27%**
- GB&M **27%**
- GPB **3%**
- Corporate Centre **2%**

Total assets

$2.7tn

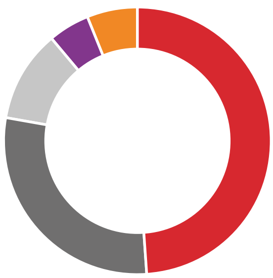
(2018: $2.6tn)

Common equity tier 1 ratio

14.7%

(2018: 14.0%)

Reported revenue by region



- Asia **49%**
- Europe **29%**
- North America **11%**
- Latin America **5%**
- Middle East and North Africa **6%**

This *Strategic Report* was approved by the Board on 18 February 2020.

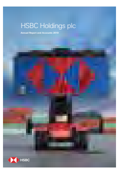
Mark E Tucker
Group Chairman

A reminder
The currency we report in is US dollars.

Adjusted measures
We supplement our IFRS figures with alternative performance measures used by management internally. These measures are highlighted with the following symbol: ◆

Further explanation may be found on page 28.

None of the websites referred to in this *Form 20-F* for the year ended 31 December 2019 (the '*Form 20-F*') (including where a link is provided), and none of the information contained on such websites, are incorporated by reference in this report.



Cover image: Connecting our customers through blockchain
For centuries, international trade has been reliant on paper documents – from letters of credit to bills of lading. Today, HSBC is leading the way towards paperless trade finance. We are working with our clients, financial institutions and fintech partners to pioneer digitisation of trade, which has made doing business simpler and faster, improving the working capital efficiency for our customers. Paperless trade is becoming a reality. We have used a blockchain-based letter of credit platform, built on R3 Corda blockchain technology, to complete digital trade transactions for shipments of iron ore from Australia to mainland China, and soybeans from Argentina to Malaysia. By investing in digital solutions such as blockchain technology, we can help to increase the velocity of trade globally.

Contents

Cautionary statement regarding forward-looking statements

The Form 20-F contains certain forward-looking statements with respect to HSBC's financial condition, results of operations and business, including the strategic priorities and 2020 financial, investment and capital targets described herein.

Statements that are not historical facts, including statements about HSBC's beliefs and expectations, are forward-looking statements. Words such as 'expects', 'targets', 'anticipates', 'intends', 'plans', 'believes', 'seeks', 'estimates', 'potential' and 'reasonably possible', variations of these words and similar expressions are intended to identify forward-looking statements. These statements are based on current plans, estimates and projections, and therefore undue reliance should not be placed on them. Forward-looking statements speak only as of the date they are made. HSBC makes no commitment to revise or update any forward-looking statements to reflect events or circumstances occurring or existing after the date of any forward-looking statements.

Written and/or oral forward-looking statements may also be made in the periodic reports to the US Securities and Exchange Commission, summary financial statements to shareholders, proxy statements, offering circulars and prospectuses, press releases and other written materials, and in oral statements made by HSBC's Directors, officers or employees to third parties, including financial analysts.

Forward-looking statements involve inherent risks and uncertainties. Readers are cautioned that a number of factors could cause actual results to differ, in some instances materially, from those anticipated or implied in any forward-looking statement. These include, but are not limited to:

- changes in general economic conditions in the markets in which we operate, such as continuing or deepening recessions and fluctuations in employment and credit-worthy customers beyond those factored into consensus forecasts; changes in foreign exchange rates and interest rates, including the accounting impact resulting from financial reporting in respect of hyperinflationary economies; volatility in equity markets; lack of liquidity in wholesale funding or capital markets, which may affect our ability to meet our obligations under financing facilities or to fund new loans, investments and businesses; other unfavourable political or diplomatic developments producing social instability or legal uncertainty, such as the unrest in Hong Kong, which in turn may affect demand for our products and services; the coronavirus outbreak, which may have adverse impacts on income due to lower lending and transaction volumes; climate change, which may cause both idiosyncratic and systemic risks resulting in potential financial impacts; illiquidity and downward price pressure in national real estate markets; adverse changes in central banks' policies with respect to the provision of liquidity support to financial markets; heightened market concerns over sovereign creditworthiness in over-indebted countries; adverse changes in the funding status of public or private defined benefit pensions; consumer perception as to the continuing availability of credit; exposure to counterparty risk, including third parties using us as a conduit for illegal activities without our knowledge; the expected discontinuation of certain key Ibors and the development of alternative risk-free benchmark rates, which may require us to enhance our capital position and/or position additional capital in specific subsidiaries; price competition in the market segments we serve; and deviations from the market and economic assumptions that form the basis for our ECL measurements;
- changes in government policy and regulation, including the monetary, interest rate and other policies of central banks and other regulatory authorities in the principal markets in which we operate and the consequences thereof; initiatives to change the size, scope of activities and interconnectedness of financial institutions in connection with the implementation of stricter regulation of financial institutions in key markets worldwide; revised capital and liquidity benchmarks, which could serve to deleverage bank balance sheets and lower returns available from the current business model and portfolio mix; imposition of levies or taxes designed to change business mix and risk appetite; the practices, pricing or responsibilities of financial institutions serving their consumer markets; expropriation, nationalisation, confiscation of assets and changes in legislation relating to foreign ownership; the UK's exit from the EU which may result in a prolonged period of uncertainty, unstable economic conditions and market volatility, including currency fluctuations; general changes in government policy that may significantly influence investor decisions; the costs, effects and outcomes of regulatory reviews, actions or litigation, including any additional compliance requirements; and the effects of competition in the markets where we operate including increased competition from non-bank financial services companies; and
- factors specific to HSBC, including our success in adequately identifying the risks we face, such as the incidence of loan losses or delinquency, and managing those risks (through account management, hedging and other techniques); our ability to achieve our targets which may result in our failure to achieve any of the expected benefits of our strategic initiatives; model limitations or failure, which may require us to hold additional capital and incur losses; changes to the judgments, estimates and assumptions we base our financial statements on; changes in our ability to meet the requirements of regulatory stress tests; a reduction in the credit rating assigned to us or any of our subsidiaries, which could increase the cost or decrease the availability of our funding and affect our liquidity position and net interest margin; changes to the reliability and security of our data management, data privacy, information and technology infrastructure, including threats from cyber-attacks, which may impact our ability to service clients and may result in financial loss, business disruption and/or loss of customer services and data; changes in insurance customer behaviour and insurance claim rates; our dependence on loan payments and dividends from subsidiaries to meet our obligations; changes in accounting standards, which may have a material impact on the way we prepare our financial statements; changes in our ability to manage third-party, fraud and reputational risks inherent in our operations; employee misconduct, which may result in regulatory sanctions and/or reputational or financial harm; and changes in skill requirements, ways of working and talent shortages, which may affect our ability to recruit and retain senior management and skilled personnel. Effective risk management depends on, among other things, our ability through stress testing and other techniques to prepare for events that cannot be captured by the statistical models it uses; and our success in addressing operational, legal and regulatory, and litigation challenges; and other risks and uncertainties we identify in 'top and emerging risks' on pages 103 to 116.

Certain defined terms

Unless the context requires otherwise, 'HSBC Holdings' means HSBC Holdings plc and 'HSBC', the 'Group', 'we', 'us' and 'our' refer to HSBC Holdings together with its subsidiaries. Within this document the Hong Kong Special Administrative Region of the People's Republic of China is referred to as 'Hong Kong'. When used in the terms 'shareholders' equity' and 'total shareholders' equity', 'shareholders' means holders of HSBC Holdings ordinary shares and those preference shares and capital securities issued by HSBC Holdings classified as equity. The abbreviations '$m', '$bn' and '$tn' represent millions, billions (thousands of millions) and trillions of US dollars, respectively.

Highlights

The macroeconomic environment and interest rate outlook have changed since we set our strategic priorities and financial targets in June 2018.

While much of our business has held up well, particularly in Asia and the markets served by our international network, underperformance in other areas had a negative impact on our returns.

We have tempered our revenue growth expectations and adjusted our business plan accordingly. Our 2020 business update aims to increase returns for investors, create the capacity to invest in the future and build a platform for sustainable growth.

We continue to monitor the recent coronavirus outbreak, which is causing economic disruption in Hong Kong and mainland China and may impact performance in 2020.

Delivery against our June 2018 financial targets

Return on average tangible equity

8.4%

Target: >11% by 2020
(2018: 8.6%)

Adjusted jaws

3.1%

Target: positive adjusted jaws
(2018: (1.2)%)

Dividends per ordinary share in respect of 2019

$0.51

Target: sustain
(2018: $0.51)

Further explanation of performance against Group financial targets may be found on page 26.

Financial performance (vs 2018)

- **Reported profit attributable to ordinary shareholders down 53% to $6.0bn**, materially impacted by a goodwill impairment of $7.3bn. Reported profit before tax down 33% to $13.3bn. Reported revenue up 4% and reported operating expenses up 22% due to a goodwill impairment of $7.3bn.
- **Goodwill impairment of $7.3bn**, primarily $4.0bn related to Global Banking and Markets ('GB&M') and $2.5bn in Commercial Banking ('CMB') in Europe. This reflected lower long-term economic growth rate assumptions, and additionally for GB&M, the planned reshaping of the business.
- **Adjusted revenue up 5.9% to $55.4bn** and **adjusted profit before tax up 5% to $22.2bn**, reflecting good revenue growth in Retail Banking and Wealth Management ('RBWM'), Global Private Banking ('GPB') and CMB, together with improved cost control.
- Adjusted revenue in Asia up 7% to $30.5bn and adjusted profit before tax up 6% to $18.6bn. Within this, there was a resilient performance in Hong Kong, with adjusted profit before tax up 5% to $12.1bn.
- **Adjusted expected credit losses and other credit impairment charges ('ECL') up $1.1bn to $2.8bn** from higher charges in CMB and RBWM.
- **Positive adjusted jaws of 3.1%**, reflecting improving cost discipline. **Adjusted operating expense growth of 2.8%**, well below the growth rate in 2018 (compared with 2017).
- **Return on average tangible equity ('RoTE') down 20 basis points ('bps') to 8.4%**, supported by a resilient Hong Kong performance.
- **Earnings per share of $0.30**, including a $0.36 per share impact of the goodwill impairment.

2020 business update

In our business update, we have set out our plans to improve the Group's returns by 2022 to allow us to meet our growth ambition and sustain our current dividend policy. We intend to reduce capital and costs in our underperforming businesses to enable continued investment in businesses with stronger returns and growth prospects. We also plan to simplify our complex organisational structure, including a reduction in Group and central costs, while improving the capital efficiency of the Group.

The Group will target:

- a **gross risk-weighted asset ('RWA') reduction of over $100bn** by the end of 2022, with these RWAs to be reinvested, resulting in broadly flat RWAs between 2019 and 2022;
- a **reduced adjusted cost base of $31bn** or below in 2022, underpinned by a new cost reduction plan of $4.5bn; and
- a **reported RoTE in the range of 10% to 12%** in 2022, with the full benefit of our cost reductions and redeployed RWAs flowing into subsequent years.

To achieve our targets, we expect to incur restructuring costs of around $6bn and asset disposal costs of around $1.2bn during the period to 2022, with the majority of restructuring costs incurred in 2020 and 2021.

We intend to **sustain the dividend and maintain a common equity tier 1 ('CET1') ratio in the range of 14% to 15%**, and plan to be at the top end of this range by the end of 2022.

We plan to suspend share buy-backs for 2020 and 2021, given the high level of restructuring expected to be undertaken over the next two years. We intend to return to neutralising scrip dividend issuance from 2022 onwards.

Key financial metrics

	For the year ended		
Reported results	**2019**	2018	2017
Reported revenue ($m)	**56,098**	53,780	51,445
Reported profit before tax ($m)[1]	**13,347**	19,890	17,167
Reported profit after tax ($m)[1]	**8,708**	15,025	11,879
Profit attributable to the ordinary shareholders of the parent company ($m)[1]	**5,969**	12,608	9,683
Basic earnings per share ($)[1]	**0.30**	0.63	0.48
Diluted earnings per share ($)[1]	**0.30**	0.63	0.48
Return on average ordinary shareholders' equity (%)[1]	**3.6**	7.7	5.9
Return on average tangible equity (%)	**8.4**	8.6	6.8
Net interest margin (%)	**1.58**	1.66	1.63
Adjusted results			
Adjusted revenue ($m)	**55,409**	52,331	50,173
Adjusted profit before tax ($m)	**22,212**	21,182	20,556
Adjusted jaws (%)	**3.1**	(1.2)	1.0
Cost efficiency ratio (%)	**59.2**	61.0	60.3
Expected credit losses and other credit impairment charges ('ECL') as % of average gross loans and advances to customers (%)	**0.27**	0.17	0.18

	At 31 December		
Balance sheet	**2019**	2018	2017
Total assets ($m)	**2,715,152**	2,558,124	2,521,771
Net loans and advances to customers ($m)	**1,036,743**	981,696	962,964
Customer accounts ($m)	**1,439,115**	1,362,643	1,364,462
Average interest-earning assets ($m)	**1,922,822**	1,839,346	1,726,120
Loans and advances to customers as % of customer accounts (%)	**72.0**	72.0	70.6
Total shareholders' equity ($m)	**183,955**	186,253	190,250
Tangible ordinary shareholders' equity ($m)	**144,144**	140,056	144,915
Net asset value per ordinary share at period end ($)[2]	**8.00**	8.13	8.35
Tangible net asset value per ordinary share at period end ($)	**7.13**	7.01	7.26
Capital, leverage and liquidity			
Common equity tier 1 capital ratio (%)[3]	**14.7**	14.0	14.5
Risk-weighted assets ($m)[3]	**843,395**	865,318	871,337
Total capital ratio (%)[3]	**20.4**	20.0	20.9
Leverage ratio (%)[3]	**5.3**	5.5	5.6
High-quality liquid assets (liquidity value) ($bn)	**601**	567	513
Liquidity coverage ratio (%)	**150**	154	142
Share count			
Period end basic number of $0.50 ordinary shares outstanding (millions)	**20,206**	19,981	19,960
Period end basic number of $0.50 ordinary shares outstanding and dilutive potential ordinary shares (millions)	**20,280**	20,059	20,065
Average basic number of $0.50 ordinary shares outstanding (millions)	**20,158**	19,896	19,972
Dividend per ordinary share (in respect of the period) ($)	**0.51**	0.51	0.51

1 Includes the impact of a $7.3bn goodwill impairment in 2019.

2 The definition of net asset value per ordinary share is total shareholders equity, less non-cumulative preference shares and capital securities, divided by the number of ordinary shares in issue excluding shares the company has purchased and are held in treasury.

3 Unless otherwise stated, regulatory capital ratios and requirements are calculated in accordance with the transitional arrangements of the Capital Requirements Regulation in force in the EU at the time, including the regulatory transitional arrangements for IFRS 9 'Financial Instruments' in article 473a. The capital ratios and requirements at 31 December 2019 are reported in accordance with the revised Capital Requirements Regulation and Directive ('CRR II'), as implemented, whereas prior periods apply the Capital Requirements Regulation and Directive ('CRD IV'). Leverage ratios are calculated using the end point definition of capital.

HSBC at a glance

About HSBC

With assets of $2.7tn and operations in 64 countries and territories at 31 December 2019, HSBC is one of the largest banking and financial services organisations in the world.

More than
40 million
customers bank with us

We employ around
235,000
people around the world
(full-time equivalent staff)

We have around
197,000
shareholders in 130 countries and territories

Engaging with our stakeholders

Building strong relationships with our stakeholders helps enable us to deliver our strategy in line with long-term values, and operate the business in a sustainable way.

Our stakeholders are the people who work for us, bank with us, own us, regulate us, and live in the societies we serve and the planet we all inhabit. These human connections are complex and overlap. Many of our employees are customers and shareholders, while our business customers are often suppliers. We exist to serve, creating value for our customers and shareholders. Our size and global reach mean our actions can have a significant impact. We are committed to doing business responsibly, and thinking for the long term. This is key to delivering our strategy.

Our values

Our values help define who we are as an organisation, and are key to our long-term success. We aspire to be:

Dependable
We are dependable, standing firm for what is right and delivering on commitments.

Open
We are open to different ideas and cultures, and value diverse perspectives.

Connected
We are connected to our customers, communities, regulators and each other, caring about individuals and their progress.

Our global businesses

We serve customers through four global businesses. On pages 30 to 37 we provide an overview of our performance in 2019 for each of the global businesses, as well as our Corporate Centre.

Retail Banking and Wealth Management ('RBWM')

We help millions of our customers manage their day-to-day finances and save for the future.

Commercial Banking ('CMB')

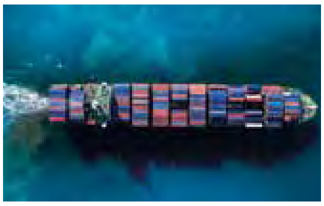
Our global reach and expertise help domestic and international businesses around the world unlock their potential.

Global Banking and Markets ('GB&M')

We provide a comprehensive range of financial services and products to corporates, governments and institutions.

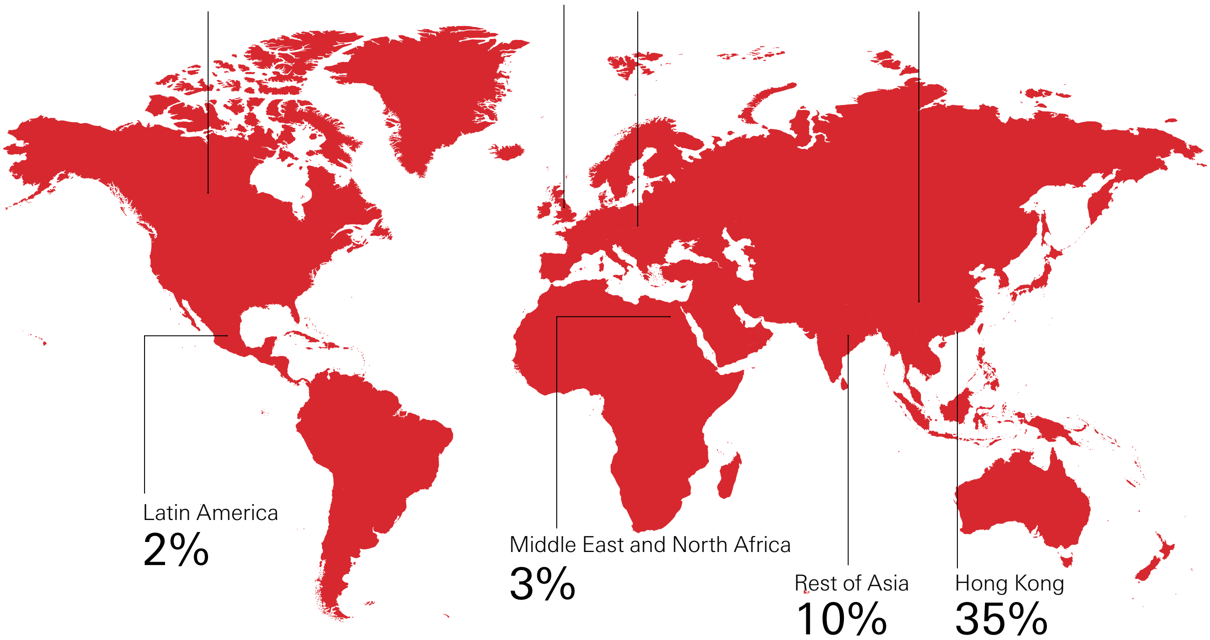
Global Private Banking ('GPB')

We serve high net worth and ultra high net worth individuals and families.



Our global reach

The map below represents customer accounts by country/territory at 31 December 2019.



See page 55 for further information on our customers and approach to geographical information.

Awards

Selected awards and recognitions

Asiamoney New Silk Road Finance Awards 2019

Best Overall International Bank for BRI

Euromoney Awards for Excellence 2019

World's Best Bank for Sustainable Finance
World's Best Bank for Public-Sector Clients
World's Best Bank for SMEs
Hong Kong's Best Bank
Mexico's Best Bank

Euromoney Cash Management Survey 2019

Best Global Cash Manager for Corporates

Euromoney Trade Finance Survey 2019

Top Global Trade Finance Bank

The Banker Investment Banking Awards 2019

Most Innovative Investment Bank for Emerging Markets

The Banker Transaction Banking Awards 2019

Best Global Transaction Bank
Best Bank for Cash Management

PWM/The Banker Global Private Banking Awards 2019

Best Private Bank in Hong Kong
Best Private Bank in the UK

Group Chairman’s statement

The slowdown in global growth underlines the need to make the most of the opportunities ahead.

Mark E Tucker
Group Chairman

At the time of our interim results, I said that the external environment was becoming increasingly complex and challenging. As our 2019 results demonstrate, this has proven to be the case.

An impairment of historical goodwill caused our reported profit before tax to fall by 33%, but the strength and resilience of our business model delivered an adjusted profit before tax of $22.2bn, up 5%. Retail Banking and Wealth Management, Commercial Banking and Global Private Banking performed well, while our leading transaction banking franchise again demonstrated the effectiveness of our global network. This, alongside the Group’s capital strength, has given the Board the confidence to approve an unchanged dividend of $0.51 for 2019.

Strategy

At the time of Noel Quinn’s appointment as interim Group Chief Executive in August 2019, the Board gave him full authority to address areas of weakness, improve performance and create capacity to invest. Since then, he has worked closely with the Board to begin delivering against this mandate. The Board has endorsed a plan that aims to reallocate capital to areas that can deliver stronger returns, to reduce costs across the Group, and to simplify the business.

Even in this increasingly challenging competitive environment, there are many opportunities for a bank of HSBC’s scale and reach. We have made a good start in capturing these opportunities, but we need to go further and faster to capitalise fully on our heritage, network and financial strength. We are intent on driving through the necessary change at pace.

Board of Directors

Our previous Group Chief Executive, John Flint, left the Group in August 2019. I am very grateful to John for his personal commitment and dedication, and for the significant contribution that he made over his long career at HSBC. Noel Quinn joined the Board as interim Group Chief Executive in August 2019. The process for appointing a permanent Group Chief Executive is ongoing and we expect to make an appointment in accordance with our original timetable.

José Antonio Meade Kuribreña joined the Board as an independent non-executive Director in March 2019.

Jonathan Evans (Lord Evans of Weardale) retired from the Board in April 2019. Marc Moses stepped down as an executive Director and Group Chief Risk Officer at the end of December 2019. Sir Jonathan Symonds stepped down as Deputy Group Chairman and Senior Independent Director today, and is replaced in the role of Senior Independent Director by David Nish. Kathleen Casey has informed the Board that she will not stand for re-election at the next AGM, in April 2020.

Jonathan, Marc, Jon and Kathy have all made formidable and invaluable contributions to the work of the Board and they leave with our profound thanks and gratitude.

"Even in this environment, there are many opportunities for a bank of HSBC's scale and reach."

The global economy
HSBC is a global bank, albeit one closely associated with mainland China, Hong Kong and the UK. Each of these continues to face major challenges.

We continue to monitor the coronavirus outbreak very closely. Our priority is always the well-being of our customers and staff, and we will continue to do all we can to ensure their safety and support them through this difficult time.

Social unrest in Hong Kong has weighed on the local economy and caused significant disruption. We deplore all violence and support a peaceful resolution under the framework of 'one country, two systems'. I am enormously proud of the dedication and perseverance of our people in Hong Kong, who have continued to support our customers to their utmost ability in spite of the difficulties they have faced.

Now that the UK has officially left the EU, negotiations can begin on their future relationship. This has provided some certainty, but no trade negotiation is ever straightforward. It is essential that the eventual agreement protects and fosters the many benefits that financial services provide to both the UK and the EU. At the same time as remaining close to Europe, the UK must also strengthen its links with other key partners, including the US, China and south-east Asia. We look forward to working with governments to help achieve this.

The macroeconomic environment as a whole remains uncertain. As a result of the impact of the coronavirus outbreak, we have lowered our expectations for growth in the Asian economy in 2020. The main impact will be in the first quarter, but we expect some improvement as the virus becomes contained.

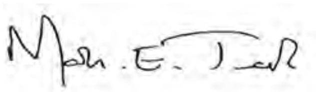
The agreement of a 'phase one' trade deal between China and the US is a positive step, but we remain cautious about the prospects for a wider-ranging agreement given disagreements that still exist, particularly over technology. We expect growth in the US to be resilient, but slower than in 2019.

Overall, we expect global growth to stabilise over the course of 2020, albeit at a slightly lower rate than in recent years. This underlines the need to make the most of the opportunities ahead.

Serving all our stakeholders
HSBC has long recognised its responsibilities to its stakeholders. Being a responsible corporate citizen is a principle that must sit at the heart of any sustainable business. I welcome the renewed focus and debate around corporate purpose in the media and elsewhere over the last 12 months. We are committed to creating long-term value for all those we work with and for – our investors, customers, employees, suppliers and the communities we serve.

Business also has a critical role to play in the transition to a low-carbon future, and we believe that we have an opportunity to be a leader. Sustainability features prominently in our strategy, as well as in the way we run the business. We are absolutely committed to working closely with our customers, regulators and governments to accelerate progress towards a cleaner and more sustainable world. The steps we are taking to achieve this are outlined in our *ESG Update*, which is also published today.

Our people are the driving force behind HSBC's success. 2019 was a challenging year, throughout which the professionalism and expertise of our people were always to the fore in even the most testing circumstances. I am very grateful to them for their hard work and their commitment to our customers, and each other.



Mark E Tucker
Group Chairman

18 February 2020

Group Chief Executive's review

As we pursue our plan to deliver greater value for our customers and shareholders, we will continue to seek to grow the parts of the business where we are strongest while addressing areas of underperformance.

Noel Quinn
Group Chief Executive

HSBC exists for a clear purpose – to connect customers to opportunities. We want to be where the growth is, enabling businesses to thrive and economies to prosper, and helping people to fulfil their hopes and realise their ambitions.

For 155 years, this purpose has underpinned all that we do, and it continues to guide us as we seek to adapt HSBC to changing customer expectations in an evolving economic, political and digital landscape.

HSBC possesses a number of advantages that set us apart from our competitors. We have an extensive international footprint with excellent access to faster-growing areas in Asia and the Middle East; a market-leading transaction banking franchise connecting customers to opportunities around the world; and full-scale retail banking operations in Hong Kong, the UK and Mexico, with a premier international wealth proposition.

In 2018, we began a programme of investment to build on these strengths, with our customers at the centre. We have since invested more than $8.6bn – of which $4.5bn was in 2019 – to connect more customers to our international network, to provide a better service through improved digital capabilities, and to make it easier for our customers to bank with us. This has enhanced the service we offer, helping to attract new customers and capture market share in our major markets and from our international network.

This was evident in a resilient performance in 2019. A strong first half, particularly in Asia, was tempered by the impact of worsening global economic conditions, geopolitical uncertainty and a lower interest rate outlook in the second half of the year. Much of our business held up well, particularly in Asia and the markets served by our international network. However, underperformance in other areas acted as a drag on the returns of the Group.

As we pursue our plan to deliver greater value for our customers and shareholders, we will continue to seek to grow the parts of the business where we are strongest. However, given the changed economic environment, we must also act decisively to reshape areas of persistent underperformance, particularly in Global Banking and Markets in Europe and the US. We also aim to simplify the Group to accelerate the pace of change and reduce the size of its cost base. This should create a leaner, simpler and more competitive Group that is better positioned to deliver higher returns for investors.

Financial performance
Group reported profit before tax was down 33% compared with 2018, due to a goodwill impairment of $7.3bn. This arose from an update to long-term economic growth assumptions, which impacted a number of our businesses, and from the planned reshaping of Global Banking and Markets. Adjusted profit before tax increased by 5%, reflecting revenue growth in three of our four global businesses. Disciplined cost management helped secure positive adjusted jaws of 3.1%, despite continued heavy investment in growth and technology. Our Group return on average tangible equity – our headline measure – fell from 8.6% in 2018 to 8.4%.

We delivered good revenue growth in our targeted areas. Our Hong Kong business and our UK ring-fenced bank, HSBC UK, showed great resilience to produce adjusted revenue growth of 7% and 3% respectively, despite the uncertainty affecting both places during 2019. Our businesses in Mexico, India, the ASEAN region and mainland China also performed well. The biggest areas of

> "Our immediate aims are to increase returns, invest in the future, and build a platform for sustainable growth."

underperformance were our businesses in the US and our European non-ring-fenced bank, both of which saw a reduction in revenue and profit before tax.

Retail Banking and Wealth Management had a good year, delivering adjusted revenue growth of 9%. This reflected the impact of investment in improved customer service and growth, which helped us win new customers, increase deposits, and grow lending in our major markets, particularly mortgage lending in the UK and Hong Kong. Our Wealth business also benefited from favourable market impacts in Insurance.

Commercial Banking grew adjusted revenue by 6%, with increases in all major products and regions. Investment in new platforms, digital capabilities and increased lending improved our ability to attract new customers and capitalise on wider margins, particularly in Global Liquidity and Cash Management and Credit and Lending.

Global Banking and Markets had a challenging year in which economic uncertainty led to reduced client activity, particularly in Europe and the US. Despite this, adjusted revenue was just 1% lower than 2018 due to strong performances from our transaction banking businesses.

Global Private Banking continued to benefit from close collaboration with our other global businesses, attracting $23bn of net new money and increasing adjusted revenue by 5%.

2020 outlook
Since the start of January, the coronavirus outbreak has created significant disruption for our staff, suppliers and customers, particularly in mainland China and Hong Kong. We understand the difficulties this poses and have put measures in place to support them through this challenging time. Depending on how the situation develops, there is the potential for any associated economic slowdown to impact our expected credit losses in Hong Kong and mainland China. Longer term, it is also possible that we may see revenue reductions from lower lending and transaction volumes, and further credit losses stemming from disruption to customer supply chains. We continue to monitor the situation closely.

Reshaping for sustainable growth
Our immediate aims are to increase returns, create the capacity to invest in the future, and build a platform for sustainable growth. We intend to do this in three ways.

First, we plan to materially reshape the underperforming areas of the Group. Around 30% of our capital is currently allocated to businesses that are delivering returns below their cost of equity, largely in Global Banking and Markets in Europe and the US. We intend to focus these businesses on our strengths as a leading international bank and to simplify our footprint, exiting businesses where necessary and reducing both risk-weighted assets and costs.

Second, we aim to reduce Group costs by increasing efficiencies, sharing capabilities and investing in automation and digitisation.

Third, we intend to simplify HSBC to increase the pace of execution and agility. This includes changing our matrix structure and reducing fragmentation, simplifying the geographical organisation of the Group, and combining Retail Banking and Wealth Management and Global Private Banking to create one of the world's largest wealth management businesses.

In total, we are targeting more than $100bn of gross risk-weighted asset reductions, a reduced cost base of $31bn or lower, and a Group return on average tangible equity of 10% to 12% in 2022. We aim to reinvest the risk-weighted assets saved into higher-growth, higher-returning opportunities in other parts of the business. We intend to do these things while sustaining the dividend and maintaining a CET1 ratio of 14% to 15%. This is described in detail on pages 12 and 13.

Since my appointment in August, we have reduced Group risk-weighted assets and FTE headcount, and slowed our cost growth considerably. We also began the run-down of risk-weighted assets in our European business in the fourth quarter of 2019. We will provide an update on our progress as we report future results.

Connecting customers to opportunities
The investment we are making in growth, technology and innovation is improving our service to customers and connecting them to opportunities around the world.

For our retail customers, we introduced more than 160 new digital features in 2019 to make everyday banking easier, including improved digital account opening, loan and mortgage applications, and instant money transfers.

In Hong Kong, we have made it simpler and faster for our Hong Kong customers to make payments through our redesigned PayMe app, and launched PayMe for Business, expanding the PayMe ecosystem for the 1.9 million individual account holders who use it as part of their daily lives.

Global Banking and Markets launched MyDeal in 2019 to make the deal execution process in our primary capital markets business more efficient for our clients. Our Global Private Banking business also launched a new online investment services portal to give our customers more control over the service they receive.

Commercial Banking launched Serai in 2019 to simplify international trade for SMEs with global trade ambitions. It provides both a digital lending product and a networking platform to match buyers and sellers and build trusted business relationships. We also remained at the forefront of international efforts to commercialise blockchain technology to make trade finance easier, faster and safer for businesses. As part of this, we completed 11 letters of credit transactions using blockchain technology in 2019, including the first cross-border transaction in China.

Our people
It was a great honour to be asked to lead HSBC on an interim basis and I am grateful to John Flint for making the transition as smooth as possible. John was an excellent servant of HSBC for more than 30 years and leaves with our good wishes.

I am proud to work with all of my colleagues across 64 countries and territories who serve HSBC and its customers with exceptional dedication. I am particularly grateful to colleagues in Hong Kong, mainland China and the UK for their professionalism and application during recent periods of high uncertainty. I thank them sincerely for their service and support.

Noel Quinn
Group Chief Executive

18 February 2020

Global trends and strategic advantages

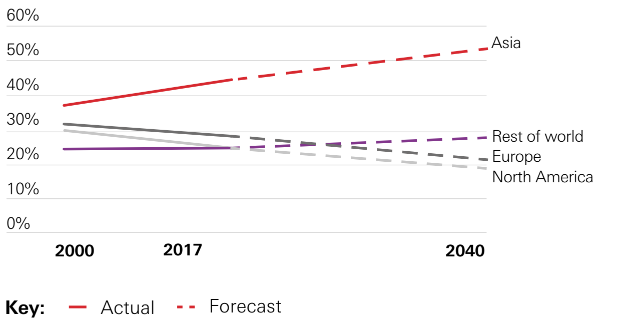
We aim to be the world's leading international bank, helping personal, wealth and corporate clients thrive through our deep heritage in faster growing, higher-returning markets, particularly in Asia and the Middle East.

Our strategy is supported by long-term global trends

Despite near-term headwinds from softening global growth and lower interest rates, our industry continues to benefit from positive long-term trends.

Asia is forecast to continue to take a larger share of global GDP. Global wealth is expected to continue to rise, supported by a faster pace of growth in Asia, Latin America and the Middle East and Africa.

Global GDP (purchasing power parity)[1] (%)



Global wealth[2]
($tn)

+5.7%

Compound annual growth rate 2018–23

1 Source: *The Future of Asia*, McKinsey Global Institute, 2019

2 Expected global wealth by 2023. Source: *Global Wealth Report,* Boston Consulting Group, 2019

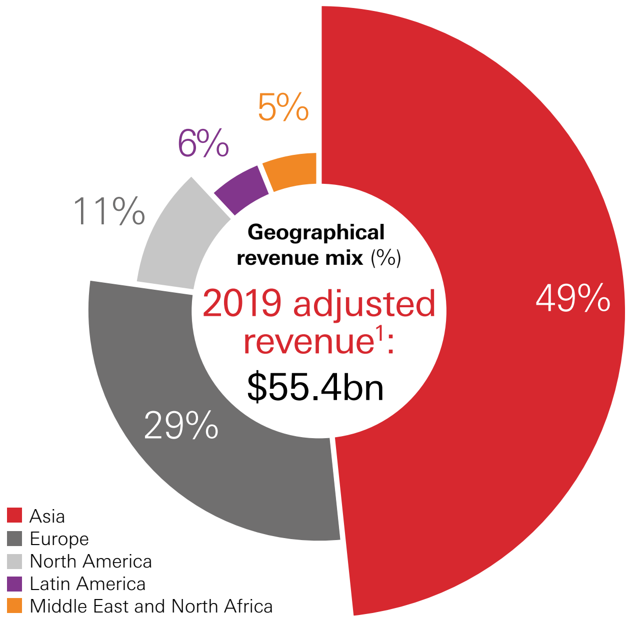
Our strategic advantages help us to connect customers to opportunities

A leading international bank with access to high-growth markets

We maintain a privileged position in high-growth markets, particularly in Asia and the Middle East.

We have a strong wealth business with client assets of $1.4tn, supported by a premier international wealth proposition and leading, full-scale retail banking operations in Hong Kong, the UK and Mexico.

We are a leading trade and payments and cash management bank with $17bn of transaction banking adjusted revenue. This is supported by our international network of 64 markets, which covers approximately 90% of global GDP, trade and capital flows.



1 Adjusted basis, geographical view; regional percentage composition calculated with regional figures that include intra-Group revenue. Intra-Group revenue is excluded from the total Group revenue number.

Balance sheet strength

We maintain a strong capital, funding and liquidity position.

We operate a diversified business model with low earnings volatility.

We have a foundation for sustaining our dividend and a strong capacity for distribution to shareholders.

Common equity tier 1 ratio
(%)

14.7%

2019	**14.7**
2018	14.0
2017	14.5

High-quality liquid assets
($bn)

$601bn

2019	**601**
2018	567
2017	513

Customer accounts
($bn)

$1,439bn

2019	**1,439**
2018	1,363
2017	1,364

Multi-award winning

The Banker Transaction Banking Awards 2019
Best Global Transaction Bank

Euromoney Trade Finance Survey, 2018–2020
Market Leader for Trade Finance, Global

WealthBriefingAsia Awards 2019
Overall Best Asia Private Bank

Euromoney Awards for Excellence 2019
World's Best Bank for SMEs
Hong Kong's Best Bank
Mexico's Best Bank
World's Best Bank for Sustainable Finance

The Banker Investment Banking Awards 2019
Most Innovative Investment Bank for Emerging Markets

Insurance Asset Management Awards 2019
Emerging Markets Manager of the Year

Delivering our strategy
On the following two pages, we detail how we performed on our strategy in 2019 and how we intend to deliver our strategy going forward.

Delivering our strategy

We will continue to grow the parts of our business where we are strongest while addressing areas of underperformance.

In June 2018, we set ourselves strategic priorities and financial targets amid an environment of rising interest rates, resilient global economic growth and moderate geopolitical risk.

In reviewing our businesses and geographies today, while it is clear that many parts are performing strongly, particularly in Asia and the Middle East, as well as our market-leading transaction banking services globally, other parts of our business have underperformed. The Group faces several structural issues and we no longer expect to reach our 2020 return on average tangible equity ('RoTE') target, as stated in our third quarter 2019 results.

With the changed macroeconomic environment and interest rate outlook, we have tempered our revenue growth expectations and adjusted our business plan accordingly. We plan to raise the return profile of our assets and improve the Group's efficiency to generate higher returns and create more capacity for growth. Our business update sets out how we intend to become a leaner, simpler and more competitive Group that is better positioned to be the world's leading international bank.

Our eight strategic priorities: 2019 outcomes

In our June 2018 Strategy Update, we outlined eight strategic priorities across the themes of 'Deliver growth from areas of strength', 'Turnaround of low-returning businesses', 'Build a bank for the future that puts the customer at the centre' and 'Empower our people'. We ended 2019 on track in five of our eight strategic priorities, partly on track in two and off track in one. (The following comparisons are against the previous year, unless stated otherwise.)

We accelerated growth from our **Asia franchise** and grew market share in our **UK ring-fenced bank**, **HSBC UK**, which we established in 2018. We improved **capital efficiency** by growing our revenue over risk-weighted assets ratio. The Group made **efficiency gains** that helped achieve positive adjusted jaws in 2019. We also sustained a top-three rank and/or improved by two ranks in **customer satisfaction** in most of our key RBWM and CMB markets compared with 2017.

We had mixed results in our priority to deliver growth from our **international network**. We gained market share in two of our four transaction banking products, and grew transaction banking revenue and international client revenue below our target of mid-to-high single digits. When it came to **simplifying the organisation and investing in future skills**, we delivered a mixed outcome, with employee engagement unchanged at 66%, falling below our target of improving each year. However, we achieved a medium environmental, social and governance ('ESG') risk rating, outperforming a group of peers. Our ratings provider, Sustainalytics, updated its methodology during 2019. More details on the approach, as well as further details on our initiatives involving our customers and employees, can be found in the 'How we do business' section on pages 14 to 25 and our *ESG Update* on www.hsbc.com.

We remained off track in **turning around our US business** and do not expect to achieve a US RoTE of 6% by 2020. We will need to reshape the US business in order to improve returns.

With the provision of our 2020 business update below, we conclude reporting on our eight strategic priorities. In their place, we will report on our updated performance programme going forward, which we set out in the following section.

Introducing our 2020 business update

We are adjusting our plan in order to upgrade the return profile of our risk-weighted assets ('RWAs'), reduce our cost base and streamline our organisation. This aims to position the Group to increase returns for investors, create the capacity to invest in the future and build a sustainable platform for growth.

In order to upgrade the return profile of our RWAs, we intend to reallocate the low-growth, low-returning assets in our Europe and US businesses into high-growth, higher-returning opportunities in other parts of the Group. For clarity, European restructuring will be focused on our operations in continental Europe and the non-ring-fenced bank in the UK, which is primarily our GB&M activities in the UK. This does not include our UK ring-fenced bank, HSBC UK, which comprises the retail banking and commercial banking businesses in the UK.

Restructuring for growth

We plan to remodel our Europe business to focus on its strengths, reducing European RWAs by around 35% and lowering costs. To achieve this, we will focus our client coverage on key international European clients and connecting them to Asia and the Middle East. In Global Markets, we aim to continue to invest in transaction banking and financing capabilities while reducing the capital allocated to our Rates business, and exiting G10 long-term derivative market-making in the UK. Our investment banking activities in the UK will focus on supporting UK mid-market clients and international corporate clients through our London hub. In addition, we intend to reduce our sales and research activities in European cash equities. We also plan to transition our structured product capabilities from the UK to Asia.

In the US, we require a new approach to improve returns. We plan to reposition the US business as an internationally focused corporate bank, with a targeted retail offering, principally for international and affluent customers. We intend to consolidate select Fixed Income activities with those in London to maximise global scale, and reduce the RWAs associated with our US Global Markets business by around 45%. We aim to reinvest these RWAs into CMB, as well as into retail banking where we intend to increase unsecured lending and increase our investment in digital. We plan to reduce our US branch network by around 30% and embark on a programme to consolidate middle and back office activities and streamline functions to simplify our US business and lower costs.

Our plans for Europe and the US involve significant changes, including capital reductions, to our GB&M business. We intend for GB&M to support corporate and institutional clients with global operations who value our international network. We plan to accelerate investments in Asia and the Middle East and shift more resources to those regions, while continuing to strengthen our transaction banking and financing capabilities. We intend to strengthen our investment banking capabilities in Asia and the Middle East, while maintaining a global investment banking hub in London. We also aim to build leading emerging markets and financing capabilities in Global Markets, and enhance our institutional clients business. This remodelling of GB&M will be underpinned by continued investment in digital systems and solutions.

Investing in our opportunities and areas of strength

The Group will continue to invest in our growth opportunities, our customer experience and delivering value to all of our stakeholders. We intend to reinvest the RWAs saved as a consequence of our restructuring in our high-returning Asia and Middle East businesses, HSBC UK, our market-leading transaction banking franchise and the international wealth opportunity. As part of our customer experience initiatives, we plan to improve digital capabilities to improve customer satisfaction, evolve our product suite and strengthen our internal processes. As an example, we plan for the full launch of HSBC Kinetic for small businesses in the UK in 2020. We plan to continue to support the global transition to a low-carbon economy, demonstrated by our continued commitment to provide and facilitate $100bn of sustainable finance and investment by 2025. A set of HSBC-specific ESG metrics and targets can be found in the following 'How we do business' section on page 15.

Creating a simpler, more efficient and empowered organisation

Our remodelling plans will be accompanied by a substantial cost reduction programme and a number of steps to simplify HSBC. These aim to reduce our overall cost base and to accelerate the pace of change. There are three broad parts to these plans. First, we aim to remove costs linked to discontinued activities. Second, through further investments in technology, we intend to re-engineer processes to take out costs and improve the customer experience. Third, we plan to simplify our matrix organisational structure. As part of this, we intend to move from four lines of business to three, by merging GPB and RBWM to create one new organisation, Wealth and Personal Banking. We also plan to merge the operational support infrastructure of CMB and Global Banking, while maintaining separate front-line teams, which should improve collaboration between the two businesses. Furthermore, we intend to reduce the number of geographies represented on the Group Management Board from seven to four. In order to match the size and new structure of our organisation, we plan to reorganise our global functions and head office.

Our targets

The Group's updated plan will have three overarching 2022 targets. We will target a gross RWA reduction of more than $100bn; we intend to reduce our cost base to $31bn or less; and we will target a RoTE in the range of 10% to 12% in 2022 with the benefit of our cost reductions and redeployed RWAs flowing into subsequent years. Our gross RWA reductions are expected to largely come from the non-ring-fenced bank in Europe and the UK, and the US. We also plan to redeploy over $100bn to higher returning areas, which will deliver strong growth in the rest of our business. As a result, we intend for the Group's net RWA position to be similar to today, but have a higher earning asset mix. We intend to sustain our dividend policy and plan to suspend share buy-backs in 2020 and 2021 as we go through the period of restructuring.

2022 targets

Cumulative gross RWA reduction by 2022 of

>$100bn

Adjusted cost base reduction in 2022 to

$31bn or less

RoTE in 2022 of

10% to 12%

2025 target

Provide and facilitate sustainable finance and investment of

$100bn

How we do business

Supporting sustainable growth

We conduct our business intent on supporting the sustained success of our customers, people and other stakeholders.

Our approach

Our purpose is to be where the growth is, connecting customers to opportunities. We help enable businesses to thrive and economies to prosper, helping people to fulfil their hopes and dreams and realise their ambitions.

To achieve our purpose we need to build strong relationships with all of our stakeholders, including customers, employees and the communities in which we operate. This will help us to deliver our strategy and operate our business in a way that is sustainable.

Non-financial information statement

We provide information about our customers, employees and our approach to creating a responsible business culture. We also provide an update to our sustainability strategy, including our progress towards our $100bn sustainable finance commitment and our third disclosure for the Task Force on Climate-related Financial Disclosures ('TCFD').

Our *Environmental, Social and Governance ('ESG') Update* provides further information on the topics covered in this section. It is available on our website at www.hsbc.com/our-approach/esg-information.

This section primarily covers our non-financial information statement guidance. Other related information can be found as follows:

- For further details on our business model, see page 5.
- For further details on our principal risks and how they are managed, see pages 38 to 40.
- For further details on Board diversity beyond gender, see page 208.

Our stakeholders	How we listen	What we discuss[1]
Communities	We welcome dialogue with external stakeholders, including non-governmental organisations ('NGOs') and other civil society groups, including charities. We engage directly on specific issues and by taking part in external forums and round-tables.	We discuss how we support our customers with the transition to a low-carbon economy and climate-related risk management, covering sensitive sectors such as energy, palm oil and forestry. For further details on how we support sustainable growth, see pages 20 to 23.
Customers	Our customers' voices are heard through our interactions with them, surveys, listening to and engaging with social media and from their complaints.	We discuss a range of subjects, including how we are making banking accessible, how we are making our processes easier and how we plan to communicate more simply and effectively. For further details on how we support our customers, see pages 16 to 17.
Employees	Our people's voices are heard through our employee survey Snapshot, Exchange meetings and our 'speak up' channels, including our global whistleblowing platform, HSBC Confidential.	We discuss a range of subjects including our 'speak up' culture, well-being and the importance of keeping our employees engaged. For further details on how we support our employees, see pages 18 to 19.
Investors	We have shareholders in 130 countries. We engage with our shareholders through our Annual General Meetings. We also engage with our investors through bilateral meetings, external events and our annual ESG survey.	We discuss our performance, as well as how we manage risk and our governance processes. For further details on how we are building a responsible business culture, see pages 24 to 25.
Regulators and governments	We proactively engage with regulators and governments to facilitate strong relationships and understand the expectations that are critical to our business.	Regulators and governments focus on our strategic response to geopolitical and macroeconomic challenges. There is also focus on non-financial risks, including on cyber and operational resilience risks, as well as attention to conduct and financial crime risks. For further details on how we are building a responsible business culture, see pages 24 to 25.
Suppliers	Our ethical and environmental code of conduct for suppliers of goods and services sets out how we engage with our suppliers on ethical and environmental performance. The code is available at: www.hsbc.com/our-approach/risk-and-responsibility/working-with-suppliers.	We discuss conduct requirements related to the economic, environmental and social impacts associated with the supply of goods or services. For further details on our approach to our suppliers, see page 25.

1 These are summaries of the discussion points for each of our stakeholder groups and are not exhaustive or exclusive to one stakeholder group.

Our ESG metrics and targets

We have established targets that guide how we do business, including how we operate and how we serve our customers. These targets are designed to help us to make our business – and those of our customers – more environmentally sustainable. They also help us to improve employee advocacy and diversity at senior levels as well as strengthen our market conduct.

The 2020 annual incentive scorecards of the Group Chief Executive, Group Chief Financial Officer and members of the Group Management Board have 30% weightings for measures linked to outcomes that underpin the ESG metrics below.

ESG metrics are also included in the long-term incentive ('LTI') scorecards of executive Directors. The 2017 LTI scorecards of executive Directors included achieving a cumulative financing and investment target of $30bn to $34bn for developing clean energy and lower-carbon technologies and projects that contribute to the delivery of the Paris Agreement and the UN Sustainable Development Goals. The 2018 LTI scorecards of executive Directors included an ESG rank measure based on a rating from Sustainalytics, a third-party sustainability ratings agency. At 31 December 2019, HSBC achieved a medium ESG risk rating using the new Sustainalytics methodology. HSBC's rating outperformed compared with a peer set that included 10 global banks, three emerging markets-based banks and one Asia-Pacific-based bank. The 2019 LTI scorecard includes a customer measure incentivising improvement in our customer satisfaction scores in home and scale markets and progress in meeting customer-linked business objectives.

		Target	Performance in 2019
Environmental			
	Sustainable finance and investment	Provide and facilitate[1] $100bn by the end of 2025	$52.4bn cumulative progress since 2017[1]
	Reduce operational CO_2 emissions	2.0 tonnes used per full-time equivalent ('FTE') by the end of 2020[2]	2.26 tonnes used per FTE[2]
	Climate-related disclosures	Continued implementation of the Financial Stability Board's TCFD	We published our 3rd TCFD, which can be found on pages 22 and 23
Social			
	Customer satisfaction	Customer satisfaction improvements in 8 scale markets[3]	6 RBWM markets sustained top-three rank and/or improved in customer satisfaction[3] 4 CMB markets sustained top-three rank and/or improved in customer satisfaction[3]
	Employee advocacy	69% of employees recommending HSBC as a great place to work by the end of 2019[4]	66% of employees would recommend HSBC as a great place to work[4] (2018: 66%)
	Employee gender diversity	30% women in senior leadership roles by the end of 2020[5]	29.4% women in senior leadership roles[5]
Governance			
	Achieve sustained delivery of global conduct outcomes and effective financial crime risk management	98% of staff to complete annual conduct training	98.2% of staff completed conduct training in 2019

1 The sustainable finance commitment and progress figure includes green, social and sustainability activities. For a full breakdown, see pages 20 and 21.

2 See reporting guidelines on www.hsbc.com/our-approach/esg-information/esg-reporting-and-policies for further detail on carbon emissions reporting. As we define our new baseline for the next phase of our operational sustainability strategy, an updated reporting methodology for air travel – including cabin seating class – will be incorporated as our new baseline.

3 Our customer satisfaction performance is based on improving from our 2017 baseline. Our scale markets are Hong Kong, the UK, Mexico, the Pearl River Delta, Singapore, Malaysia, the UAE and Saudi Arabia.

4 Our target was to improve employee advocacy by three points each year through to 2020. Our employee advocacy score in 2018 was 66%. Performance is based on our employee Snapshot results.

5 Senior leadership is classified as 0 to 3 in our global career band structure.

Customers

We aim to grow in a way that puts the customer at the centre by improving performance with digital enhancements while maintaining strong controls on the risk of financial crime.

At a glance

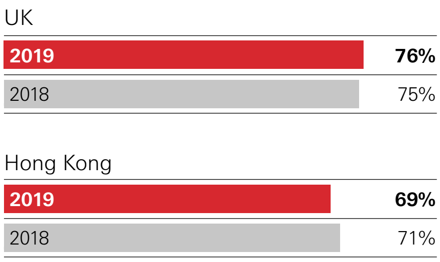
We create value by providing the products and services our customers need and aim to do so in a way that fits seamlessly into their lives. This helps us to build long-lasting relationships with our customers. We maintain trust by striving to protect our customers' data and information, and delivering fair outcomes for them. If things do go wrong, we aim to take action in a timely manner. Operating with high standards of conduct is central to our long-term success and underpins our ability to serve our customers.

In this section, we focus on RBWM, our largest global business by number of customers, and on our two largest markets – the UK and Hong Kong. We measure and report on customer data for all of our global businesses within our *ESG Update.*

How we listen

We listen to our customers in a number of different ways, including through our interactions with them, surveys, social media and through their complaints. We use these insights to improve our services.

Customer recommendation index[1]
RBWM



1 The index uses the 0–10 rating scale for the customer recommendation question to create a 100-point index. Surveys are based on a relevant and representative subset of the market. Data provided by Kantar.

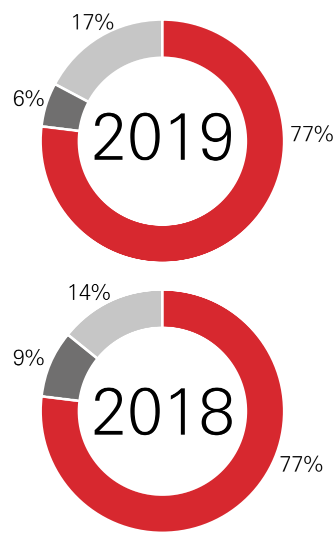
When things go wrong

To improve our services we must be open to feedback and acknowledge when things go wrong. We listen to complaints to address customers' concerns and understand where we can improve processes, procedures and systems. We focus on staff training and emphasise the importance of recording complaints. This improves our complaint handling expertise and helps ensure our customers are provided with fair outcomes. Complaints are monitored and reported to governance forums, while senior executives are measured against customer satisfaction performance.

Complaint resolution

The time taken to resolve complaints (excluding payment protection insurance complaints) on the same or next working day remained unchanged compared with 2018. However, the time taken to resolve complaints beyond five business days increased compared with the previous year. This is primarily due to a prioritisation of payment-related complaints following regulatory changes in the UK.

RBWM



Key
- Same day or next working day
- Between 2–5 days
- Longer than 5 days

Investment in technology

We have made a significant investment in our digital transformation to improve access, navigation and usability for all of our customers across our businesses, driven by customer needs and feedback.

For our retail customers in 2019, we upgraded our public websites in all 38 markets, and online banking platforms and mobile banking apps in 16 markets. We also introduced more than 160 new digital features to make everyday banking easier across different markets, including improved digital account opening, loan and mortgage applications, and instant money transfers. At the end of 2019, the retail mobile banking app achieved an average Apple app store rating of 4.8 in the UK and 4.7 in Hong Kong. While scores from Android users were less favourable, at 4.0 in the UK and 3.6 in Hong Kong, these scores have increased for the past two years due in part to our improved support for Android biometric login.

In Hong Kong, our payments app PayMe continued to grow, with approximately 1.9 million registered consumer accounts, and expanded to include payments to merchants for products and services.

Our retail customers are increasingly banking online or on mobile, with nearly half (48%) digitally active in November 2019, a seven percentage point or 1.69 million increase compared with December 2018. Similarly, 89% of retail transactions were digital in November 2019, a five-point increase compared with December 2018.

We continued to make it easier and more secure to bank with us across our businesses, including through technology. This included investing in voice recognition for people phoning our contact centres as well as face and touch authentication for Apple and Android devices.

For our retail customers, these capabilities are live in 18 markets and used by approximately 50% of customers in those markets. HSBC Voice ID is available to our telephone banking customers in five markets with more than three million registered users. We also upgraded our digital security platform in 17 of our retail banking markets.

Acting on feedback

Acting on customer feedback helps us to improve our services, processes and communication. Here are some examples of actions that we have taken in response to feedback:

Area of focus	Action
Making banking accessible	We use facial and touch authentication on Apple and Android devices in 18 markets. HSBC Voice ID, which is available to our telephone banking customers in five markets, had over three million registered users in 2019. In November 2019, over 89% of customer transactions globally were conducted via mobile or online channels. These included more than 32% of cards and deposit account sales and approximately 45% of loan sales. In the UK, Hong Kong and Mexico, we introduced new no-cost or low-cost bank accounts to help more people access financial services. In Hong Kong, we made it easier and faster to make payments through our PayMe app, using the Faster Payment System, a more intuitive design and the ability to top up with a non-HSBC bank account.
Making our processes easier	In the UK, our mortgage process simplification resulted in 75% of successful applications receiving an offer within 10 days, an improvement from 48% in 2018. We also made it easier for international customers to take out a mortgage through new specialist teams who provide customers one point of contact for guidance. In the UK and Canada, we launched digital investment advice platforms that offer low-cost multi-asset solutions tailored to customers' risk profiles. In Hong Kong, we introduced FlexInvest, which provides a simple mobile journey for investment funds and makes investing accessible to more people through a low minimum investment amount and zero transaction fees.
Communicating more simply and proactively	For customers who find insurance products difficult to understand, we aim to use plain language. In Hong Kong, we launched an online platform that explains complicated insurance concepts through games, videos and articles. In the UK and Hong Kong, we are proactive in sending digital messages to support our customers and treat them fairly, from fraud prevention warnings to missed payment notifications to overdraft warnings. In the year to October 2019, we sent over 11 million SMS messages notifying UK customers to make a deposit to avoid overdraft charges, which were acted upon in 58% of cases in HSBC UK and 75% in our first direct brand. In 2019, some UK customers were not provided overdraft warnings because of a policy to not disturb customers during late night hours and a technical issue. We fixed this issue and will provide a refund to affected customers.

Communicating through social media

Social media channels help us communicate with our customers. We keep them informed, such as advising how to stay ahead of fraudulent activity, while our sports sponsorship content is some of our most liked and shared. We use technology, like machine learning and artificial intelligence ('AI'), to help us identify potential service issues. In 2019, we created 'pain point' reports, highlighting key issues raised by customers for multiple markets. Making it easier for customers to interact with us through social media remains a priority and we have implemented a global Facebook messenger 'service bot', which is designed to help our international or travelling customers direct their queries back to their home market customer service team.

In 2019, we enhanced our social media capabilities to improve how we support our customers who use Chinese social networks, such as WeChat and Sina Weibo. Through new technology partnerships, we are now better able to understand our customers' views and feedback posted through these channels, which can help us to identify service issues and areas for improvement.

As the social media landscape continues to evolve, we will continue to review the channels where we have a presence and investigate new opportunities to reach our customers. In 2020, we expect to see an increased presence on Instagram, which continues to grow in popularity. We are also exploring how popular messaging apps – like WhatsApp – can be used to further improve customer communications.

Branches of the future

Branches remain an important way in which we serve our customers even as their expectations and preferences are changing. We are improving the location, format and layout of our branches and fitting them with new technology – but the role of our people remains key. We continue to invest in our staff with the right training and tools to support customers wherever they choose to bank, whether in person or online. We expanded our development programme for our customer-facing employees, giving them coaching to develop the skills and confidence to resolve customers' queries as their first point of contact whenever possible. We have now trained approximately 6,000 employees in seven markets – the UK, Hong Kong, Mexico, the US, Singapore, Indonesia and Canada – in these new roles.

6,000

Approximate number of employees trained in Universal Banker roles

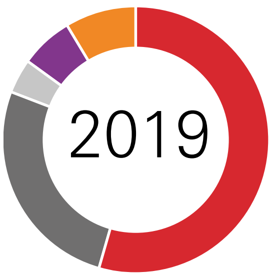
Employees

We have a total workforce equivalent to 235,000 full-time employees, working across 64 countries and territories. We are working to create the right environment to help enable everyone to fulfil their potential.

At a glance

Our people span many cultures, communities and continents. By focusing on employee well-being, diversity, inclusion and engagement, as well as building our peoples' skills and capabilities for now and for the future, we aim to create an environment where our people can fulfil their potential. We use confidential surveys to assess progress and make changes. We want to have an open culture where our people feel connected, supported to speak up and where our leaders encourage feedback. Where we make organisational changes, we support our people throughout the change and in particular where there are job losses.

Employees ('FTEs') by region



- Asia **54.7%**
- Europe **26.4%**
- Middle East and North Africa **3.9%**
- North America **6.6%**
- Latin America **8.4%**

How we listen

It is vital we understand how our people feel, as it helps us give them the right support to thrive and serve our customers well. We capture their views on a range of topics, such as our strategy, culture, behaviour, well-being and working environment, through our employee survey, Snapshot. Results are presented to the Group Management Board and relevant executive committees. This allows us to take action based on the feedback.

We track whether our people would recommend HSBC as a great place to work, which we define as employee advocacy. At the end of 2019, 66% of our people who completed Snapshot said they would recommend HSBC, unchanged from the year before. We recognise that this falls short of our stated target of improving this measure by three points each year through to the end of 2020, and we are aware that the context of restructuring and redundancies in some areas of our business has impacted our progress.

We also acknowledge that our people feel less positive about the impact of our strategy and are less confident about the future, particularly in the US and Europe. This has come amid a period of significant change within the Group, underscoring the need for clear and consistent messaging to support our 2020 business update. We continue to support our people closely through organisational change and have used our business update to provide greater clarity.

Employee Snapshot results

	2019	2018
I am seeing the positive impact of our strategy	**58%**	67%
I feel confident about HSBC's future	**66%**	75%
I trust the senior leadership in my area	**65%**	64%
I am proud to say I work for HSBC	**74%**	76%
I would recommend this company as a great place to work	**66%**	66%
Conditions in my job allow me to be as productive as I can be	**63%**	65%
I feel able to speak up when I see behaviour which I consider to be wrong	**74%**	74%
I believe HSBC is genuine in its commitment to encourage colleagues to speak up	**72%**	74%

Employee retention

85.7%

(2018: 85.5%)

Acting on feedback

Area of focus	Action
Improving trust in speaking up	According to Snapshot, nearly three-quarters (74%) of our people feel able to speak up when they see behaviour that they consider to be wrong, unchanged from 2018. Only 59% said they were confident that if they speak up, appropriate action will be taken. We want more of our people to have confidence in speaking up to their line managers. In 2020, we began a programme to raise awareness about how to speak up about different types of concerns, how concerns are investigated and, crucially, what action we take as a result of concerns being raised.
Raising awareness of mental health	We worked with experts and colleagues to build a bespoke e-learning curriculum accessible to all 235,000 employees, which was delivered in September 2019. We also built and began rolling out additional classroom learning for managers. These were adapted to ensure they work for local cultures and languages.

Supporting our people through organisational change

To ensure we have the right roles in the right locations, our businesses regularly re-evaluate their structures. We strive to support colleagues closely through all organisational change, which will include those who will be affected by our business update. Our focus is to prioritise retention of our permanent employees through mechanisms such as redeployment. Redundancies were necessary in 2019, and we sought to treat people fairly and responsibly. Where appropriate, we provided suitable notice periods and consulted with representative bodies. We use objective and appropriate selection criteria for redundancies. We prohibit selection on grounds linked to personal characteristics, for example gender, race, age or having raised past concerns. In many markets, including the UK and Hong Kong, our severance payments exceeded statutory minimums and our employees were additionally provided with access to counselling via employee assistance programmes and career transition support.

When things go wrong

We want a culture where our people feel able to speak up. Individuals are encouraged to raise concerns about wrongdoing or unethical conduct through the usual escalation channels. However, we understand that there are circumstances where people need to raise concerns more discreetly. HSBC Confidential is a global whistleblowing platform that enables our people, past and present, to raise concerns in confidence. HSBC does not condone or tolerate any acts of retaliation against those who raise concerns.

Whistleblowing concerns are investigated thoroughly and independently. Remedial action, taken where appropriate, includes disciplinary action, dismissal, and adjustments to variable pay and performance ratings. The Group Audit Committee has overall responsibility for the oversight of the Group's whistleblowing arrangements and receives regular updates.

We continued to promote the Group's whistleblowing arrangement through training in 2019 and this has contributed to the increase in the number of cases raised compared with 2018.

For further information on our whistleblowing platform, and also how we deal with personal conduct including our training programme on workplace harassment, see page 29 of the *ESG Update*.

Whistleblowing cases raised (subject to investigation)

2019	**2,808**
2018	2,068

Substantiated closed whistleblowing cases[1]

2019	**33%**
2018	34%

1 Cases where the investigation found the allegations to be substantiated or partially substantiated.

Diversity and inclusion

We are committed to a company-wide approach to diversity and inclusion. We want to embrace our people's diverse ideas, styles and perspectives to reflect and understand our customers, communities, suppliers and investors. Our actions are focused on ensuring our people are valued, respected and supported to fulfil their potential and thrive.

Our 30% commitment
In 2018, we signed up to a commitment, led by the gender diversity campaign group 30% Club, to reach 30% women in senior leadership roles by 2020. To help us achieve that aspirational target, we set ourselves a goal to reach 29% by the end of 2019. We achieved 29.4% and are continuing to take action towards more balanced leadership teams.

Gender #BalanceforBetter
Our people are supporting our goal to improve gender diversity, and our #BalanceforBetter campaign on International Women's Day in 2019 was our most successful employee social media campaign to date. Our global employee network, Balance, has played a key role in our work on gender. In 2019, we created a series of safe and comfortable spaces for new and expectant mothers. We equipped 125 parenting rooms in 2019, with more planned.

Our global diversity and inclusion strategy
In 2019, we began implementing a two-year global diversity and inclusion strategy to deliver more inclusive outcomes for our people, customers, suppliers and the communities in which we operate. We are working closely with our global employee networks to help accelerate our progress.

In 2019, we carried out actions aligned to our four strategic pillars below. For examples of work we delivered in 2019, see the *ESG Update* on page 31.

1 Beyond gender
We are expanding our focus beyond gender to include global approaches to ethnicity, disability and LGBT+ inclusion.

2 Our employee networks
We are investing in our employee networks around the world to improve governance.

3 Beyond employees
We are extending our actions beyond employees to integrate diversity and inclusion into our commercial activities.

4 Enhancing our data
We are enhancing our data to support an evidence-based approach to driving change.

1 Combined executive committee and direct reports includes HSBC executive Directors, Group Managing Directors, Group Company Secretary and Chief Governance Officer and their direct reports (excluding administrative staff).
2 Senior leadership refers to employees performing roles classified as 0, 1, 2 and 3 in our global career band structure.

Gender diversity statistics[1,2]

Holdings Board	**9**	**64%**
	5	36%
Group Management Board	**16**	**84%**
	3	16%
Combined executive committee and direct reports	**168**	**73%**
	62	27%
Senior leadership	**6,915**	**71%**
	2,882	29%
Senior leadership RBWM	**748**	**68%**
	353	32%
Senior leadership CMB	**715**	**72%**
	284	28%
Senior leadership GB&M	**2,327**	**79%**
	623	21%
Senior leadership GPB	**386**	**67%**
	193	33%
Senior leadership HOST	**751**	**73%**
	276	27%
All employees	**116,157**	**48%**
	124,801	52%

Male   Female

Supporting sustainable growth

We recognise our wider role in society and believe we can make a positive impact with how we do business. We understand that the global transition to a low-carbon economy is necessary to combat climate change and deliver a more sustainable future.

A key part of our sustainability strategy involves supporting our customers and their suppliers with their transition to a low-carbon economy. We aim to achieve this by providing sustainable finance, offering advice on how to structure financing solutions that align to the Paris Agreement and engaging with them on transition and physical risk.

We believe that we have a role to play in helping to address the challenges relating to climate change, environmental degradation, poverty, inequality, peace and justice, which is why we have committed to provide and facilitate $100bn of sustainable financing by 2025. This forms part of our approach to the United Nations ('UN') Sustainable Development Goals ('SDGs').

The 17 goals and 169 targets that comprise the SDGs form the globally agreed framework designed not only to protect the planet, but also to end poverty and ensure peace and prosperity.

In 2019, we contributed $100.7m to charitable programmes and our employees volunteered 257,000 hours to community activities during the working day.

Our sustainable finance commitments
In November 2017, we published five sustainable finance commitments. In this section, we summarise the progress made against these commitments:

1 Provide and facilitate $100bn of sustainable financing, facilitation and investment by 2025

We have provided $52.4bn of financing, investing and facilitation since 1 January 2017 to a range of clients and projects that are aligned to our environmental, social and governance qualifying criteria, as set out in our sustainable finance data dictionary. Details of the projects that we have financed are on the opposite page.

Our sustainable finance commitment does not include a number of other facilities that we have provided to help clients with transition activities, including mergers and acquisitions for renewable energy customers, facilities where the margin is linked to sustainability indicators and sustainable supply chain finance solutions.

2 Source 100% of our electricity from renewable sources by 2030, with an interim target of 90% by 2025

We signed renewables power purchase agreements that cover 29.4% of our electricity consumption, which is up 0.9 percentage points from 2018, and decreased energy consumption per FTE by 23% since 2011 (details on our carbon dioxide emissions can be found on page 85). In 2019, we achieved our energy reduction target of 1.2MWh/FTE by 2020 with a final reduction of 1.4MWh/FTE.

3 Reduce our exposure to thermal coal and actively manage the transition path for other high-carbon sectors

We continued to work on a framework to measure transition risks across our six higher-transition risk sectors in our loan portfolio. Further information can be found in the 'Risk management' section of our TCFD disclosure on page 22. Our sustainability risk policies are available at www.hsbc.com/our-approach/risk-and-responsibility/sustainability-risk.

4 Adopt the recommendations of the TCFD to improve transparency

Further details of our third TCFD disclosure are on page 22.

5 Lead and shape the debate around sustainable finance and investment

We published 45 reports and articles on HSBC's Centre of Sustainable Finance (www.sustainablefinance.hsbc.com) in 2019. For these thought leadership pieces, we built on our internal subject matter expertise and our external network of partners, which came from numerous industry associations and top academic institutions. Pathways to decarbonise hard-to-abate sectors such as shipping, steel and cement were among the themes for 2019.

Improving access to trade finance in a sustainable supply chain

Walmart in 2017 announced 'Project Gigaton', an initiative to work with suppliers to reduce or avoid one billion tonnes of greenhouse gases from the global supply chain by 2030. Walmart also encourages its suppliers to participate in THESIS, a third-party programme that scores suppliers on sustainability criteria and encourages continued improvement.

In April 2019, our teams in Asia, Europe and North America launched a sustainable supply chain finance programme to support Walmart's ambitions and help their suppliers with the transition to a lower emissions world. This programme, which is the first of its type in the retail sector, provides Walmart's suppliers that show continued sustainability improvements with enhanced access to trade finance at a price aligned to the suppliers' performance. The collaboration with its global reach demonstrates how financial institutions can accelerate customers' efforts to further sustainability.

Sustainable finance commitment

We are making good progress on our pledge to provide and facilitate $100bn of sustainable financing and investment by 2025, having already delivered $52.4bn of this commitment. We have supported projects in 45 countries and territories, which have included those addressing climate change and those seeking to benefit society, such as clean water or housing. Our sustainable finance data dictionary, including detailed definitions of contributing activities, can be found on: www.hsbc.com/our-approach/esg-information/esg-reporting-and-policies.

Facilitation

We provide advisory services to facilitate the flow of capital and to provide access to capital markets. Products include: green, social and sustainable bonds; finance advisory mandates; short-term debt; debt capital markets; and equity capital markets.

Cumulative progress[1] ($bn)

38.0

2019	**16.6**
2018	11.1
2017	10.3

2019 highlights

- We ranked number two in Dealogic's green, social and sustainability bonds league table and number one in the sustainability bonds table.
- We supported several green bond issuances that were market firsts in the public and private sectors, including as joint lead manager for the inaugural sovereign green bonds for Hong Kong, Chile and the Republic of Ireland.

Financing

We provide lending for specific finance activities. Products include project finance (e.g. financing of renewable infrastructure projects), and green loans (e.g. financing of eligible green products).

Cumulative progress[1] ($bn)

12.0

2019	**6.2**
2018	5.3
2017	0.5

2019 highlights

- HSBC UK aligned its green lending offering to the Loan Market Association's green loan principles. The range, which is available for SMEs through to large corporates, includes a green loan, a UK industry first green revolving credit facility and a green hire purchase, lease and asset loan.
- We acted as a mandated lead arranger in the refinancing of the Beatrice offshore wind farm off the north-east coast of Scotland.

For further details on the refinancing of the Beatrice offshore wind farm, see page 46.

Investments

We invest in funds that are defined as socially responsible investments ('SRI'). These funds primarily avoid investing in companies that can have a negative impact on society, such as tobacco or gambling. Some of the SRI funds are investing in companies that aim to reduce the detrimental impacts that climate change can create, while others have defined transition strategies. These transition strategies may include using alternative energy, clean technology and developing sustainable products and/or seeking to increase the beneficial impacts on our society, such as health, housing and clean water.

Cumulative progress ($bn)

2.4

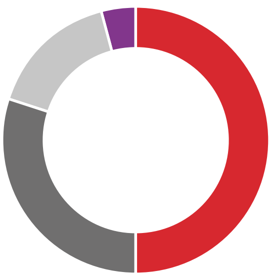
2019	**1.1**
2018	1.1
2017	0.2

2019 highlights

- HSBC Global Asset Management announced the creation of a new green bond fund, the HSBC Real Economy Green Investment Opportunity GEM Bond Fund. The fund's aim is to enable investors to achieve real economy impact to deliver against the Paris Agreement and SDGs.
- We achieved a rating of A+/A using the United Nations Principles of Responsible Investment ('UN PRI').

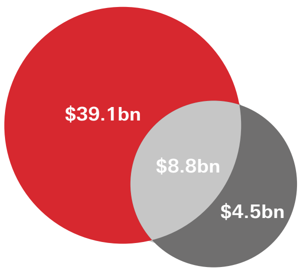
Geographical breakdown of our progress

The geographical breakdown below is based on the region where the main client relationship is managed.



Key
- Europe **50%**
- Asia **30%**
- Americas **16%**
- Middle East and North Africa **4%**

Green, social and sustainability breakdown



Key
- Green
- Social
- Sustainability

Green, social and sustainability breakdown

Our progress against the $100bn commitment can be split into three types:

- Green: Projects that align to the eligible green project category as defined by the International Capital Markets Association's Green Bond Principles, or a company whose core business operates in one of the categories.
- Social: Projects that align to the eligible social project category as defined by the International Capital Markets Association.
- Sustainability: Projects that mix green and social purposes that align to the above principles.

1 Included within the facilitation total is $2.8bn-worth of advisory services on HSBC-issued green/SDG bonds. Our green bond report summarises and our asset register lists the loans that underpin our issuances. The latest report includes $1.5bn of balances as at 30 June 2019 that have been included within the financing total. The green report and asset register are available at www.hsbc.com/investors/fixed-income-investors/green-and-sustainability-bonds.

Task Force on Climate-related Financial Disclosures ('TCFD')

We all have a role to play in limiting climate change and supporting the transition to a low-carbon economy. We are a signatory to the disclosure recommendations by the Financial Stability Board's task force. This represents our third disclosure under the framework.

Governance
We have an established governance framework to help ensure that risks associated with climate change are considered at the most senior levels of our business.

At each Board meeting, the Directors are presented with a risk profile report that includes key risks for the business, which may include climate risk where appropriate. Independent non-executive Directors make up the majority of the Board. Both the Group Chief Executive and the Group Chief Financial Officer are required to be members of the Board. In 2019, the Group Chief Risk Officer was also a member of the Board. With effect from 1 January 2020, this role ceased to be a Board member but the Group Chief Risk Officer will still attend Board meetings. In this role, the Group Chief Risk Officer raises any concerns directly by providing verbal or written updates on a regular basis to the Board and Group Management Board.

The Board and regional executive committees provide oversight of our strategic commitments and are advised by our climate business councils. The Risk Management Meeting of the Group Management Board ('RMM') provides oversight of climate risk through the 'top and emerging risk' report, which is reviewed on a monthly basis. A dedicated climate risk forum and an ESG Steering Committee also provides executive oversight of climate commitments. We have formally designated responsibility for managing the financial risks from climate change through the Senior Managers Regime for the relevant entities.

In 2019, the Board held a one-day sustainable finance and climate change 'master class'; the Group Risk Committee carried out a thematic review of sustainability and climate change risk management; and the Group Audit Committee discussed ESG at four separate meetings. Our people have also completed more than 5,300 sustainability training modules in 2019, a 41% increase since the previous year.

For further details on how we incentivise senior management and how climate-related disclosures inform our strategy, see page 15.

Strategy
As part of our priority to support the transition to a low-carbon economy, we pledged to provide $100bn of sustainable finance, facilitation and investment by 2025. At the end of 2019, we reached $52.4bn of that goal, of which $43.6bn relates to green or sustainable products. In 2019, HSBC was named the World's Best Bank for Sustainable Finance by *Euromoney*.

We recognise that many customers are making shifts towards the low-carbon economy and that our industry needs to work together to find new ways to measure these activities.

In 2019, HSBC participated in the CDP (formerly the Carbon Disclosure Project) working group to develop financial sector disclosure. We also partnered with climate change experts at MIT to produce exploratory transition scenarios. These scenarios were used to raise internal awareness of the different speeds with which transition could occur, the resulting investment requirements, the implications for energy system configuration and the broad macroeconomic costs.

Risk management
We are in the process of incorporating climate-related risk, both physical and transition, into how we manage and oversee risk. The Board-approved risk appetite statement contains a qualitative statement on our approach to climate risk. We intend to further enhance the climate risk statement in 2020.

In 2019, we also trained over 800 employees on climate risk to strengthen engagement with customers. For further information on how we manage sustainability risks, see pages 42 to 43 of our *ESG Update*.

We report on the emissions of our own operations via CDP and achieved a leadership score of A- for our 2019 CDP disclosure.

Since the revision of the energy policy, we have not agreed any project financing for any new coal-fired power plants anywhere.

For further details of our sustainability risk policies covering specific sectors, see: www.hsbc.com/our-approach/risk-and-responsibility/sustainability-risk.

For further details about the sustainability of our own operations, see www.hsbc.com/our-approach/building-a-sustainable-future/sustainable-operations.

Table 1: Wholesale loan exposure to transition risk sectors

Transition risk sector	Oil and gas	Building and construction	Chemicals	Automotive	Power and utilities	Metals and mining	Total
% of total wholesale loans and advances to customers and banks in 2019[1,2,3]	**≤ 3.8%**	**≤ 3.9%**	**≤ 3.9%**	**≤ 3.2%**	**≤ 3.2%**	**≤ 2.7%**	**≤ 20.6%**
% of total wholesale loans and advances to customers and banks in 2018[1,2,3]	≤ 3.9%	≤ 3.8%	≤ 3.9%	≤ 3.4%	≤ 3.0%	≤ 2.8%	≤ 20.8%

1 Amounts shown in the table include green and other sustainable finance loans, which support the transition to the low-carbon economy. The methodology for quantifying our exposure to higher transition risk sectors and the transition risk metrics will evolve over time as more data becomes available and is incorporated in our risk management systems and processes.

2 Counterparties are allocated to the higher transition risk sectors via a two-step approach. Firstly, where the main business of a group of connected counterparties is in a higher transition risk sector, all lending to the group is included irrespective of the sector of each individual obligor within the group. Secondly, where the main business of a group of connected counterparties is not in a higher transition risk sector, only lending to individual obligors in the higher transition risk sectors is included.

3 Total wholesale loans and advances to customers and banks amount to $680bn (2018: $668bn).

Task Force on Climate-related Financial Disclosures ('TCFD') continued

Developing our approach to transition risk
We have started to develop and publish new transition metrics to help us gain a deeper understanding of the complexities of this topic.

Transition risk is the possibility that a customer will be unable to meet its financial obligations due to the global movement from a high-carbon to a low-carbon economy.

We are considering transition risk from three perspectives: understanding our exposure to transition risk; understanding how our clients are managing transition risk; and measuring our clients' progress in reducing carbon emissions.

To better understand our exposure to transition risk, we identified six higher transition risk sectors in 2018, based on their contribution to global carbon dioxide emissions and other factors. These transition risk sectors and our exposure to them are disclosed in table 1. Figures in this table capture all lending activity to customers within these sectors, including those that are environmentally responsible as well as sustainable financing activities. This means that green financing for large companies that work in higher transition sectors is included. For further information on how we designate counterparties as 'higher transition risk', see footnote 2 on the previous page.

In 2019, to better understand how our clients are managing transition risk, we had more than 3,000 engagements with customers through meetings or phone calls, across all sectors, to discuss their approach to climate change. We also developed a questionnaire to improve our understanding of our customers' climate transition strategies. We received responses from over 750 customers within the six higher risk transition sectors, which represented 34% of our exposure. We are using this information to inform our decision making and strategy. For instance, this information is helping us to understand which customers need to adapt, their readiness to change and identify potential business opportunities to support the transition. This information is also being used to supplement the management of transition risk in our credit risk management processes.

To improve our understanding of the progress our clients are making in reducing carbon emissions, in 2019 we launched a pilot scheme to develop a series of new transition metrics to help disclose our customers' progress towards a low-carbon economy. As part of the pilot, we calculated a weighted carbon-intensity ratio for over 900 customers within the six high risk transition sectors. We first obtained a client's total revenue carbon intensity from a third-party provider, CDP. The revenue carbon intensity ratio is effectively the carbon that is emitted per million dollars of revenue. It was calculated as emissions from both direct and indirect emissions, known as scope 1 and 2 emissions, divided by total revenue. We then weighted the revenue-carbon intensity ratio by our exposure to that client, within the sector.

Next steps
In 2020, we intend to continue to explore what data is available to provide us with greater insight of our clients' portfolio emissions. We also aim to continue to review our retail exposures on a geographical basis in respect of natural hazard risk, for example considering flood risk for properties that we have provided financing on. These reviews are designed to help us identify key areas of vulnerability to climate change, the associated impact on property portfolios and economic activity. We also aim to review our policies and procedures with respect to physical risks associated with climate change for our own buildings and branches. These reviews will help us to understand any gaps in policies and procedures and will also improve our understanding of our physical risk exposure and how this might change over time.

In next year's TCFD disclosure, we also expect to disclose more qualitative information on our approach to climate stress testing.

Memberships

Founding member, the Climate Finance Leadership Initiative

Founding member, Chapter Zero: The Directors' Climate Forum

Member, the FCA and PRA's Climate Financial Risk Forum ('CFRF')

Chair, climate risk working group of the CFRF

For further details of our sustainability-related memberships, see www.hsbc.com/our-approach/esg-information/sustainability-memberships.

Table 2: Customers' questionnaire responses and pilot carbon intensity metrics

	Oil and gas	Building and construction	Chemicals	Automotive	Power and utilities	Metals and mining	Total
Proportion of sector for which questionnaires were completed[4]	33%	37%	27%	39%	30%	44%	34%
Proportion of questionnaire responses that reported either having a board policy or a management plan[4]	84%	51%	85%	64%	94%	62%	72%
Sector weight as proportion of high transition risk sector[4]	18%	19%	19%	15%	15%	13%	100%
Pilot as % of total sector[4]	38%	41%	30%	52%	42%	46%	41%
Proportion of pilot that report carbon intensity metric through CDP[4]	49%	53%	38%	48%	38%	30%	44%
Weighted average carbon emissions per million dollars of revenue (total client emissions/revenue weighted by exposure)[4,5]	688	408	517	301	7,235	787	

4 All percentages are weighted by exposure.

5 Customer responses to CDP have been used to formulate the carbon intensity metrics in table 2. If a client does not complete the CDP questionnaire, information is not included in the metrics. The CDP questionnaire is voluntarily completed by clients between April and July of a given year and may not all be from a single point in time. Figures obtained from CDP have not been separately validated. The carbon intensity ratio is calculated by CDP using both reported figures and estimated data. Carbon emissions are measured in tonnes of carbon dioxide equivalent (tCO_2e) and revenue is measured in millions of US dollars.

Responsible business culture

HSBC's purpose is to connect people with opportunities. With this purpose comes the responsibility to protect our customers, our communities and the integrity of the financial system.

At a glance

We act on our responsibility to run our business in a way that upholds high standards of corporate governance.

We are committed to working with our regulators to manage the safety of the financial system, adhering to the spirit and the letter of the rules and regulations governing our industry. In our endeavour to restore trust in our industry, we aim to act with courageous integrity and learn from past events to help prevent their recurrence.

We meet our responsibilities to society, including through paying taxes and being transparent in our approach. We also seek to ensure we respect global standards on human rights in our workplace and our supply chains, and continually work to improve our compliance management capabilities.

We acknowledge that increasing financial inclusion is a continuing effort, and we are carrying out a number of initiatives to increase access to financial services.

For further details on our corporate governance, see page 192.

For further details on our 'Responsible business culture', see page 48 of our *ESG Update*, which is available at www.hsbc.com/our-approach/esg-information.

Non-financial risks

We use a range of tools to monitor and manage our non-financial risks, including our risk appetite, risk map, top and emerging risks, and stress testing processes. During 2019, we continued to strengthen our approach to managing non-financial risk, launching a transformation programme to accelerate our progress. The approach sets out non-financial risk governance and our risk appetite, and provides a single view of the non-financial risks that matter the most and associated controls. It incorporates a risk management system to enable the active management of risk. Our focus is on simplifying our approach to risk management and driving more effective oversight and better end-to-end identification and management of risks. We aim to see improvements by the end of the first half of 2020, while building capability for the long term.

Cybersecurity

We operate in an increasingly sophisticated and hostile cyber-threat environment. In response, we have invested in business and technical controls to help prevent, detect and react to these threats.

We continually evaluate threat levels for the most prevalent attack types and their potential outcomes. We strengthened our controls to reduce the likelihood and impact of advanced malware, data leakage, infiltration of payment systems and denial of service attacks.

We continued to enhance our cybersecurity capabilities, including threat detection and access control as well as back-up and recovery. An important part of our defence strategy is ensuring our people remain aware of cybersecurity issues and know how to report incidents. In 2020, we plan to focus on enhancing our use of data analytics, continue to implement our cybersecurity education and communication programme, and help ensure our cyber controls are highly effective across the organisation.

For further details on our 'Top and emerging risks', see page 39.

For further details on how we protect our customers' data, see pages 24 and 25 of the *ESG Update*.

Financial crime compliance

In order to help protect the integrity of the global financial system, we have made, and continue to make, significant investments in our ability to detect, deter and prevent financial crime. We are also working with governments and other banks to advance our collective interests in this area. These steps are enabling us to reduce the risk of financial crime more effectively. Our risk appetite has been set formally.

For further details on our risk appetite statement, see page 95.

Banking for vulnerable customers

After successfully trialling an approach to providing victims of human trafficking and modern slavery in the UK with monitored bank accounts, the service was made more widely available in 2019. This was a first in the UK and our work was cited by the UN as an example of how banks can support victims of trafficking. Over 300 people had been provided with accounts by December 2019.

Our 'no fixed address service' also provides access to banking for the homeless. The service enables vulnerable people without a fixed home address to receive wage and benefit payments, as well as support in rebuilding their lives. As a result, HSBC UK was recognised by *The Banker* as Bank of the Year 2019 for financial inclusion in the UK.

Anti-bribery and corruption

We are committed to high standards of ethical behaviour and operate a zero-tolerance approach to bribery and corruption, which we consider unethical and contrary to good corporate governance. We require compliance with all anti-bribery and corruption laws in all markets and jurisdictions in which we operate. We have a global anti-bribery and corruption policy, which gives practical effect to global initiatives, such as the Organisation of Economic Co-operation and Development ('OECD') Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, and Principle 10 of the United Nations Global Compact. Our policy is supported by our continued investment in technology and training. In 2019, 97% of our workforce were trained via a mandatory e-learning course and more than 2,900 received tailored role-based training. By the end of 2020, more than 12,000 employees – who undertake activities with a high risk of bribery – will be targeted for specialist training.

Restoring trust

Restoration of trust in our industry remains a significant challenge as past misdeeds continue to remain in the spotlight. HSBC has sought to learn from past mistakes and is seeking to develop and implement specific measures designed to prevent their recurrence in the future. In the *ESG Update*, we provide three examples of how we have sought to learn from our past mistakes. These can be found in the *ESG Update* on pages 50 to 52.

For further details on legal proceedings and regulatory matters, see page 339.

Tax

We are committed to applying both the letter and spirit of the law in all territories where we operate. We aim to have open and transparent relationships with all tax authorities, aiming to ensure that any areas of uncertainty or dispute are agreed and resolved in a timely manner. As a consequence, we believe that we pay our fair share of tax in the jurisdictions in which we operate.

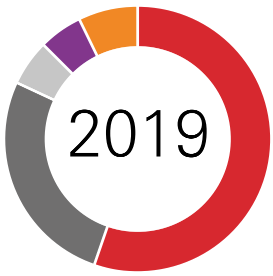
We have adopted the UK Code of Practice on Taxation for Banks, which was introduced in 2009, and manage tax risk in accordance with a formal tax risk management framework.

We apply a number of tax initiatives introduced after the global financial crisis with the aim of increasing transparency. These initiatives address both the tax positions of companies and of their customers. These include:

- the US Foreign Account Tax Compliance Act ('FATCA');
- the OECD Standard for Automatic Exchange of Financial Account Information (the 'Common Reporting Standard');
- the Capital Requirements (Country by Country Reporting) Regulations;
- the OECD Base Erosion and Profit Shifting ('BEPS') initiative; and
- the UK legislation on the corporate criminal offence ('CCO') of failing to prevent the facilitation of tax evasion.

For further details on taxes that we have paid, see page 85.

Taxes paid by region
($bn)



- Europe **$3.1bn**
- Asia **$1.5bn**
- Middle East and North Africa **$0.3bn**
- North America **$0.3bn**
- Latin America **$0.4bn**

Human rights

Our commitment to respecting human rights, principally as they apply to our employees, our suppliers and through our lending, is set out in our 2015 Statement on Human Rights. This statement, along with our *ESG Updates* and our statements under the UK's Modern Slavery Act ('MSA'), which include further information, is available on www.hsbc.com/our-approach/measuring-our-impact.

Our approach with our suppliers

We have globally consistent standards and procedures for the onboarding and use of external suppliers. We require suppliers to meet our compliance and financial stability requirements, as well as to keep to our sustainability code of conduct. Payment on time is of paramount importance, and as such our commitment to paying our suppliers is in line with local requirements, including the Prompt Payment Code in the UK.

We have an ethical and environmental code of conduct for suppliers of goods and services, which must be complied with by all suppliers. While our businesses and functions are accountable for the suppliers they use, our global procurement function owns the code of conduct review process for them.

Our goal is to work collaboratively with our supply chain partners on sustainability at all times. When a supplier or one of its sub-contractors is found to no longer be in compliance with this code, we will work with them on an improvement plan or, if deemed necessary, terminate the relationship.

The ethical code of conduct, which we require suppliers to adopt, sets out the standards for economic, environmental and social impacts and outlines the requirements of having a governance and management structure to help ensure compliance with this code.

Our supplier management conduct principles also set out how we conduct business with our third-party suppliers both in our legal and commercial obligations. They also explain how we treat suppliers fairly through our behaviour and actions, in line with our values.

We have a connected global supply base and inclusive sourcing strategies that reflect the communities where we operate, and help ensure we meet the needs of our diverse customer base. Our supplier diversity and inclusion action plan encourages the use of minority owned and SME businesses.

Our supplier code of conduct and diversity initiative are available at: www.hsbc.com/our-approach/risk-and-responsibility/working-with-suppliers.

Financial overview

In assessing the Group's financial performance, management uses a range of financial measures that focus on the delivery of sustainable returns for our shareholders and maintaining our financial strength.

Executive summary

In 2019, reported profit before tax of $13.3bn decreased by 33%, including a $7.3bn impairment of goodwill in 2019, while adjusted profit before tax of $22.2bn increased by 5%. While much of our business has held up well, underperformance in other areas had a negative impact on our returns.

Our RBWM and CMB global businesses delivered revenue growth, notably in Asia, while GPB attracted net new money of $23bn in the year. By contrast, revenue in GB&M fell compared with 2018 due to ongoing economic uncertainty and spread compression, which negatively impacted Global Markets and Global Banking, notably in Europe. Expected credit losses and other credit impairment charges ('ECL') increased compared with a benign 2018 and were 0.27% of average gross loans and advances to customers. Operating expenses have been closely managed, with the rate of growth in adjusted operating expenses lower than the previous year, while we continued to invest. This helped us to deliver positive adjusted jaws in 2019.

Our return on average tangible equity ('RoTE') for 2019 was 8.4%. Challenges in the revenue environment and a softer outlook mean that we no longer expect to reach our 11% RoTE target in 2020. To address this, we plan to reshape the businesses that are underperforming in order to reallocate resources to higher-returning businesses, address our significant cost base and streamline the organisation.

Since the beginning of January 2020, the coronavirus outbreak is causing economic disruption in Hong Kong and mainland China and may impact performance in 2020.

Delivery against our June 2018 financial targets

Return on average tangible equity (%)

8.4%

2019	**8.4%**
2018	8.6%
2017	6.8%

Adjusted revenue up

5.9%

Adjusted operating expenses up

2.8%

Adjusted jaws

3.1%

Total dividends declared in respect of the year ($bn)

$10.3bn

2019	**10.3**
2018	10.2
2017	10.2

Return on average tangible equity
In 2019, we achieved a RoTE of 8.4% compared with 8.6% in 2018.

When we set our strategy in June 2018, our target was to achieve a reported RoTE of more than 11% by the end of 2020. The revenue environment is now more challenging, and as a result we no longer expect to reach this target by the end of 2020.

Adjusted jaws
Adjusted jaws measures the difference between the rates of change in adjusted revenue and adjusted operating expenses.

In 2019, adjusted revenue increased by 5.9%, while adjusted operating expenses increased by 2.8%. Adjusted jaws was therefore positive 3.1%.

Dividends
We plan to sustain the annual dividend in respect of the year at its current level for the foreseeable future. Sustaining our dividend will depend on the overall profitability of the Group, redeploying less efficiently used capital and meeting regulatory capital requirements in a timely manner.

2020 business update and new Group financial targets

Our business update outlines our intention to materially improve the Group's returns by 2022 to allow us to meet our growth plans and sustain our current dividend policy. We plan to reduce capital and costs in our underperforming businesses to enable continued investment in businesses with stronger returns and growth prospects. We aim to simplify our complex organisational structure, including a reduction in Group and central costs, while improving the capital efficiency of the Group.

Underpinning this plan is a target to reduce gross RWAs by over $100bn by the end of 2022, with these RWAs to be reinvested resulting in broadly flat RWAs between 2019 and 2022; and a new cost reduction plan of $4.5bn to lower the adjusted cost base to $31bn or below in 2022. We are targeting a reported RoTE in the range of 10% to 12% in 2022, with the full benefit of our cost reductions and redeployed RWAs flowing into subsequent years.

To achieve our targets, we expect to incur restructuring costs of around $6bn, with the majority of these costs incurred in 2020 and 2021. In addition, we expect to incur asset disposal costs of around $1.2bn during the period to 2022.

We intend to sustain the dividend and maintain a common equity tier 1 ('CET1') ratio in the range of 14% to 15%, and expect to be at the top end of this range by the end of 2022.

We plan to suspend share buy-backs for 2020 and 2021, with an intention to return to our policy of neutralising the scrip dividend issuance from 2022 onwards.

Reported results

Reported results	2019 $m	2018 $m	2017 $m
Net operating income before change in expected credit losses and other credit impairment charges ('revenue')	**56,098**	53,780	51,445
ECL/LICs	**(2,756)**	(1,767)	(1,769)
Net operating income	**53,342**	52,013	49,676
Total operating expenses	**(42,349)**	(34,659)	(34,884)
Operating profit	**10,993**	17,354	14,792
Share of profit in associates and joint ventures	**2,354**	2,536	2,375
Profit before tax	**13,347**	19,890	17,167
Tax expense	**(4,639)**	(4,865)	(5,288)
Profit after tax	**8,708**	15,025	11,879

Reported profit

Reported profit after tax of $8.7bn was $6.3bn or 42% lower than in 2018.

Reported profit before tax of $13.3bn was $6.5bn or 33% lower. This was mainly due to higher reported operating expenses, which included a $7.3bn impairment of goodwill, primarily related to our GB&M business globally and our CMB business in Europe. This reflected lower long-term economic growth rate assumptions, and also for GB&M, the planned reshaping of this business. In addition, reported operating expenses in 2019 included additional customer redress provisions of $1.3bn and restructuring and other related costs of $0.8bn. By contrast, reported operating expenses in 2018 included costs of $0.8bn related to settlements and provisions in connection with legal and regulatory matters.

Reported profit was also adversely impacted by higher reported ECL, reflecting an increase in charges notably in CMB and RBWM, and as 2018 benefited from a number of releases against specific exposures.

These factors were partly offset by growth in reported revenue in all our global businesses, except GB&M. The increase in RBWM was from favourable market impacts of $0.5bn and favourable actuarial assumption changes of $0.2bn, balance sheet growth and the impact of previous interest rate increases on margins in Retail Banking. In CMB, revenue grew, mainly in Global Liquidity and Cash Management ('GLCM') and Credit and Lending ('C&L'). The change in revenue also included an $828m dilution gain following the merger of The Saudi British Bank ('SABB') with Alawwal bank in Saudi Arabia, a net favourable movement in credit and funding valuation adjustments in GB&M of $0.2bn, the non-recurrence of a 2018 adverse swap mark-to-market loss of $177m on a bond reclassification in Corporate Centre and 2019 disposal gains in RBWM and CMB of $157m.

Excluding net adverse movements in significant items of $7.1bn and adverse foreign currency translation differences of $0.5bn, profit before tax increased by $1.0bn.

Since the beginning of January 2020, the coronavirus outbreak has caused disruption to our staff, suppliers and customers, particularly in Hong Kong and mainland China. The outlook remains uncertain and we continue to monitor the situation closely. Depending on the duration of the disruption caused by the virus, our results could be adversely affected by increased ECL, lower revenue and market volatility in our insurance business. Further ECL could arise from other parts of our business impacted by the disruption to supply chains.

Reported profit after tax

$8.7bn

(2018: $15.0bn)

Basic earnings per share

$0.30

(2018: $0.63)

Reported revenue

Reported revenue of $56.1bn was $2.3bn or 4% higher than in 2018, reflecting growth in RBWM and CMB, as discussed above, and in Corporate Centre, partly offset by lower revenue in GB&M.

Net favourable movements in significant items of $0.9bn, which largely comprised the $828m dilution gain in Saudi Arabia and favourable fair value movements on financial instruments of $0.2bn, were more than offset by adverse foreign currency translation differences of $1.6bn.

Excluding significant items and currency translation differences, revenue increased by $3.1bn or 6%.

Reported ECL

Reported ECL of $2.8bn were $1.0bn or 56% higher than in 2018, driven by increased charges in CMB and RBWM, and as 2018 benefited from a number of releases against specific exposures, notably in GB&M and CMB. ECL in 2019 included a charge to reflect the economic outlook in Hong Kong, as well as a release of allowances related to UK economic uncertainty.

Excluding currency translation differences, ECL increased by $1.1bn or 63%.

Reported operating expenses

Reported operating expenses of $42.3bn were $7.7bn or 22% higher than in 2018, mainly due to a net adverse movement in significant items of $7.9bn, which included:

- a $7.3bn impairment of goodwill, primarily $4.0bn related to our GB&M business, reflecting lower long-term economic growth rate assumptions and the planned reshaping of this business, and $2.5bn in CMB in Europe, reflecting lower long-term economic growth rate assumptions;
- customer redress programme costs of $1.3bn, of which $1.2bn related to payment protection insurance ('PPI'), mainly driven by a higher than expected increase in the volume of complaints prior to the deadline in August 2019, compared with $0.1bn in 2018; and
- restructuring and other related costs of $0.8bn, which included $753m of severance costs, related to cost efficiency measures across our global business and functions. We expect annualised cost savings from these measures to be approximately equal to 2019 severance costs.

These were partly offset by:

- the non-recurrence of settlements and provisions in connection with legal and regulatory matters of $0.8bn in 2018.

Excluding significant items and favourable foreign currency translation differences of $1.1bn, operating expenses increased by $0.9bn or 3%.

Reported share of profit in associates and joint ventures

Reported share of profit in associates of $2.4bn was $0.2bn or 7% lower than in 2018. This included adverse foreign currency translation differences of $0.1bn. The reduction also reflected lower share of profit from SABB as a result of higher ECL charges and other expenses relating to the merger with Alawwal bank, partly offset by higher income from Bank of Communications Co., Limited ('BoCom').

Tax expense

The tax expense of $4.6bn was $0.2bn lower than in 2018, although the effective tax rate for 2019 of 34.8% was higher than the 24.5% for 2018, mainly due to the impairment of goodwill in 2019, which is not deductible for tax purposes.

Dividend

On 18 February 2020, the Board announced a fourth interim dividend of $0.21 per ordinary share.

Adjusted performance

Our reported results are prepared in accordance with IFRSs as detailed in the financial statements on page 271.

We also present alternative performance measures. Adjusted performance is an alternative performance measure used to align internal and external reporting, identify and quantify items management believes to be significant, and provide insight into how management assesses period-on-period performance. Alternative performance measures are highlighted with the following symbol: ◆

To derive adjusted performance, we adjust for:

– the year-on-year effects of foreign currency translation differences; and

– the effect of significant items that distort year-on-year comparisons, which are excluded in order to improve understanding of the underlying trends in the business.

The results of our global businesses are presented on an adjusted basis, which is consistent with how we manage and assess global business performance.

For reconciliations of our reported results to an adjusted basis, including lists of significant items, see page 68.

Adjusted results ◆	2019 $m	2018 $m	Adverse $m	Favourable $m	%
Net operating income before change in expected credit losses and other credit impairment charges ('revenue')	**55,409**	52,331		**3,078**	**6%**
ECL/LICs	**(2,756)**	(1,689)	**(1,067)**		**(63)%**
Total operating expenses	**(32,795)**	(31,906)	**(889)**		**(3)%**
Operating profit	**19,858**	18,736		**1,122**	**6%**
Share of profit in associates and joint ventures	**2,354**	2,446	**(92)**		**(4)%**
Profit before tax	**22,212**	21,182		**1,030**	**5%**

Adjusted profit before tax ◆
Adjusted profit before tax of $22.2bn was $1.0bn or 5% higher than in 2018.

Adjusted revenue increased by $3.1bn, primarily reflecting growth in RBWM and CMB, although revenue in GB&M fell. The increase in revenue was broadly offset by higher adjusted ECL (up $1.1bn) and a rise in adjusted operating expenses of $0.9bn, which included investments to grow the business and investments in digital capabilities.

The effects of hyperinflation accounting in Argentina resulted in a $0.1bn decrease in adjusted profit before tax, compared with a $0.2bn decrease in 2018.

Adjusted revenue ◆
Adjusted revenue of $55.4bn increased by $3.1bn or 6%, reflecting strong performances in RBWM and CMB, notably in Asia, partly offset by lower revenue in GB&M.

– In RBWM, revenue increased by $2.0bn or 9%, mainly in Retail Banking, reflecting growth in deposit and lending balances, primarily in Hong Kong and the UK. Margins remained stable compared with 2018, although they began to contract during the second half of 2019. In Wealth Management, revenue growth reflected higher insurance manufacturing revenue, which included a favourable movement in market impacts of $0.5bn, as 2019 recorded a favourable movement of $0.1bn compared with an adverse movement of $0.3bn in 2018, and more favourable actuarial assumption changes of $0.2bn. These increases were partly offset by lower investment distribution revenue, mainly in Hong Kong, reflecting less favourable market conditions compared with 2018.

Reconciliation of reported to adjusted profit before tax

	2019 $m	2018 $m
Reported profit before tax	**13,347**	19,890
Currency translation	**–**	(520)
Significant items:	**8,865**	1,812
– costs of structural reform	**158**	361
– customer redress programmes	**1,444**	93
– disposals, acquisitions and investment in new businesses	**(768)**	165
– fair value movements on financial instruments	**(84)**	100
– goodwill impairment	**7,349**	—
– past service costs of guaranteed minimum pension benefits equalisation	**–**	228
– restructuring and other related costs	**827**	66
– settlements and provisions in connection with legal and regulatory matters	**(61)**	816
– currency translation on significant items	**–**	(17)
Adjusted profit before tax	**22,212**	21,182

Adjusted performance continued

- In CMB, revenue increased by $0.8bn or 6%, with growth in all major products and regions. Growth was primarily in GLCM, particularly in Hong Kong from wider deposit margins, and in the UK and Latin America from wider margins and growth in average deposit balances. While deposit margins were wider than in 2018, they began to contract during the second half of 2019 following interest rate cuts. Revenue increased in C&L due to balance sheet growth in most markets, partly offset by margin compression.
- In GB&M, revenue decreased by $0.1bn or 1%. This reflected a reduction in revenue in Global Markets and Global Banking as economic uncertainty resulted in lower market activity, primarily in Europe. These decreases were partly offset by a strong performance in GLCM, GTRF and Securities Services businesses as we continued to grow balances. Revenue included a net favourable movement of $0.2bn on credit and funding valuation adjustments.
- In GPB, revenue increased by $0.1bn or 5%, mainly reflecting growth in investment revenue and lending revenue, primarily in Asia and Europe. These increases were partly offset by lower deposit revenue, notably in the US and Europe.
- In Corporate Centre, revenue increased by $0.2bn. This was mainly in Central Treasury from favourable fair value movements in 2019 of $147m relating to the economic hedging of interest rate and exchange rate risk on our long-term debt with long-term derivatives (2018: $136m adverse) and from a non-repeat of a 2018 swap mark-to-market loss on a bond reclassification of $177m, although there was lower revenue in Balance Sheet Management ('BSM').

Adjusted ECL

Adjusted ECL of $2.8bn were $1.1bn higher than in 2018, mainly reflecting an increase in charges in CMB, RBWM and GB&M. ECL in 2019 included a charge of $138m to reflect the economic outlook in Hong Kong, as well as a $99m release of allowances related to UK economic uncertainty. Adjusted ECL as a percentage of average gross loans and advances to customers was 0.27%, compared with 0.17% at 2018.

In CMB, ECL increased by $0.5bn, primarily in Europe and Hong Kong, while in North America the prior year benefited from net releases that did not recur. ECL increased in RBWM by $0.3bn, notably against unsecured lending, mainly in the US, Mexico and Hong Kong. In addition ECL in 2019 included charges related to Argentinian sovereign bond exposures in our insurance business.

In GB&M, ECL charges were $0.2bn in 2019. This compared with net releases of $31m in 2018 as charges were more than offset by releases that largely related to exposures within the oil and gas sector in the US.

Adjusted operating expenses

Adjusted operating expenses of $32.8bn were $0.9bn or 3% higher than in 2018. This was a slower growth rate than in 2018 (compared with 2017), while we have continued to invest. Expenditure on investments increased by $0.4bn, reflecting initiatives to grow the business, mainly in RBWM and CMB, as well as continued investment in our digital capabilities across all global businesses. Volume-related growth also increased costs by $0.2bn. The impact of cost-saving efficiencies more than offset the effects of inflation.

The number of employees expressed in full-time equivalent staff at 31 December 2019 was 235,351, an increase of 134 from 31 December 2018. Our investments in business growth programmes, notably in RBWM and CMB, resulted in an increase of approximately 8,300 FTEs, but this was largely offset by the impact of our restructuring programmes. Additionally, the number of contractors at 31 December 2019 was 7,411, a decrease of 3,443 from 31 December 2018.

Adjusted share of profit in associates and joint ventures

Adjusted share of profit in associates of $2.4bn was $0.1bn or 4% lower than in 2018, mainly due to a reduction in SABB from higher ECL charges and other expenses relating to the merger with Alawwal bank, partly offset by higher income from BoCom.

Balance sheet and capital

Balance sheet strength

Total reported assets of $2.7tn were $157bn or 6% higher than at 31 December 2018 on a reported basis, and 5% higher on a constant currency basis. Loans and advances to customers increased to over $1.0tn at 31 December 2019, as we continued to grow lending, notably in Hong Kong and the UK.

Distributable reserves

The distributable reserves of HSBC Holdings at 31 December 2019 were $31.7bn, compared with $30.7bn at 31 December 2018. The increase was primarily driven by distributable profits generated of $11.5bn net of distributions to shareholders of $9.0bn and $1.0bn of share buy-backs.

Capital position

We actively manage the Group's capital position to support our business strategy and meet our regulatory requirements at all times, including under stress, while optimising our capital efficiency. To do this, we monitor our capital position using a number of measures. These include: our capital ratios, the impact on our capital ratios as a result of stress, and the degree of double leverage being run by HSBC Holdings. Double leverage is a constraint on managing our capital position, given the complexity of the Group's subsidiary structure and the multiple regulatory regimes under which we operate. For further details, see page 166.

Our CET1 ratio at 31 December 2019 was 14.7%, up from 14.0% at 31 December 2018. This increase was primarily driven by a reduction in RWAs.

Liquidity position

We actively manage the Group's liquidity and funding to support our business strategy and meet regulatory requirements at all times, including under stress. To do this, we monitor our position using a number of risk appetite measures, including the liquidity coverage ratio and the net stable funding ratio. At 31 December 2019, we held high-quality liquid assets of $601bn.

Total assets
($bn)

$2,715bn

2019	**2,715**
2018	2,558
2017	2,522

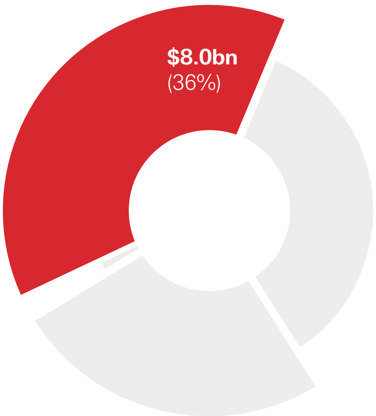
Common equity tier 1 ratio
(%)

14.7%

2019	**14.7**
2018	14.0
2017	14.5

Retail Banking and Wealth Management

Contribution to Group adjusted profit before tax



RBWM performed well in 2019, growing adjusted revenue in Hong Kong, the UK, and high-growth markets in Asia and Latin America, as we continued to win new customers, increase deposit balances and grow lending. We remain focused on making it easier for customers to bank with us, improving customer service and onboarding journeys, and enhancing our digital banking offerings.

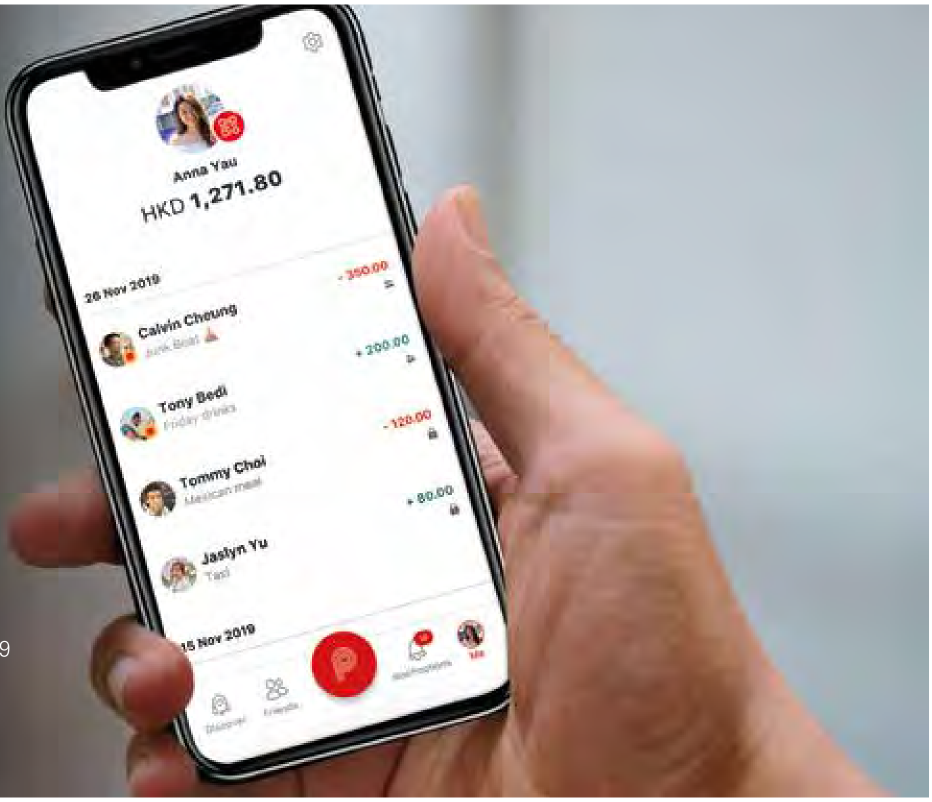
We help 39 million active customers across the world to manage their finances, buy their homes, save and invest for the future.

For our customers' everyday banking needs, we offer a full range of products and services tailored locally and accessible across multiple channels. Our strong global presence provides for customers with international needs.

	2019	2018	2017	2019 vs 2018	
Adjusted results	**$m**	$m	$m	**$m**	**%**
Net operating income	**23,400**	21,374	19,708	**2,026**	**9**
ECL/LICs	**(1,390)**	(1,134)	(941)	**(256)**	**(23)**
Operating expenses	**(14,017)**	(13,255)	(12,386)	**(762)**	**(6)**
Share of profit in associates and JVs	**55**	33	12	**22**	**67**
Profit before tax	**8,048**	7,018	6,393	**1,030**	**15**
RoTE excluding significant items and UK bank levy (%)	**20.5**	21.0	21.6		

Connecting our customers through digital innovation

We are committed to making mobile banking quick, safe and accessible. Our award-winning PayMe app lets people in Hong Kong send money instantly and free of charge to friends and family. It can also be used to split bills and make payments at thousands of merchants. PayMe has attracted 1.9 million users since it was launched in 2017. At busy times, the app processes more than 200,000 peer-to-peer payments in a single day. It is so much a part of everyday life that it's becoming part of the language. 'PayMe' is now a colloquial way to describe transferring money through a mobile app.



68%

Market share of peer-to-peer payments by transaction value for the third quarter of 2019

(total market value: www.hkma.gov.hk; HSBC contribution: HSBC data)

Management view of adjusted revenue	2019 $m	2018 $m	2017 $m	2019 vs 2018 $m	2019 vs 2018 %
Retail Banking	**15,840**	14,866	13,107	**974**	**7**
Current accounts, savings and deposits	**9,492**	8,356	6,146	**1,136**	**14**
Personal lending	**6,348**	6,510	6,961	**(162)**	**(2)**
– mortgages	**1,610**	1,867	2,301	**(257)**	**(14)**
– credit cards	**2,893**	2,804	2,814	**89**	**3**
– other personal lending	**1,845**	1,839	1,846	**6**	**—**
Wealth Management	**6,746**	5,986	6,103	**760**	**13**
– investment distribution	**3,269**	3,324	3,229	**(55)**	**(2)**
– life insurance manufacturing	**2,455**	1,625	1,835	**830**	**51**
– asset management	**1,022**	1,037	1,039	**(15)**	**(1)**
Other[1]	**814**	522	498	**292**	**56**
Net operating income[2]	**23,400**	21,374	19,708	**2,026**	**9**

1 'Other' mainly includes the distribution and manufacturing (where applicable) of retail and credit protection insurance.

2 Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.

Divisional highlights

1.5 million

increase in active customers

$16bn

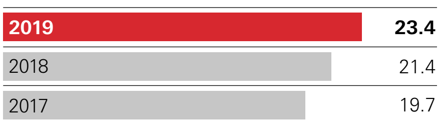
growth in mortgage book in the UK (up 7%) and Hong Kong (up 9%)

Adjusted profit before tax
($bn)

+15%

Net operating income
($bn)

+9%



Financial performance

Adjusted profit before tax of $8.0bn was $1.0bn or 15% higher than in 2018. This increase reflected strong balance sheet growth, favourable market impacts of $0.5bn in life insurance manufacturing and disposal gains of $0.1bn. This was partly offset by increased adjusted operating expenses, driven by higher staff costs, inflation and strategic investments, as well as higher adjusted ECL.

RBWM's reported profit before tax of $6.4bn was $0.5bn or 7% lower. This included customer redress programme costs of $1.3bn, mainly driven by a higher than expected increase in the volume of complaints prior to the deadline in respect of the mis-selling of PPI in the UK. These costs are excluded from our adjusted performance.

Adjusted revenue of $23.4bn was $2.0bn or 9% higher, with strong performances in Hong Kong, Latin America, the UK and mainland China, partly offset by lower revenue in the US. Revenue also included disposal gains in Argentina and Mexico of $133m.

- In Retail Banking, revenue was up $1.0bn or 7% driven by growth in Hong Kong, Latin America and the UK, partly offset by lower revenue in the US. The increase in revenue reflected deposit balance growth of $40bn or 6%, particularly in Hong Kong, the UK and North America and lending balance growth of $27bn or 7%, notably from mortgages in the UK and Hong Kong. A favourable interest rate environment contributed to higher retail margins in the first half of 2019, which began to contract in the second half following policy rate reductions. Overall, margin remained stable compared with 2018.
- In Wealth Management, revenue of $6.7bn was up $0.8bn or 13%. This increase reflected higher life insurance manufacturing revenue (up $0.8bn or 51%), primarily in Hong Kong, France and mainland China. This was driven by favourable market impacts of $0.5bn as 2019 recorded a favourable movement of $0.1bn, compared with an adverse movement of $0.3bn in 2018. This increase also reflected more favourable actuarial assumption changes of $0.2bn and growth in the value of new business written (up $0.1bn or 12%). The increase in life insurance manufacturing revenue was partly offset by lower investment distribution revenue (down $0.1bn or 2%), mainly in Hong Kong, driven by lower fees from less favourable market conditions compared with 2018 and a change in the product mix of clients' investments to lower risk and lower margin products.

Adjusted ECL were $1.4bn, up $0.3bn or 23% from 2018, driven by higher charges related to unsecured lending, reflecting our growth strategy, notably in the US, Mexico and Hong Kong. ECL as a percentage of lending within Retail Banking remained in line with 2018, at 0.33%, while ECL related to unsecured lending remained low at 2.2%, compared with 2.1% in 2018. In addition, ECL in 2019 included $91m charges in Argentina related to government bond exposures in our insurance business, as well as $52m charges related to economic uncertainty in Hong Kong. The net write-off in 2019 remained stable compared with 2018.

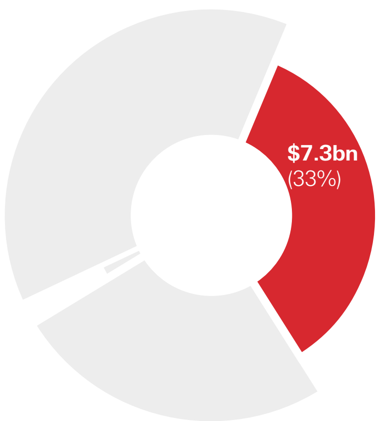
Adjusted operating expenses of $14.0bn were $0.8bn or 6% higher, driven by inflation and higher staff costs (up $0.3bn) as the business grew. Investment in strategic initiatives increased by $0.2bn to grow Wealth Management in Asia, enhance our digital capabilities and drive growth in key markets through lending. IT system and infrastructure costs rose $0.2bn.

A reminder

Our global businesses are presented on an adjusted basis, which is consistent with the way in which we manage and assess the performance of our global businesses. The management view of adjusted revenue table provides a breakdown of adjusted revenue by major products, and reflects the basis on which each business is managed and assessed.

Commercial Banking

Contribution to Group adjusted profit before tax



CMB delivered broad-based adjusted revenue growth across all main products and regions in 2019. We continued to invest in solutions to make banking with us easier, including improved customer journeys, new digital platforms and mobile apps.

We support approximately 1.4 million business customers in 53 countries and territories, ranging from small enterprises focused primarily on their domestic markets to large companies operating globally.

We help entrepreneurial businesses grow by supporting their financial needs, facilitating cross-border trade and payment services, and providing access to products and services offered by other global businesses.

	2019	2018	2017	2019 vs 2018	
Adjusted results	**$m**	$m	$m	**$m**	**%**
Net operating income	**15,292**	14,465	12,883	**827**	**6**
ECL/LICs	**(1,184)**	(712)	(468)	**(472)**	**(66)**
Operating expenses	**(6,801)**	(6,275)	(5,770)	**(526)**	**(8)**
Share of profit in associates and JVs	**—**	—	—	**—**	**—**
Profit before tax	**7,307**	7,478	6,645	**(171)**	**(2)**
RoTE excluding significant items and UK bank levy (%)	**12.4**	14.0	14.0		

Helping our customers manage cash globally

When China's largest hotel chain Jin Jiang bought Radisson late in 2018, it wanted its new US subsidiary to be served by a bank with a truly global outlook. Our existing relationship with Jin Jiang goes back more than 10 years, which puts us in a strong position to support the customer. Today, we are providing credit to support Radisson's investment in a new global platform for booking and reservations. Our market-leading international transaction banking capabilities and geographic network mean we can provide cash management services to Radisson in markets including China, India and the US, giving its management team greater control and visibility over their global cash position than ever before.

Management view of adjusted revenue	2019 $m	2018 $m	2017 $m	2019 vs 2018 $m	2019 vs 2018 %
Global Trade and Receivables Finance	**1,833**	1,807	1,782	**26**	**1**
Credit and Lending	**5,441**	5,168	4,960	**273**	**5**
Global Liquidity and Cash Management	**5,978**	5,647	4,644	**331**	**6**
Markets products, Insurance and Investments and Other[1]	**2,040**	1,843	1,497	**197**	**11**
Net operating income[2]	**15,292**	14,465	12,883	**827**	**6**

1 'Markets products, Insurance and Investments and Other' includes revenue from Foreign Exchange, insurance manufacturing and distribution, interest rate management and global banking products.

2 Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.

Divisional highlights

$9.0bn

Growth in loans and advances to customers in 2019

+8%

Increase in corporate customer value from international subsidiary banking

This relates to corporate client income, covering all CMB products, as well as total income from GB&M synergy products, including FX and debt capital markets, used by international CMB subsidiaries. This measure differs from reported revenue in that it excludes Business Banking and Other and internal cost of funds.

Adjusted profit before tax
($bn)

-2%

2019	**7.3**
2018	7.5
2017	6.6

Net operating income
($bn)

+6%

2019	**15.3**
2018	14.5
2017	12.9

Financial performance

Adjusted profit before tax of $7.3bn was $0.2bn or 2% lower, as higher adjusted revenue was more than offset by an increase in adjusted ECL charges and higher adjusted operating expenses, as we continued to invest.

Reported results included a goodwill impairment of $3.0bn, including $2.5bn in our business in Europe, $0.3bn in Latin America and $0.1bn in the Middle East, reflecting lower long-term economic growth rate assumptions. This impairment is excluded from our adjusted performance.

Adjusted revenue of $15.3bn was $0.8bn or 6% higher, with growth in all regions, particularly in our largest market Hong Kong (up 6%), and across all main products.

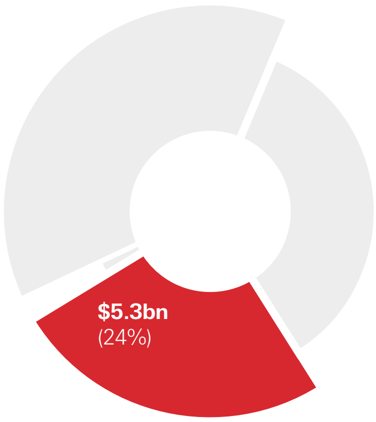
– In GLCM, revenue was $0.3bn or 6% higher, with growth across all regions except North America. The increase was mainly in Hong Kong, primarily reflecting wider margins, and in Latin America and the UK from wider margins and growth in average deposit balances. While deposit margins were wider than in 2018, they began to contract during the second half of 2019 following interest rate cuts.
– In C&L, revenue growth of $0.3bn or 5% reflected continued lending growth in all regions, partly offset by the effects of margin compression.
– In GTRF, revenue increased by $26m or 1%, mainly from wider margins in Asia, partly offset by lower balances in Hong Kong. Revenue increased across all other regions, primarily reflecting balance growth.
– Revenue growth in 'Other' products included net gains on the revaluation of shares of $43m in Europe, and a disposal gain of $24m in Latin America.
– Revenue across our three main products was adversely affected by customer redress provisions of $0.1bn in the UK.

Adjusted ECL of $1.2bn were $0.5bn higher than in 2018, driven by an increase mainly in the UK, France and Germany, partly offset by a reduction in MENA. In addition, there were ECL charges in 2019, notably in Asia, which compared with 2018 where we recorded a low level of charges in Hong Kong and net releases in North America.

Adjusted operating expenses of $6.8bn were $0.5bn or 8% higher, reflecting increased investment in digital capabilities, to help enable us to reduce average onboarding time for our relationship-managed and international customers, improve our business banking apps, and provide clients with a faster, simpler and more secure payment experience through real-time payments.

Global Banking and Markets

Contribution to Group adjusted profit before tax



GB&M's performance in 2019 reflected ongoing economic uncertainty and spread compression, which negatively impacted Global Markets and Global Banking in Europe, although there was a strong performance across all businesses in Asia compared with 2018. Globally our industry-leading GLCM and Securities Services businesses performed strongly.

We continue to invest in digital capabilities to provide value to our clients and improve efficiency.

We support major government, corporate and institutional clients worldwide. Our product specialists deliver a comprehensive range of transaction banking, financing, advisory, capital markets and risk management services.

	2019	2018	2017	**2019 vs 2018**	
Adjusted results	**$m**	$m	$m	**$m**	**%**
Net operating income	**14,916**	15,025	14,823	**(109)**	**(1)**
ECL/LICs	**(153)**	31	(439)	**(184)**	**(594)**
Operating expenses	**(9,417)**	(9,170)	(8,709)	**(247)**	**(3)**
Share of profit in associates and JVs	**—**	—	—	**—**	**—**
Profit before tax	**5,346**	5,886	5,675	**(540)**	**(9)**
RoTE excluding significant items and UK bank levy (%)	**9.2**	10.5	10.6	**—**	

Landmark deal for HSBC Qianhai Securities

HSBC Qianhai Securities, our securities joint venture based in mainland China, helped one of the world's largest construction companies complete a major deal in January 2019. HSBC Qianhai Securities advised a subsidiary of China State Construction and Engineering Corporation when it took a controlling stake in SCIMEE, a company specialising in water purification technology. The transaction marked the first time a Chinese state-owned enterprise had acquired a controlling stake in a privately owned company listed on the ChiNext Board of the Shenzhen Stock Exchange through a share transfer agreement.

The deal cemented our relationship with the client and underlined our ability to offer strategic support and innovative solutions in China's onshore capital market.

Management view of adjusted revenue	2019 $m	2018 $m	2017 $m	2019 vs 2018 $m	%
Global Markets	**5,763**	6,274	6,800	**(511)**	**(8)**
– FICC	**4,770**	5,093	5,544	**(323)**	**(6)**
Foreign Exchange	**2,690**	2,916	2,556	**(226)**	**(8)**
Rates	**1,465**	1,432	2,071	**33**	**2**
Credit	**615**	745	917	**(130)**	**(17)**
– Equities	**993**	1,181	1,256	**(188)**	**(16)**
Securities Services	**2,030**	1,922	1,730	**108**	**6**
Global Banking	**3,905**	4,005	3,942	**(100)**	**(2)**
Global Liquidity and Cash Management	**2,753**	2,583	2,169	**170**	**7**
Global Trade and Receivables Finance	**808**	787	743	**21**	**3**
Principal Investments	**260**	216	319	**44**	**20**
Credit and funding valuation adjustments[1]	**44**	(181)	(262)	**225**	**124**
Other[2]	**(647)**	(581)	(618)	**(66)**	**(11)**
Net operating income[3]	**14,916**	15,025	14,823	**(109)**	**(1)**

1 From 1 January 2018, the qualifying components according to IFRS 7 'Financial Instruments: Disclosures' of fair value movements relating to changes in credit spreads on structured liabilities were recorded through other comprehensive income. The residual movements remain in credit and funding valuation adjustments. Comparatives have not been restated.

2 'Other' includes allocated funding costs and gains resulting from business disposals. Within the management view of adjusted revenue, notional tax credits are allocated to the businesses to reflect the economic benefit generated by certain activities, which is not reflected within operating income, for example notional credits on income earned from tax-exempt investments where the economic benefit of the activity is reflected in tax expense. In order to reflect the total operating income on an IFRS basis, the offsets to these tax credits are included within 'Other'.

3 Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.

Divisional highlights

48%

Percentage of 2019 adjusted revenue generated in Asia

$23bn

Reduction in reported RWAs compared with 31 December 2018

Adjusted profit before tax
($bn)

-9%

2019	**5.3**
2018	5.9
2017	5.7

Net operating income
($bn)

-1%

2019	**14.9**
2018	15.0
2017	14.8

Financial performance

Adjusted profit before tax of $5.3bn was $0.5bn or 9% lower, driven by increased investment in the business and lower adjusted revenue, while adjusted ECL were at low levels against a net release in 2018.

Reported results included a goodwill impairment of $4.0bn, primarily reflecting lower long-term economic growth rate assumptions, and the planned reshaping of the business. This impairment is excluded from our adjusted performance.

Adjusted revenue of $14.9bn was $0.1bn or 1% lower, and included a net favourable movement of $225m on credit and funding valuation adjustments.

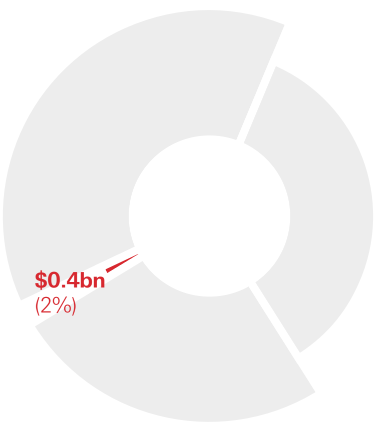
- Global Markets revenue decreased by $0.5bn or 8%, driven by low market volatility and reduced client activity due to ongoing economic uncertainty, as well as continued spread compression.
- Global Banking revenue decreased $0.1bn or 2%, reflecting a non-repeat of gains in 2018 on corporate lending restructuring, lower fees from reduced event-driven activity and the impact of tightening credit spreads on portfolio hedges. These reductions were partly offset by higher lending revenue as we grew balances, notably in Asia.
- GLCM revenue increased by $0.2bn or 7%, primarily driven by higher average deposit balances in Asia and Latin America, and wider margins in the UK from an interest rate rise in 2018, partly offset by lower revenue in the US due to lower average balances and interest rate decreases.
- Securities Services revenue rose by $0.1bn or 6% mainly from higher interest rates in Hong Kong and the UK, as well as increased fee income reflecting higher assets under custody (up 6%) and assets under management (up 9%), although this was partly offset by margin compression.
- GTRF revenue increased by 3% from growth in all regions except Europe, particularly from wider spreads and higher fees in Asia, while we continued to reduce RWAs in all regions.

Adjusted ECL charges were $0.2bn, up $0.2bn compared with a net release in 2018. ECL charges in 2018 were more than offset by releases that largely related to exposures within the oil and gas sector in the US.

Adjusted operating expenses increased $0.2bn or 3%, as we invested in GLCM and Securities Services to support business growth, in regulatory programmes, and from higher amortised investment costs, which more than offset lower performance-related pay.

Global Private Banking

Contribution to Group adjusted profit before tax



Divisional highlights

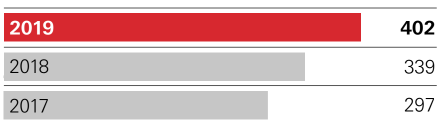
Net new money in 2019 of

$23bn

This is the highest inflow since 2008

Adjusted profit before tax
($m)

+19%



GPB performed well in 2019, growing adjusted profit before tax by 19%. Net new money inflows were $23bn, the highest inflow since 2008, with more than 60% from collaboration with our other global businesses.

We serve high net worth and ultra high net worth individuals and families, including those with international banking needs. Services include investment management, which includes advisory and brokerage services, and Private Wealth Solutions, which comprises trusts and estate planning, to protect and preserve wealth for future generations.

	2019	2018	2017	2019 vs 2018	
Adjusted results	**$m**	$m	$m	**$m**	**%**
Net operating income	**1,848**	1,757	1,698	**91**	**5**
ECL/LICs	**(22)**	7	(17)	**(29)**	**(414)**
Operating expenses	**(1,424)**	(1,425)	(1,384)	**1**	**—**
Profit before tax	**402**	339	297	**63**	**19**
RoTE excluding significant items and UK bank levy (%)	**11.1**	9.9	7.1		

Financial performance

Adjusted profit before tax of $0.4bn increased by $63m or 19%, primarily reflecting higher adjusted revenue in Asia, as we continued to invest in business growth initiatives.

Reported results included a goodwill impairment of $0.4bn relating to our business in North America, reflecting lower long-term economic growth rate assumptions. This impairment is excluded from our adjusted performance.

Adjusted revenue of $1.8bn increased by $91m or 5%, primarily reflecting growth in Asia.

- Investment revenue increased by $71m or 10%, mainly in Asia and Europe from higher brokerage revenue, and in Europe from increased annuity fee income as a result of growth in discretionary and advisory client mandates.
- Lending revenue was $41m or 11% higher, with growth in most of our markets, notably from increased marketable securities-backed lending.
- Deposit revenue fell by $29m or 6%, mainly in the US from margin compression and the impact of repositioning, and in Europe from margin compression. This was partly offset by balance growth and wider margins in Asia.

In 2019, we attracted $23bn of net new money inflows, of which $9bn related to discretionary and advisory client mandate flows, mainly in Asia and Europe.

Adjusted operating expenses of $1.4bn were broadly unchanged, despite an increase in Asia, reflecting investments we have made to support business growth. This increase was substantially offset by reductions in Europe, and in the US following actions to mitigate lower revenue, together with a partial release of a provision associated with the wind-down of our operations in Monaco.

	2019	2018	2017	2019 vs 2018	
Management view of adjusted revenue	**$m**	$m	$m	**$m**	**%**
Investment revenue	**777**	706	690	**71**	**10**
Lending	**424**	383	385	**41**	**11**
Deposit	**462**	491	400	**(29)**	**(6)**
Other	**185**	177	223	**8**	**5**
Net operating income[1]	**1,848**	1,757	1,698	**91**	**5**

1 Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.

Supporting female entrepreneurs

We work in partnership with AllBright, a network for women entrepreneurs, to help provide networking opportunities, role models and insight into the pitching process. We support their monthly 'pitch days' where women present business proposals to a team of potential investors. We give applicants feedback and provide some with further coaching. Growing enterprises create wealth, support jobs and pioneer new products and services. We are proud to help a new generation of business leaders take the next step forward.

Corporate Centre

Corporate Centre includes Central Treasury, including Balance Sheet Management ('BSM'), our legacy businesses, interests in our associates and joint ventures, central stewardship costs, the impact of hyperinflation in Argentina and the UK bank levy.

Financial performance
Adjusted profit before tax of $1.1bn was $0.6bn or 141% higher than 2018.

Adjusted revenue of negative $47m in 2019 was $0.2bn favourable compared with 2018, largely reflecting higher revenue in Central Treasury.

Central Treasury revenue of $0.9bn was $0.3bn higher, reflecting:

- favourable fair value movements relating to the economic hedging of interest rate and exchange rate risk on our long-term debt with long-term derivatives of $147m in 2019, compared with adverse movements of $136m in 2018; and
- the non-recurrence of a $177m loss in 2018 arising from adverse swap mark-to-market movements following a bond reclassification under IFRS 9 'Financial Instruments'.

These were partly offset by:

- lower revenue in BSM reflecting a fall in net interest income as our holdings of low yielding, liquid assets increased.

Other income decreased by $85m. In 2019, this included $166m of lease finance expenses following the adoption of IFRS 16 'Leases' from 1 January 2019. Prior to this, lease expenses were recorded within operating expenses. This reduction was partly offset by a favourable impact of $88m relating to hyperinflation accounting in Argentina.

Adjusted ECL charges of $7m in 2019 compared with a net release of $119m in 2018. The 2019 ECL includes charges related to BSM's exposure to government bonds in Argentina, and we recorded lower net releases in 2019 related to our legacy portfolios in the UK than in 2018.

Adjusted operating expenses of $1.1bn were $0.6bn or 36% lower. This reflected a change in the allocation of certain costs to global businesses, which reduced costs retained in Corporate Centre, the impact of the adoption of IFRS 16 'Leases' and lower costs relating to legacy portfolios.

Adjusted income from associates decreased by $0.1bn or 5%, reflecting a lower share of profit from SABB as a result of higher ECL charges and other expenses relating to the merger with Alawwal bank, although share of profit from BoCom increased.

	2019	2018	2017	**2019 vs 2018**	
Management view of adjusted revenue	**$m**	$m	$m	**$m**	**%**
Central Treasury	**859**	511	1,710	**348**	**68**
– Balance Sheet Management[1]	**2,292**	2,402	2,663	**(110)**	**(5)**
– Holdings net interest expense	**(1,325)**	(1,337)	(888)	**12**	**1**
– Valuation differences on long-term debt and associated swaps	**147**	(313)	120	**460**	**147**
– Other central treasury	**(255)**	(241)	(185)	**(14)**	**(6)**
Legacy portfolios	**(111)**	(91)	(29)	**(20)**	**(22)**
Other	**(795)**	(710)	(620)	**(85)**	**(12)**
Net operating income[2]	**(47)**	(290)	1,061	**243**	**84**
RoTE excluding significant items and UK bank levy (%)	**(3.5)%**	(5.7)%	(5.2)%		

1 BSM revenue includes notional tax credits to reflect the economic benefit generated by certain activities, which is not reflected within operating income, for example notional credits on income earned from tax-exempt investments where the economic benefit of the activity is reflected in tax expense. In order to reflect the total operating income on an IFRS basis, the offsets to these tax credits are included in 'Other central treasury'.

2 Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.

Risk overview

Active risk management helps us to achieve our strategy, serve our customers and communities and grow our business safely.

Managing risk

We have maintained a consistent approach to risk throughout our history, helping to ensure we protect customers' funds, lend responsibly and support economies. By carefully aligning our risk appetite to our strategy, we aim to deliver sustainable long-term shareholder returns.

All our people are responsible for the management of risk, with the ultimate accountability residing with the Board. Our Global Risk function, led by the Group Chief Risk Officer, plays an important role in reinforcing the Group's culture and values. It focuses on creating an environment that encourages our people to speak up and do the right thing.

Global Risk is independent from the global businesses, including our sales and trading functions, to provide challenge, oversight and appropriate balance in risk/reward decisions. It oversees a comprehensive risk management framework that is applied throughout the Group, with governance and corresponding risk management tools, underpinned by the Group's culture and reinforced by the HSBC Values.

Our risk appetite

Our risk appetite defines our desired forward-looking risk profile, and informs the strategic and financial planning process. It provides an objective baseline to guide strategic decision making, helping to ensure that planned business activities provide an appropriate balance of return for the risk assumed, while remaining within acceptable risk levels.

Our risk appetite also provides an anchor between our global businesses and the Global Risk and Global Finance functions, helping to enable our senior management to allocate capital, funding and liquidity optimally to finance growth, while monitoring exposure and the cost impacts of managing non-financial risks.

Our risk appetite is articulated in our risk appetite statement, which is approved by the Board. Key elements include:

- risks that we accept as part of doing business, such as credit risk, market risk, and capital and liquidity risk, which are controlled through both active risk management and our risk appetite;
- risks that we incur as part of doing business, such as non-financial risks, which are actively managed to remain below an acceptable appetite; and
- risks for which we have zero tolerance, such as knowingly engaging in activities where foreseeable reputational risk has not been considered.

In 2019, we continued to refine and evolve our risk appetite, by enhancing both the financial and non-financial aspects of our risk appetite statements to ensure we are able to support our strategic goals against a backdrop of economic and geopolitical uncertainty. A specific emphasis was placed on capital risk and non-financial risks, with the inclusion of third-party risk management and enhanced model risk oversight.

Key risk appetite metrics

Component	Measure	Risk appetite	2019
Returns	Return on average tangible equity ('RoTE')	≥11.0%	**8.4%**
Capital	CET1 ratio – end point basis[1]	≥13.5%	**14.7%**
Change in expected credit losses and other credit impairment charges	Change in expected credit losses and other credit impairment charges as a % of advances: RBWM	≤0.50%	**0.35%**
	Change in expected credit losses and other credit impairment charges as a % of advances: wholesale (CMB, GB&M and GPB)	≤0.45%	**0.20%**

1 The CET1 ratio risk appetite increased to 13.75% from 1 January 2020.

Stress tests

We regularly conduct stress tests to assess the resilience of our balance sheet and our capital adequacy, as well as to provide insights into our financial stability. They are used to consider our risk appetite and review the robustness of our strategic and financial plans, helping to empower management with decision making. Stress testing analysis helps management understand the nature and extent of vulnerabilities to which the Group is exposed. The results from the stress tests drive recovery and resolution planning to protect the Group's financial stability under various macroeconomic scenarios.

Risk assessment through internal stress tests is used to assess the impacts of macroeconomic, geopolitical and other HSBC-specific risks. The selection of stress scenarios is based upon the output of our top and emerging risks identified and our risk appetite.

Technology targets financial crime

We are developing advanced analytics to increase the speed and effectiveness of how we spot and report financial crimes such as money laundering. These systems build a rich picture of customer and counterparty trade information and transactional data to identify financial crime risk. We are already using this technology to review international trade transactions, monitoring hundreds of thousands of payments each month for indicators of money laundering. We also have systems that use advanced algorithms and machine-learning technology to automatically check for compliance with sanctions regulations. Investing in technology helps us play our part in protecting the integrity of the financial system and tackling financial crime.

In 2019, HSBC participated in the Bank of England's ('BoE') annual cyclical stress test, which showed that our capital ratios, after taking account of CRD IV restrictions and strategic management actions, exceeded the BoE's requirements. We also participated in the biennial exploratory scenario stress test, which explored the implications of a severe and broad-based liquidity shock affecting the major UK banks simultaneously over a 12-month horizon.

Our operations
Continued geopolitical risks have negative implications for economic growth. Central banks are likely to see little need to raise their policy interest rates above current levels and may even resort to lowering rates to accommodate the risks to growth.

We anticipate that a low interest-rate environment could impact business profitability, which we will look to mitigate through our business operations. Our business update focuses on material restructuring in the near to medium term, particularly within our GB&M business, Europe (excluding our UK ring-fenced bank, HSBC UK) and the US, as well as changes to our organisational structure. This entails meaningful change for our people, processes and structures with which we currently operate. We continue to prepare mitigating actions to manage the attendant risks of the restructuring, which include execution, operational, governance, reputational and financial risks.

We are committed to investing in the reliability and resilience of our IT systems and critical services that support all parts of our business. We do so to protect our customers, affiliates and counterparties, and help ensure that we minimise any disruption to services that could result in reputational and regulatory damage. We continue to operate in a challenging cyber threat environment, which requires ongoing investment in business and technical controls to defend against these threats.

Our resilience strategy is focused on the establishment of robust business recovery plans including detailed response methods, alternative delivery channels and recovery options.

For further details on 'Resilience Risk', see page 179.

UK withdrawal from the European Union

The UK left the European Union ('EU') on 31 January 2020 and entered a transition period until 31 December 2020. During the transition period the UK will continue to be bound by EU laws and regulations. Beyond that date there is no certainty on what the future relationship between the UK and the EU will be. This creates market volatility and economic risk, particularly in the UK. Our global presence and diversified customer base should help us to mitigate the impact on us of the UK's withdrawal from the EU. Our existing footprint in the EU, and in particular our subsidiary in France, has provided a strong foundation for us to build upon. As part of our stress testing programme, a number of internal macroeconomic and event-driven scenarios were considered alongside a scenario set by the BoE to support our planning for, and assessment of, the impact of the UK's withdrawal from the EU. The results confirmed that we are well positioned in the event of potential shocks.

Our approach to the UK's withdrawal from the EU is described in more detail in 'Areas of special interest' on page 116.

For further details of all scenarios used in impairment measurements, see 'Measurement uncertainty and sensitivity analysis of ECL estimates' on page 128.

Ibor transition

As a result of the likely cessation of the London interbank offered rate ('Libor') and the Euro Overnight Index Average ('Eonia') in 2021, we have established an interbank offered rate ('Ibor') transition programme with the objective of facilitating an orderly transition from Libor and Eonia to the new replacement rates for our business and our customers.

In addition to the conduct and execution risk, the process of adopting replacement reference rates may expose the Group to an increased level of operational and financial risks, such as potential earnings volatility resulting from contract modifications and a large volume of product and associated process changes. Furthermore, the transition to alternative reference rates could have a range of adverse impacts on our business, including legal proceedings or other actions regarding the interpretation and enforceability of provisions in Ibor-based contracts and regulatory investigations or reviews in respect of our preparation and readiness for the replacement of Ibor with replacement reference rates.

Our approach to Ibor transition is described in more detail in 'Areas of special interest' on page 117.

Risks to our operations and portfolios in Asia-Pacific

In 2019, we saw heightened levels of risk in the Asia-Pacific region, in particular with domestic social unrest in Hong Kong and trade and technology tension between the US and China.

We recognised that domestic social unrest in Hong Kong is impacting the local economy and dampening investor and business sentiment in some sectors, while a unilateral approach by the US and China to deal with issues such as trade and technology could result in an increasingly fragmented trade and regulatory environment.

The coronavirus outbreak in China is a new emerging risk to the economy across mainland China and Hong Kong, and could further dampen investor and business confidence in the region. Our business could be materially impacted by higher ECL and lower revenue either as a direct impact on our Hong Kong and mainland China portfolios or from broader impacts on global supply chains. We have invoked our business continuity plans to help ensure the safety and well-being of our staff while enhancing our ability to support our customers and maintain our business operations. These actions help to ensure business resilience and that we remain within our risk appetite.

Our approach to the risks to our operations and portfolios in Asia-Pacific is described in more detail in 'Areas of special interest' on page 117.

For further details of all scenarios used in impairment measurements, see 'Measurement uncertainty and sensitivity analysis of ECL estimates' on page 128.

Top and emerging risks

Our top and emerging risks report helps us to identify forward-looking risks so that we may take action either to prevent them materialising or limit their effect.

Top risks are those that may have a material impact on the financial results, reputation or business model of the Group in the year ahead. Emerging risks are those that have large unknown components and may form beyond a one-year horizon. If any of these risks were to occur, they could have a material effect on HSBC.

Our suite of top and emerging risks are subject to regular review by senior governance forums.

Although we made no changes to our top and emerging risk themes in 2019, we continue to closely monitor the identified risks and ensure robust management actions are in place as required.

Risk	Trend	Mitigants
Externally driven		
Economic outlook and capital flows	▲	We actively monitor our credit and trading portfolios, in particular the UK and Hong Kong given the developments in 2019. We undertake stress tests to identify sectors and customers that may come under stress due to: escalating tariffs and other trade restrictions; an economic slowdown in the eurozone, Hong Kong and mainland China; and adverse outcomes of trade negotiations following the UK's exit from the EU. In light of the coronavirus outbreak, we are reviewing our credit portfolios and operations to help maintain continued business resilience.
Geopolitical risk	▲	We continually assess the impact of geopolitical events in Asia-Pacific, Europe and the Middle East on our businesses and exposures, and take steps to mitigate them, where required, to help ensure we remain within our risk appetite. We strengthen physical security at our premises where the threat landscape is heightened.
The credit cycle	▲	We undertake detailed reviews of our portfolios and proactively assess customers and sectors likely to come under stress as a result of geopolitical or macroeconomic events, in particular in the UK and Hong Kong, reducing limits where appropriate.
Cyber threat and unauthorised access to systems	►	We continue to strengthen our cyber-control framework and improve our resilience and cybersecurity capabilities, including: threat detection and analysis; access control; payment systems controls; data protection; network controls; and back-up and recovery. We actively engage in national cyber resilience programmes as we execute our cybersecurity maturity improvement programme.
Regulatory developments including conduct, with adverse impact on business model and profitability	►	We engage with regulators to help ensure new regulatory requirements such as the Basel III programme are effectively implemented, and work with them in relation to their investigations into historical activities.
Financial crime risk environment	►	In 2019, we continued to improve our financial crime risk management capabilities and to integrate those capabilities into our day-to-day operations. We are investing in the next generation of tools to fight financial crime through the application of advanced analytics and artificial intelligence.
Ibor transition	▲	We are focused on developing alternative rate products, and the supporting processes and systems, to replace Ibors to make them available to our customers. Our programme is concurrently developing the capability to transition, through repapering, outstanding Libor and Eonia contracts. We continue to engage with industry participants and the official sector to support an orderly transition.
Climate-related risks	▲	We continue to incorporate climate-related risk, both physical and transition, into how we manage and oversee risks. Our Board-approved risk appetite statement contains a qualitative statement which will be further enhanced in 2020. Our risk management priorities focus on assessing the transition and physical risk in our wholesale credit portfolio, reviewing retail mortgage exposures in respect of natural hazard risk, and developing scenarios for internal use in risk management, planning and bottom-up stress testing. We continue to proactively engage our customers, investors and regulators in order to support the transition to a low-carbon economy, in particular with regard to compiling the related data and disclosures.
Internally driven		
IT systems infrastructure and resilience	►	We actively monitor and improve service resilience across our technology infrastructure. We are enhancing the end-to-end mapping of key processes, and strengthening our problem diagnosis/resolution and change execution capabilities to reduce service disruption to our customers.
Risks associated with workforce capability, capacity and environmental factors with potential impact on growth	►	We continue to monitor workforce capacity and capability requirements in line with our published growth strategy and any emerging issues in the markets in which we operate. These issues can include changes to immigration and tax rules as well as industry-wide regulatory changes.
Risks arising from the receipt of services from third parties	►	We have set up a third-party risk management programme so that we can better identify, understand, mitigate and manage the risks that arise from the outsourcing of services. The programme aims to ensure adherence to our internal third-party risk policy and framework, which seeks to create a consistent approach to the understanding and effective management of the risks associated with our third-party service providers. The programme was established to oversee and monitor this work through to conclusion in the second half of 2020.
Enhanced model risk management expectations	▲	We continue to strengthen the second line of defence Model Risk Management function and model oversight. We have Model Risk Committees in our key regions, an enhanced model risk governance framework and we include model risk management as a standing agenda item in each of the global business risk management meetings.
Data management	►	We continue to enhance and advance our data insights, data aggregation, reporting and decisions. We carry out ongoing improvement and investments in data governance, data quality, data privacy, data architecture, machine learning and artificial intelligence capabilities.

▲ Risk heightened during 2019 ► Risk remained at the same level as 2018

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Remuneration

Our remuneration policy supports the achievement of our strategic objectives by aligning reward with our long-term sustainable performance.

Our remuneration principles

Our pay and performance strategy is designed to reward competitively the achievement of long-term sustainable performance. It aims to attract and motivate the very best people, regardless of gender, ethnicity, age, disability or any other factor unrelated to performance or experience with the Group, while performing their role in the long-term interests of our stakeholders.

The key principles that underpin pay and performance decisions for our workforce are as follows:

- We seek to ensure pay is fair, appropriate and free from bias.
- We reward and recognise sustainable performance and values-aligned behaviour.
- We pay competitive, simple and transparent compensation packages.
- We support a culture of continuous feedback through manager and employee empowerment.

Variable pay

Our variable pay pool was $3,341m, a decrease of 3.8% compared with 2018.

($m)

2019	**3,341**
2018	3,473

Embedding our values in our remuneration framework

Instilling the right behaviours and driving and encouraging actions that are aligned to our values and expectations are essential. We have a number of mechanisms to reinforce our values.

Mechanisms	Outcomes
Behavioural rating for all employees	Subject to compliance with local labour laws, employees receive a behaviour rating based on their adherence to HSBC Values to ensure performance is judged not only on what is achieved, but also how it is achieved.
Performance management	Performance objectives define what, how and when our people need to achieve, in line with business and role priorities. Objectives are initially created by our employees at the start of the year. Objectives are tracked and updated by employees throughout the year as priorities change. Performance management for all our people is underpinned by our 'Everyday Performance and Development' programme. This involves frequent, holistic and meaningful conversations throughout the year between a manager and employee. The conversations provide an opportunity to discuss progress and provide feedback. They also help to recognise behaviours, identify any support that may be needed and address issues that could be affecting the employee's well-being.
Conduct recognition	The employee recognition and conduct framework provides a set of guidelines designed to reward exceptional conduct and handle any conduct breaches consistently across the Group. Rewarding positive conduct may take the form of use of our global recognition programme 'At Our Best', or via positive adjustments to performance and behaviour ratings and variable pay. The framework also provides guidance on applying negative adjustments to performance and behaviour ratings and to variable pay, alongside disciplinary sanctions, where conduct breaches have been identified.

Remuneration for our executive Directors

Our remuneration policy for executive Directors was approved at our AGM in 2019 and is intended to apply for three performance years until the AGM in 2022. Details of the policy can be found on page 223 of the Directors' remuneration report.

Variable pay for our executive Directors is driven by scorecard achievement. Targets in the scorecard are set according to our key performance indications to ensure linkages between our strategy and remuneration policies and outcomes.

Executive Directors' annual incentive
(% of maximum awarded)

Group Chief Executive	**66.4%**
Group Chief Financial Officer	**77.5%**
Group Chief Risk Officer	**66.3%**

The table below shows the amount our executive Directors earned in 2019. For details of Directors' pay and performance for 2019, see the Directors' remuneration report on page 228.

Single figure of remuneration

(£000)		Base salary	Fixed pay allowance	Cash in lieu of pension	Taxable benefits[4]	Non-taxable benefits[4]	Total fixed	Annual incentive[5]	AML DPA award[6]	LTI[7]	Replacement award[8]	Notional returns[9]	Total variable	Total fixed and variable
Noel Quinn[1]	**2019**	**503**	**695**	**50**	**41**	**23**	**1,312**	**665**	**–**	**–**	**–**	**–**	**665**	**1,977**
	2018	–	–	–	–	–	–	–	–	–	–	–	–	–
John Flint[2]	**2019**	**730**	**1,005**	**134**	**91**	**31**	**1,991**	**891**	**–**	**–**	**–**	**40**	**931**	**2,922**
	2018	1,028	1,459	308	40	28	2,863	1,665	–	–	–	54	1,719	4,582
Ewen Stevenson	**2019**	**719**	**950**	**107**	**16**	**28**	**1,820**	**1,082**	**–**	**–**	**1,974**	**–**	**3,056**	**4,876**
	2018	–	–	–	–	–	–	–	–	–	–	–	–	–
Marc Moses[3]	**2019**	**719**	**950**	**107**	**40**	**33**	**1,849**	**926**	**–**	**1,709**	**–**	**17**	**2,652**	**4,501**
	2018	700	950	210	13	38	1,911	1,324	695	–	–	33	2,052	3,963

1 Noel Quinn succeeded John Flint as interim Group Chief Executive with effect from 5 August 2019 and the remuneration included in the single figure table above is in respect of services provided as an executive Director.

2 John Flint stepped down as an executive Director and Group Chief Executive on 5 August 2019. His remuneration details for 2019 are in respect of services provided as an executive Director. Details of John Flint's departure terms are provided on page 234.

3 Marc Moses stepped down as an executive Director and Group Chief Risk Officer on 31 December 2019. Details of Marc Moses' departure terms are provided on page 234.

4 Taxable benefits include the provision of medical insurance, car and tax return assistance (including any associated tax due, where applicable). Non-taxable benefits include the provision of life assurance and other insurance cover.

5 To meet regulatory deferral requirements for 2019, 60% of the annual incentive award for John Flint and Marc Moses will be deferred in awards linked to HSBC's shares and will vest in five equal instalments between the third and seventh anniversary of the grant date. On vesting, the shares will be subject to a one-year retention period. The deferred awards are subject to the executive Director maintaining good leaver status during the deferral period. Noel Quinn will have 60% of his annual incentive award deferred, and in line with regulatory requirements, it will be split equally between cash and shares subject to the same vesting and retention conditions.

6 The 2012 annual incentive for Marc Moses had a 60% deferral. The vesting of this deferred award was subject to a service condition and satisfactory completion of the five-year deferred prosecution agreement ('AML DPA') with the US Department of Justice. The AML DPA condition was satisfied in March 2018 and the awards were released. The value of Marc Moses' award in the table above reflects his time as an executive Director between 1 January 2014 and the vesting date.

7 An LTI award was made in February 2017 (in respect of 2016) at a share price of £6.503 for which the performance period ended on 31 December 2019. The value has been computed based on a share price of £5.896, the average share price during the three-month period to 31 December 2019. This includes dividend equivalents of £237,030, equivalent to 40,202 shares at a share price of £5.896. See the 'Determining executive Directors' performance' section of the Directors' remuneration report for details of the assessment outcomes.

8 As set out in the 2018 Directors' remuneration report, in 2019 Ewen Stevenson was granted replacement awards to replace unvested awards, which were forfeited as a result of him joining HSBC. The awards, in general, match the performance, vesting and retention periods attached to the awards forfeited, and will be subject to any performance adjustments that would otherwise have been applied. The values included in the table relate to Ewen Stevenson's 2015 and 2016 LTI awards granted by The Royal Bank of Scotland Group plc ('RBS') for performance years 2014 and 2015, respectively, and replaced with HSBC shares when Ewen Stevenson joined HSBC. These awards are not subject to further performance conditions and commenced vesting in March 2019. The total value is an aggregate of £1,121,308 for the 2015 LTI and £852,652 for the 2016 LTI. The 2016 LTI award value has been determined by applying the performance assessment outcome of 27.5% as disclosed in RBS's *Annual Report and Accounts 2018* (page 70) to the maximum number of shares subject to performance conditions.

9 'Notional returns' refers to the notional return on deferred cash for awards made in prior years. The deferred cash portion of the annual incentive granted in prior years includes a right to receive notional returns for the period between grant date and vesting date, which is determined by reference to the dividend yield on HSBC shares, calculated annually. A payment of notional return is made annually in the same proportion as the vesting of the deferred awards on each vesting date. The amount is disclosed on a paid basis in the year in which the payment is made. No deferred cash awards have been made to executive Directors for their services as an executive Director since the 2016 financial year.

Financial review

Supporting the transition to a low-carbon economy

We acted as a mandated lead arranger in the refinancing of the £2.5bn Beatrice offshore wind farm off the north-east coast of Scotland, which is jointly owned by UK energy firm SSE, Danish fund manager Copenhagen Infrastructure Partners and Edinburgh-based energy firm Red Rock Power Limited, a subsidiary of Beijing-headquartered SDIC Power.

To encourage low-carbon electricity generation and ensure progress towards carbon neutrality by 2050, the UK government awarded Beatrice a 15-year contract for difference, a mechanism in which public funding underpins power revenues that could otherwise fluctuate with swings in electricity prices.

Beatrice is one of the largest wind farms globally with a capacity of 580MW, which is capable of powering approximately 450,000 homes.

Financial summary

Use of non-GAAP financial measures

Our reported results are prepared in accordance with IFRSs as detailed in the financial statements starting on page 260.

To measure our performance, we also use non-GAAP financial measures, including those derived from our reported results that eliminate factors that distort year-on-year comparisons. The 'adjusted performance' measure used throughout this report is described below, and where others are used they are described. All non-GAAP financial measures are reconciled to the closest reported financial measure.

The global business segmental results are presented on an adjusted basis in accordance with IFRS 8 'Operating Segments', as detailed in Note 10: Segmental analysis on page 294.

Adjusted performance

Adjusted performance is computed by adjusting reported results for the effects of foreign currency translation differences and significant items, which both distort year-on-year comparisons.

We consider adjusted performance provides useful information for investors by aligning internal and external reporting, identifying and quantifying items management believes to be significant, and providing insight into how management assesses year-on-year performance.

Significant items

'Significant items' refers collectively to the items that management and investors would ordinarily identify and consider separately to improve the understanding of the underlying trends in the business.

The tables on pages 68 to 71 and pages 75 to 80 detail the effects of significant items on each of our global business segments and geographical regions in 2019, 2018 and 2017.

Foreign currency translation differences

Foreign currency translation differences reflect the movements of the US dollar against most major currencies during 2019.

We exclude them to derive constant currency data, allowing us to assess balance sheet and income statement performance on a like-for-like basis and better understand the underlying trends in the business.

Foreign currency translation differences

Foreign currency translation differences for 2019 are computed by retranslating into US dollars for non-US dollar branches, subsidiaries, joint ventures and associates:

- the income statements for 2018 and 2017 at the average rates of exchange for 2019; and
- the balance sheets at 31 December 2018 and 31 December 2017 at the prevailing rates of exchange on 31 December 2019.

No adjustment has been made to the exchange rates used to translate foreign currency-denominated assets and liabilities into the functional currencies of any HSBC branches, subsidiaries, joint ventures or associates. The constant currency data of HSBC's Argentinian subsidiaries have not been adjusted further for the impacts of hyperinflation. When reference is made to foreign currency translation differences in tables or commentaries, comparative data reported in the functional currencies of HSBC's operations have been translated at the appropriate exchange rates applied in the current period on the basis described above.

Changes from 1 January 2019

IFRS 16 'Leases'

On 1 January 2019, HSBC adopted the requirements of IFRS 16 'Leases' retrospectively, with the cumulative effect of initially applying the standard recognised as an adjustment to the opening balance of retained earnings at that date. Comparatives were not restated. The adoption of the standard increased assets by $5bn and increased financial liabilities by the same amount with no effect on net assets or retained earnings.

Interest rate benchmark reform: Amendments to IFRS 9 and IAS 39 'Financial Instruments'

Amendments to IFRS 9 and IAS 39 issued in September 2019 modify specific hedge accounting requirements so that entities apply those hedge accounting requirements assuming that the interest rate benchmark on which the hedged cash flows and cash flows of the hedging instrument are based is not altered as a result of interest rate benchmark reform. These amendments apply from 1 January 2020 with early adoption permitted. HSBC has adopted the amendments that apply to IAS 39 from 1 January 2019 and has made the additional disclosures as required by the amendments.

Critical accounting estimates and judgements

The results of HSBC reflect the choice of accounting policies, assumptions and estimates that underlie the preparation of HSBC's consolidated financial statements. The significant accounting policies, including the policies which include critical accounting estimates and judgements, are described in Note 1.2 on the financial statements. The accounting policies listed below are highlighted as they involve a high degree of uncertainty and have a material impact on the financial statements:

- Impairment of amortised cost financial assets and financial assets measured at fair value through other comprehensive income ('FVOCI'): The most significant judgements relate to defining what is considered to be a significant increase in credit risk, determining the lifetime and point of initial recognition of revolving facilities, and making assumptions and estimates to incorporate relevant information about past events, current conditions and forecasts of economic conditions. A high degree of uncertainty is involved in making estimations using assumptions that are highly subjective and very sensitive to the risk factors. See Note 1.2(i) on page 277.
- Deferred tax assets: The most significant judgements relate to judgements made in respect of expected future profitability. See Note 1.2(l) on page 281.
- Valuation of financial instruments: In determining the fair value of financial instruments a variety of valuation techniques are used, some of which feature significant unobservable inputs and are subject to substantial uncertainty. See Note 1.2(c) on page 275.

- Impairment of interests in associates: Impairment testing involves significant judgement in determining the value in use, and in particular estimating the present values of cash flows expected to arise from continuing to hold the investment, based on a number of management assumptions. The most significant judgements relate to the impairment testing of our investment in Bank of Communications Co., Limited ('BoCom'). See Note 1.2(a) on page 273.
- Goodwill impairment: A high degree of uncertainty is involved in estimating the future cash flows of the cash-generating units ('CGUs') and the rates used to discount these cash flows. See Note 1.2(a) on page 273.
- Provisions: Significant judgement may be required due to the high degree of uncertainty associated with determining whether a present obligation exists, and estimating the probability and amount of any outflows that may arise. See Note 1.2(m) on page 281.
- Post-employment benefit plans: The calculation of the defined benefit pension obligation involves the determination of key assumptions including discount rate, inflation rate, pension payments and deferred pensions, pay and mortality. See Note 1.2(k) on page 280.

Given the inherent uncertainties and the high level of subjectivity involved in the recognition or measurement of the items above, it is possible that the outcomes in the next financial year could differ from the expectations on which management's estimates are based, resulting in the recognition and measurement of materially different amounts from those estimated by management in these financial statements.

Consolidated income statement

Summary consolidated income statement

	Footnotes	2019 $m	2018 $m	2017 $m	2016 $m	2015 $m
Net interest income		**30,462**	30,489	28,176	29,813	32,531
Net fee income		**12,023**	12,620	12,811	12,777	14,705
Net income from financial instruments held for trading or managed on a fair value basis		**10,231**	9,531	8,426	7,521	8,717
Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss		**3,478**	(1,488)	2,836	1,262	565
Change in fair value of designated debt and related derivatives	1	**90**	(97)	155	(1,997)	973
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		**812**	695	N/A	N/A	N/A
Gains less losses from financial investments		**335**	218	1,150	1,385	2,068
Net insurance premium income		**10,636**	10,659	9,779	9,951	10,355
Other operating income/(expense)		**2,957**	960	443	(876)	1,178
Total operating income		**71,024**	63,587	63,776	59,836	71,092
Net insurance claims and benefits paid and movement in liabilities to policyholders		**(14,926)**	(9,807)	(12,331)	(11,870)	(11,292)
Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions	2	**56,098**	53,780	51,445	47,966	59,800
Change in expected credit losses and other credit impairment charges		**(2,756)**	(1,767)	N/A	N/A	N/A
Loan impairment charges and other credit risk provisions		**N/A**	N/A	(1,769)	(3,400)	(3,721)
Net operating income		**53,342**	52,013	49,676	44,566	56,079
Total operating expenses excluding goodwill impairment		**(35,000)**	(34,659)	(34,884)	(36,568)	(39,768)
Goodwill impairment		**(7,349)**	—	—	(3,240)	—
Operating profit		**10,993**	17,354	14,792	4,758	16,311
Share of profit in associates and joint ventures		**2,354**	2,536	2,375	2,354	2,556
Profit before tax		**13,347**	19,890	17,167	7,112	18,867
Tax expense		**(4,639)**	(4,865)	(5,288)	(3,666)	(3,771)
Profit for the year		**8,708**	15,025	11,879	3,446	15,096
Attributable to:						
– ordinary shareholders of the parent company		**5,969**	12,608	9,683	1,299	12,572
– preference shareholders of the parent company		**90**	90	90	90	90
– other equity holders		**1,324**	1,029	1,025	1,090	860
– non-controlling interests		**1,325**	1,298	1,081	967	1,574
Profit for the year		**8,708**	15,025	11,879	3,446	15,096

Five-year financial information

	Footnotes	2019 $	2018 $	2017 $	2016 $	2015 $
Basic earnings per share		**0.30**	0.63	0.48	0.07	0.65
Diluted earnings per share		**0.30**	0.63	0.48	0.07	0.64
Dividends per ordinary share	3	**0.51**	0.51	0.51	0.51	0.50
		%	%	%	%	%
Dividend payout ratio	4	**172.2**	81.0	106.3	728.6	76.5
Post-tax return on average total assets		**0.3**	0.6	0.5	0.1	0.6
Return on average ordinary shareholders' equity		**3.6**	7.7	5.9	0.8	7.2
Return on average tangible equity		**8.4**	8.6	6.8	2.6	8.1
Effective tax rate		**34.8**	24.5	30.8	51.5	19.99

For footnotes, see page 67.

Unless stated otherwise, all tables in the Annual Report and Accounts 2019 *are presented on a reported basis.*

For a summary of our financial performance in 2019, see page 27.

For further financial performance data for each global business and geographical region, see pages 68 to 71 and 73 to 81, respectively. The global business segmental results are presented on an adjusted basis in accordance with IFRS 8 'Operating Segments', in Note 10: Segmental analysis on page 294.

Income statement commentary

The following commentary compares Group financial performance for the years ended 2019 with 2018.

For commentary on Group financial performance for the year ended 2018 compared with 2017, please see pages 37 to 44 of HSBC Holding plc Form 20-F for the year ended 31 December 2018.

For commentary on the performance of our global businesses for the year ended 31 December 2019, see pages 30 to 37. For commentary on the performance of our global businesses for the year ended 31 December 2018, see pages 18 to 21 of HSBC Holdings plc 20-F for the year ended 31 December 2018.

Net interest income

	Footnotes	2019 $m	2018 $m	2017 $m
Interest income		**54,695**	49,609	40,995
Interest expense		**(24,233)**	(19,120)	(12,819)
Net interest income		**30,462**	30,489	28,176
Average interest-earning assets		**1,922,822**	1,839,346	1,726,120
		%	%	%
Gross interest yield	5	**2.84**	2.70	2.37
Less: cost of funds	5	**(1.48)**	(1.21)	(0.88)
Net interest spread	6	**1.36**	1.49	1.49
Net interest margin	7	**1.58**	1.66	1.63

For footnotes, see page 67.

Summary of interest income by type of asset

	2019			2018			2017		
	Average balance	**Interest income**	**Yield**	Average balance	Interest income	Yield	Average balance	Interest income	Yield
	$m	**$m**	**%**	$m	$m	%	$m	$m	%
Short-term funds and loans and advances to banks	**212,920**	**2,411**	**1.13**	233,637	2,475	1.06	236,126	2,030	0.86
Loans and advances to customers	**1,021,554**	**35,578**	**3.48**	972,963	33,285	3.42	902,214	28,751	3.19
Reverse repurchase agreements – non-trading	**224,942**	**4,690**	**2.08**	205,427	3,739	1.82	173,760	2,191	1.26
Financial investments	**417,939**	**10,705**	**2.56**	386,230	9,166	2.37	389,807	7,440	1.91
Other interest-earning assets	**45,467**	**1,311**	**2.88**	41,089	944	2.30	24,213	583	2.41
Total interest-earning assets	**1,922,822**	**54,695**	**2.84**	1,839,346	49,609	2.70	1,726,120	40,995	2.37

Summary of interest expense by type of liability and equity

		2019			2018			2017		
		Average balance	**Interest expense**	**Cost**	Average balance	Interest expense	Cost	Average balance	Interest expense	Cost
	Footnotes	**$m**	**$m**	**%**	$m	$m	%	$m	$m	%
Deposits by banks	8	**52,515**	**702**	**1.34**	44,530	506	1.14	47,337	451	0.95
Customer accounts	9	**1,149,483**	**11,238**	**0.98**	1,138,620	8,287	0.73	1,094,920	5,405	0.49
Repurchase agreements – non-trading		**160,850**	**4,023**	**2.50**	161,204	3,409	2.11	136,561	1,665	1.22
Debt securities in issue – non-trading	10	**211,229**	**6,522**	**3.09**	183,434	5,675	3.09	169,243	4,391	2.59
Other interest-bearing liabilities		**59,980**	**1,748**	**2.91**	53,731	1,243	2.31	7,009	907	12.94
Total interest-bearing liabilities		**1,634,057**	**24,233**	**1.48**	1,581,519	19,120	1.21	1,455,070	12,819	0.88

For footnotes, see page 67.

Net interest income ('NII') of $30.5bn was broadly unchanged compared with 2018. Interest income associated with the increase in average interest-earning assets ('AIEA') of 5% was offset by higher funding costs, reflecting higher average interest rates compared with the previous year.

Excluding the adverse effects of significant items and foreign currency translation differences, NII increased by $1.0bn.

Net interest margin ('NIM') of 1.58% was 8 basis points ('bps') lower than in 2018 as the higher yield on AIEA of 14bps was offset by the rise in funding costs of average interest-bearing liabilities of 27bps.

The decrease in NIM in 2019 included the adverse effects of foreign currency translation differences and significant items. Excluding these, NIM fell by 6bps.

Interest income increased by $5.1bn or 10% compared with 2018, benefiting from growth in AIEA of 5% and higher average interest rates compared with the previous year, with the yield on AIEA increasing by 14bps.

Interest income on loans and advances to customers increased by $2.3bn. This was mainly driven by higher average interest rates compared with the previous year, with yields increasing by 6bps and 5% volume growth in AIEA, notably in term lending in Asia, and growth in mortgages in Asia and Europe.

Interest income on short-term funds and financial investments increased by $1.5bn, reflecting higher average interest rates compared with the previous year.

The increase in interest income included $1.6bn in relation to the adverse effects of significant items and foreign currency translation. Excluding these, interest income increased by $6.7bn.

Interest expense increased by $5.1bn or 27% compared with 2018. This reflects growth in average interest-bearing liabilities of 3% and an increase in funding cost of 27bps, predominantly in customer accounts.

Interest expense on interest-bearing customer accounts was $3.0bn higher, mainly in Asia, reflecting higher average interest rates compared with the previous year together with an increase in customer accounts, primarily towards term deposits.

Interest expense on debt securities in issue was $0.8bn higher. This was mainly as a result of debt issuances by HSBC Holdings to meet regulatory requirements, which contributed $0.5bn towards the increase.

The increase in interest expense included the favourable effects of significant items and foreign currency translation differences of $0.6bn. Excluding these impacts, interest expense was $5.7bn higher.

Net fee income of $12.0bn was $0.6bn lower compared with 2018, including adverse foreign currency translation differences of $0.3bn. The remaining reduction primarily reflected lower net fee income in RBWM and GB&M.

In RBWM, the reduction reflected lower fees from broking and unit trusts in Hong Kong due to lower volumes as investor confidence was weaker compared with a strong 2018. In addition, funds under management fees also reduced, reflecting a change in mix of clients' investments to lower risk and lower margin products.

In GB&M, net fee income was lower, mainly in the UK and the US. This was primarily due to lower corporate finance fees, which reflected reduced client activity. This was partly offset by higher underwriting fees, notably in Asia, France and the US, from higher volumes.

Net income from financial instruments held for trading or managed on a fair value basis increased by $0.7bn and included a favourable fair value movement on non-qualifying hedges of $0.3bn, offset by adverse movements in foreign currency translation differences of $0.5bn.

The increase was mainly in Asia, notably in Hong Kong, reflecting favourable market conditions and increased client activity in our Rates, Credit and Equities businesses, and from gains in Balance Sheet Management ('BSM') on funding swaps due to favourable movements on yield curves. In Latin America, income in BSM increased, primarily from gains on debt securities in Argentina and a favourable impact of hyperinflation, as well as increased client activity in GB&M in Mexico. Income increased in the US from increased client activity on US Treasuries and emerging markets interest rate swaps, partly offset by lower revenue from precious metals trading.

In the UK, income fell as subdued market conditions resulted in lower Global Markets revenue, notably in Rates, Credit and Equities.

Net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss was $3.5bn, compared with a net expense of $1.5bn in 2018. This increase primarily reflected more favourable equity market performance in Hong Kong and France, resulting in revaluation gains on the equity and unit trust assets supporting insurance and investment contracts.

This positive movement resulted in a corresponding movement in liabilities to policyholders and the present value of in-force long-term insurance business (see 'Other operating income' below), reflecting the extent to which the policyholders and shareholders respectively participate in the investment performance of the associated assets.

Change in fair value of designated debt and related derivatives were $0.1bn favourable in 2019, compared with adverse movements of $0.1bn in 2018. These movements were driven by changes in interest rates between the periods, notably in US dollars and pounds sterling.

The majority of our financial liabilities designated at fair value are fixed-rate, long-term debt issuances, and are managed in conjunction with interest rate swaps as part of our interest rate management strategy. These liabilities are discussed further on page 54.

Gains less losses from financial investments of $0.3bn increased by $0.1bn compared with 2018, reflecting higher gains from the disposal of debt securities.

Net insurance premium income was broadly unchanged compared with 2018, and included adverse effects of foreign currency translation differences. Excluding these, the increase of $0.2bn reflected higher new business volumes, particularly in Hong Kong, Singapore and UK, partly offset by higher reinsurance ceded in Hong Kong.

Other operating income of $2.9bn in 2019 increased by $2.0bn compared with 2018. This was primarily due to a higher favourable change in the present value of in-force long-term insurance business ('PVIF') in 2019 (up $1.1bn), and a $0.8bn dilution gain in 2019 following the merger of The Saudi British Bank with Alawwal bank in Saudi Arabia.

This increase in PVIF reflected a favourable movement in 'assumption changes and experience variances' of $1.1bn. This was primarily in Hong Kong due to the effect of interest rate changes on the valuation of the liabilities under insurance contracts, which has a corresponding increase in 'net insurance claims and benefits paid and movement in liabilities to policyholders'. For further details, see Note 21 on the financial statements.

In 2019, we recognised a gain in Argentina following the sale of a stake in the payment processing company Prisma Medios de Pago S.A., and a gain in Mexico associated with the launch of a merchant acquiring services joint venture with Global Payments Inc. By contrast, 2018 included a loss of $0.1bn on the early redemption of subordinated debt linked to the US run-off portfolio.

Net insurance claims and benefits paid and movement in liabilities to policyholders were $5.1bn higher, primarily due to higher returns on financial assets supporting contracts where the policyholder is subject to part or all of the investment risk, and the impact of higher new business volumes, particularly in Hong Kong and Singapore. These were partly offset by the impact of higher reinsurance ceded in Hong Kong.

Changes in expected credit losses and other credit impairment charges ('ECL') of $2.8bn were $1.0bn higher compared with 2018. This was mainly driven by higher charges in CMB, RBWM and GB&M. ECL in 2019 included a charge to reflect the economic outlook in Hong Kong, as well as a partial release of allowances related to UK economic uncertainty. See page 131 for more information on the impact of alternative/additional scenarios. The effects of foreign currency translation differences between the periods were minimal.

- In CMB, ECL charges of $1.2bn were $0.5bn higher reflecting increases in Europe and Hong Kong, while the previous year benefited from net releases in North America that did not recur. The movements were partly offset by a reduction in ECL charges in MENA.
- In RBWM, ECL charges of $1.4bn were $0.3bn higher, driven by increased ECL related to unsecured lending, notably in the US, Mexico, and Hong Kong. In addition, ECL in 2019 included charges in Argentina related to government bond exposures in our insurance business.
- In GB&M, net ECL charges of $0.2bn compared with a net release of $31m in 2018. Releases in the previous period more than offset ECL charges and primarily related to a small number of clients within the oil and gas sector in the US.
- In Corporate Centre, net ECL charges of $7m compared with a net release of $119m in 2018. The ECL in 2019 included charges related to BSM's exposure to government bonds in Argentina. There were also lower net releases recorded in 2019 related to our legacy portfolios in the UK, compared with 2018.

On a constant currency basis, ECL as a percentage of average gross loans and advances to customers was 0.27%, compared with 0.17% in 2018.

Operating expenses – currency translation and significant items

	2019 $m	2018 $m
Significant items	**9,554**	1,644
– costs of structural reform	**158**	361
– customer redress programmes	**1,281**	146
– disposals, acquisitions and investment in new businesses	**—**	52
– goodwill impairment	**7,349**	—
– past service costs of guaranteed minimum pension benefits equalisation	**—**	228
– restructuring and other related costs	**827**	66
– settlements and provisions in connection with legal and regulatory matters	**(61)**	816
– currency translation on significant items		(25)
Currency translation		1,109
Year ended 31 Dec	**9,554**	2,753

Staff numbers (full-time equivalents)

	2019	2018	2017
Global businesses			
Retail Banking and Wealth Management	**134,296**	133,644	129,402
Commercial Banking	**44,503**	44,805	44,871
Global Banking and Markets	**48,459**	48,500	45,725
Global Private Banking	**6,767**	6,819	7,250
Corporate Centre	**1,326**	1,449	1,439
At 31 Dec	**235,351**	235,217	228,687

Operating expenses of $42.3bn were $7.7bn or 22% higher than in 2018 and included favourable foreign currency translation differences of $1.1bn, which were more than offset by net adverse movements in significant items of $7.9bn.

Significant items included:

- a $7.3bn impairment of goodwill, which included $4.0bn related to our global GB&M business, resulting from an update in long-term assumptions and the planned reshaping of the business, and $2.5bn in our CMB business in Europe, $0.4bn in GPB in North America, and $0.4bn in CMB in Latin America and MENA reflecting lower long-term economic growth rate assumptions. For further details, see Note 21 on the financial statements;
- customer redress programme costs of $1.3bn in 2019, $1.2bn of which related to the mis-selling of payment protection insurance ('PPI') mainly driven by a higher than expected increase in the volume of complaints prior to the deadline in August 2019. This compared with $0.1bn in 2018. For further details, see Note 10 on the financial statements; and
- restructuring and other related costs of $0.8bn in 2019, which included $753m of severance costs arising from cost efficiency measures across our global businesses and functions. We expect annualised cost savings from these measures to be approximately equal to 2019 severance costs.

These were partly offset by:

- the non-recurrence of settlements and provisions in connection with legal and regulatory matters of $0.8bn in 2018;
- lower costs of structural reform of $0.2bn, which included costs associated with the UK's withdrawal from the European Union; and
- the non-recurrence of a provision in relation to past service costs of guaranteed minimum pension obligations in 2018 of $0.2bn.

Excluding significant items and foreign currency translation differences, operating expenses of $32.8bn were $0.9bn or 2.8% higher than in 2018. The increase primarily reflected investments to grow the business (up $0.4bn), notably in RBWM and CMB, as well as continued investment in digital capabilities across all of our global businesses.

Volume-related growth increased operating expenses by $0.2bn, and the UK bank levy of $988m was $24m higher than in 2018.

The impact of our cost-saving efficiencies broadly offset inflation.

The number of employees expressed in full-time equivalent staff ('FTEs') at 31 December 2019 was 235,351, an increase of 134 from 31 December 2018. This largely reflected an increase in FTEs associated with our investment initiatives, which was broadly offset by reductions following our restructuring programmes. The number of contractors at 31 December 2019 was 7,411, a decrease of 3,443 from 31 December 2018.

The 2020 business update sets a target of reducing adjusted operating expenses to $31bn or lower by 2022. To achieve this reduction, we expect to incur restructuring costs of $6bn during the period to 2022.

Share of profit in associates and joint ventures was $2.4bn, a decrease of $0.2bn or 7% compared with 2018, and included the adverse effects of foreign currency translation differences of $90m.

Excluding the effects of foreign currency translation differences, our share of profit in associates and joint ventures decreased by $92m compared with 2018. This reflected lower income from The Saudi British Bank due to higher ECL charges and other expenses relating to the merger with Alawwal bank, partly offset by higher income from BoCom.

At 31 December 2019, we performed an impairment review of our investment in BoCom and concluded that it was not impaired, based on our value-in-use ('VIU') calculation. For more information on the key assumptions in our VIU calculation, including the sensitivity of the VIU to each key assumption, see Note 18 on the financial statements.

Tax expense of $4.6bn was $0.2bn lower than in 2018.

The effective tax rate for 2019 of 34.8% was higher than the 24.5% for 2018 due to the impairment of goodwill in 2019, which is not deductible for tax purposes.

This impairment charge increased the 2019 effective tax rate by 12.3%.

Further details are provided in Note 7 on the financial statements.

Consolidated balance sheet

Five-year summary consolidated balance sheet

	Footnotes	2019 $m	2018 $m	2017 $m	2016 $m	2015 $m
Assets						
Cash and balances at central banks		**154,099**	162,843	180,624	128,009	98,934
Trading assets		**254,271**	238,130	287,995	235,125	224,837
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss		**43,627**	41,111	N/A	N/A	N/A
Financial assets designated at fair value		**N/A**	N/A	29,464	24,756	23,852
Derivatives		**242,995**	207,825	219,818	290,872	288,476
Loans and advances to banks		**69,203**	72,167	90,393	88,126	90,401
Loans and advances to customers	11	**1,036,743**	981,696	962,964	861,504	924,454
Reverse repurchase agreements – non-trading		**240,862**	242,804	201,553	160,974	146,255
Financial investments		**443,312**	407,433	389,076	436,797	428,955
Other assets		**230,040**	204,115	159,884	148,823	183,492
Total assets at 31 Dec		**2,715,152**	2,558,124	2,521,771	2,374,986	2,409,656
Liabilities and equity						
Liabilities						
Deposits by banks		**59,022**	56,331	69,922	59,939	54,371
Customer accounts		**1,439,115**	1,362,643	1,364,462	1,272,386	1,289,586
Repurchase agreements – non-trading		**140,344**	165,884	130,002	88,958	80,400
Trading liabilities		**83,170**	84,431	184,361	153,691	141,614
Financial liabilities designated at fair value		**164,466**	148,505	94,429	86,832	66,408
Derivatives		**239,497**	205,835	216,821	279,819	281,071
Debt securities in issue		**104,555**	85,342	64,546	65,915	88,949
Liabilities under insurance contracts		**97,439**	87,330	85,667	75,273	69,938
Other liabilities		**194,876**	167,574	113,690	109,595	139,801
Total liabilities at 31 Dec		**2,522,484**	2,363,875	2,323,900	2,192,408	2,212,138
Equity						
Total shareholders' equity		**183,955**	186,253	190,250	175,386	188,460
Non-controlling interests		**8,713**	7,996	7,621	7,192	9,058
Total equity at 31 Dec		**192,668**	194,249	197,871	182,578	197,518
Total liabilities and equity at 31 Dec		**2,715,152**	2,558,124	2,521,771	2,374,986	2,409,656

For footnotes, see page 67.

A more detailed consolidated balance sheet is contained in the financial statements on page 262.

Five-year selected financial information

	Footnotes	2019 $m	2018 $m	2017 $m	2016 $m	2015 $m
Called up share capital		**10,319**	10,180	10,160	10,096	9,842
Capital resources	12	**172,150**	173,238	182,383	172,358	189,833
Undated subordinated loan capital		**1,968**	1,969	1,969	1,967	2,368
Preferred securities and dated subordinated loan capital	13	**33,063**	35,014	42,147	42,600	42,844
Risk-weighted assets		**843,395**	865,318	871,337	857,181	1,102,995
Total shareholders' equity		**183,955**	186,253	190,250	175,386	188,460
Less: preference shares and other equity instruments		**(22,276)**	(23,772)	(23,655)	(18,515)	(16,517)
Total ordinary shareholders' equity		**161,679**	162,481	166,595	156,871	171,943
Less: goodwill and intangible assets (net of tax)		**(17,535)**	(22,425)	(21,680)	(19,649)	(24,626)
Tangible ordinary shareholders' equity		**144,144**	140,056	144,915	137,222	147,317
Financial statistics						
Loans and advances to customers as a percentage of customer accounts		**72.0%**	72.0%	70.6%	67.7%	71.7%
Average total shareholders' equity to average total assets		**6.97%**	7.16%	7.33%	7.37%	7.31%
Net asset value per ordinary share at year-end ($)	14	**8.00**	8.13	8.35	7.91	8.77
Tangible net asset value per ordinary share at year-end ($)		**7.13**	7.01	7.26	6.92	7.51
Tangible net asset value per fully diluted share at year-end ($)		**7.11**	6.98	7.22	6.88	7.46
Number of $0.50 ordinary shares in issue (millions)		**20,639**	20,361	20,321	20,192	19,685
Basic number of $0.50 ordinary shares outstanding (millions)		**20,206**	19,981	19,960	19,838	19,604
Basic number of $0.50 ordinary shares outstanding and dilutive potential ordinary shares (millions)		**20,280**	20,059	20,065	19,933	19,744
Closing foreign exchange translation rates to $:						
$1: £		**0.756**	0.783	0.740	0.811	0.675
$1: €		**0.890**	0.873	0.834	0.949	0.919

For footnotes, see page 67.

Balance sheet commentary compared with 31 December 2018

At 31 December 2019, our total assets were $2.7tn, an increase of $157bn or 6% on a reported basis and $126bn or 5% on a constant currency basis.

Our ratio of customer advances to customer accounts of 72.0% was unchanged from 31 December 2018.

Assets

Loans and advances to customers of $1.0tn increased by $55bn or 6% on a reported basis. This included a favourable effect of foreign currency translation differences of $13bn, resulting in growth of $42bn or 4% on a constant currency basis, which was mainly due to continued growth in Asia and Europe, notably in Hong Kong and the UK.

Customer lending in Asia increased by $25bn, with growth in all global businesses. The increase in RBWM (up $13bn) reflected growth in Hong Kong (up $8bn) and Australia (up $3bn), primarily due to increased mortgage lending. In GPB (up $6bn), the increase was mainly in Hong Kong, driven by growth in marketable securities-backed lending transactions, and in Singapore from increased term lending. Lending growth in GB&M (up $4bn) and CMB (up $3bn) reflected higher corporate term lending from our continued strategic focus on loan growth in the region, as well as from an increase in customer demand.

In Europe, customer lending increased by $12bn, notably in HSBC UK (up $11bn). This primarily reflected growth in mortgage balances in RBWM (up $9bn) due to our continued focus on broker-originated mortgages, and in CMB (up $2bn) where term lending increased.

Cash and balances at central banks decreased by $9bn or 5% and included a favourable effect of foreign currency translation differences of $1bn. Excluding this, cash and balances at central banks decreased by $10bn, mainly in the US, reflecting the redeployment of our commercial surplus.

Trading assets increased by $16bn or 7%, which included a favourable effect of foreign currency translation differences of $3bn. Excluding this, trading assets increased by $13bn due to an increase in equity security holdings, notably in Hong Kong, the US and the UK, in part due an increase in client activity compared with 2018. This was partly offset by a decrease in debt securities held in the US.

Derivative assets increased by $35bn or 17% and included a favourable effect of foreign currency translation differences of $5bn. Excluding this, derivative assets increased by $31bn, primarily from mark-to-market gains in the UK. The increase in derivative assets was consistent with the increase in derivative liabilities as the underlying risk is broadly matched.

Financial investments increased by $36bn or 9%, which included a favourable effect of foreign currency translation differences of $3bn. Excluding this, financial investments increased by $33bn, mainly due to an increase in debt securities, notably in the UK, and to a lesser extent in Singapore and the US. This was partly offset by a decrease in investments in government bonds in Hong Kong.

Liabilities

Customer accounts of $1.4tn increased by $76bn or 6% on a reported basis, including the favourable effect of foreign currency translation differences of $17bn. On a constant currency basis, current accounts increased by $59bn or 4%, with growth across all regions, mainly in Asia, Europe and North America.

In Asia, we grew customer accounts by $30bn or 4%, notably in RBWM (up $20bn) and CMB (up $5bn), primarily from an increase in time deposits, reflecting higher customer inflows due to competitive rates. Growth in GB&M (up $5bn) was mainly in Singapore as we continued to target this market for growth.

Customer accounts increased in Europe by $13bn. This was driven by growth in RBWM (up $11bn), mainly due to higher savings balances, notably in the UK, and in CMB (up $10bn), reflecting growth in Global Liquidity and Cash Management ('GLCM'). These increases were partly offset by a decrease in GB&M balances (down $9bn) mainly in the UK in GLCM.

In North America, customer accounts increased by $11bn, notably in RBWM (up $7bn) reflecting growth in savings and deposits from recent promotions. Growth in CMB (up $7bn), was notably in the US from an increase in demand deposits.

Repurchase agreements – non-trading decreased by $26bn or 15%, primarily in the US from a decreased use of repurchase agreements for funding in our Global Markets business.

Financial liabilities designated at fair value were $16bn or 11% higher. This was mainly due to increased issuances of senior debt during the year by HSBC Holdings and increased issuances of structured notes in the UK and France.

Derivative liabilities increased by $34bn or 16%, including a favourable effect of foreign currency translation differences of $5bn. Excluding this, derivative liabilities increased by $29bn, which is consistent with the increase in derivative assets, since the underlying risk is broadly matched.

Debt securities in issue rose by $19bn or 23%, reflecting an increase in certificates of deposits, primarily in Europe, Asia and North America. This was partly offset by a decrease in commercial paper, notably in the UK, and a decrease in medium term notes in North America.

Equity

Total shareholders' equity of $184bn decreased by $2bn or 1%. The reduction was mainly due to dividends paid to shareholders of $12bn and adverse movements of $2bn related to fair value attributable to changes in own credit risk. These reductions were partly offset by profits generated in the period of $7bn, shares issued in lieu of dividends of $3bn and a $1bn decrease in accumulated foreign exchange losses.

Risk-weighted assets

Risk-weighted assets ('RWAs') totalled $843.4bn at 31 December 2019, a $21.9bn decrease. Excluding foreign currency translation differences, RWAs decreased by $26.9bn in 2019.

A $32.2bn decrease in RWAs as a result of methodology and policy changes was mostly due to management initiatives in CMB and GB&M, including risk parameter refinements, a change to our best estimate of expected loss on corporate exposures, and securitisation transactions. A $7.7bn decrease due to model updates included global corporate model changes in CMB and GB&M, and changes to Private Banking credit risk models in Asia and North America. A $9.0bn increase in RWAs due to asset size movements predominantly reflected RWA increases due to lending growth of $26.2bn, which were partly offset by reductions due to active portfolio management of $17.2bn. Changes in asset quality caused a $3.7bn rise in RWAs.

Customer accounts by country/territory

	2019 $m	2018 $m
Europe	**528,718**	503,154
– UK	**419,642**	399,487
– France	**47,699**	45,169
– Germany	**19,361**	16,713
– Switzerland	**6,558**	6,315
– other	**35,458**	35,470
Asia	**697,358**	664,824
– Hong Kong	**499,955**	484,897
– Singapore	**48,569**	42,323
– mainland China	**48,323**	45,712
– Australia	**23,191**	20,649
– India	**14,935**	14,210
– Malaysia	**14,624**	13,904
– Taiwan	**14,668**	13,602
– Indonesia	**4,732**	3,810
– other	**28,361**	25,717
Middle East and North Africa (excluding Saudi Arabia)	**38,126**	35,408
– United Arab Emirates	**17,949**	16,583
– Turkey	**3,870**	4,169
– Egypt	**5,186**	4,493
– other	**11,121**	10,163
North America	**146,676**	133,291
– US	**90,834**	82,523
– Canada	**48,425**	43,898
– other	**7,417**	6,870
Latin America	**28,237**	25,966
– Mexico	**23,051**	19,936
– other	**5,186**	6,030
At 31 Dec	**1,439,115**	1,362,643

Loans and advances, deposits by currency

	At 31 Dec 2019						
$m	**USD**	**GBP**	**HKD**	**EUR**	**CNY**	**Others[15]**	**Total**
Loans and advances to banks	**19,386**	**3,245**	**6,242**	**4,266**	**5,772**	**30,292**	**69,203**
Loans and advances to customers	**177,696**	**264,029**	**234,945**	**84,919**	**34,338**	**240,816**	**1,036,743**
Total loans and advances	**197,082**	**267,274**	**241,187**	**89,185**	**40,110**	**271,108**	**1,105,946**
Deposits by banks	**23,508**	**7,537**	**1,865**	**11,154**	**4,265**	**10,693**	**59,022**
Customer accounts	**360,462**	**358,764**	**299,049**	**122,988**	**52,216**	**245,636**	**1,439,115**
Total deposits	**383,970**	**366,301**	**300,914**	**134,142**	**56,481**	**256,329**	**1,498,137**

	At 31 Dec 2018						
$m	USD	GBP	HKD	EUR	CNY	Others[15]	Total
Loans and advances to banks	23,469	4,351	3,241	3,462	7,418	30,226	72,167
Loans and advances to customers	176,907	243,541	220,458	86,583	29,973	224,234	981,696
Total loans and advances	200,376	247,892	223,699	90,045	37,391	254,460	1,053,863
Deposits by banks	17,802	5,777	3,748	15,923	4,065	9,016	56,331
Customer accounts	348,741	340,244	290,748	116,095	49,596	217,219	1,362,643
Total deposits	366,543	346,021	294,496	132,018	53,661	226,235	1,418,974

For footnotes, see page 67.

Average balance sheet

Average balance sheet and net interest income

Average balances and related interest are shown for the domestic operations of our principal commercial banks by geographical region. 'Other operations' comprise the operations of our principal commercial banking and consumer finance entities outside their domestic markets and all other banking operations, including investment banking balances and transactions.

Average balances are based on daily averages for the principal areas of our banking activities with monthly or less frequent averages used elsewhere. Balances and transactions with fellow subsidiaries are reported gross in the principal commercial banking and consumer finance entities, and the elimination entries are included within 'Other operations'.

Net interest margin numbers are calculated by dividing net interest income as reported in the income statement by the average interest-earning assets from which interest income is reported within the 'Net interest income' line of the income statement. Total interest-earning assets include credit-impaired loans where the carrying amount has been adjusted as a result of impairment allowances. In accordance with IFRSs, we recognise interest income on credit-impaired assets after the carrying amount has been adjusted as a result of impairment. Fee income that forms an integral part of the effective interest rate of a financial instrument is recognised as an adjustment to the effective interest rate and recorded in 'Interest income'.

Assets

			2019			2018			2017		
			Average balance	**Interest income**	**Yield**	Average balance	Interest income	Yield	Average balance	Interest income	Yield
		Footnotes	**$m**	**$m**	**%**	$m	$m	%	$m	$m	%
Summary											
Interest-earning assets measured at amortised cost (itemised below)			**1,922,822**	**54,695**	**2.84**	1,839,346	49,609	2.70	1,726,120	40,995	2.37
Trading assets and financial assets designated and otherwise mandatorily measured at fair value through profit or loss			**211,561**	**5,457**	**2.58**	195,922	5,215	2.66	186,673	4,245	2.27
Expected credit losses provision			**(8,524)**	**N/A**	**N/A**	(7,816)	N/A	N/A	N/A	N/A	N/A
Impairment allowances			**N/A**	**N/A**	**N/A**	N/A	N/A	N/A	(7,841)	N/A	N/A
Non-interest-earning assets			**586,517**	**N/A**	**N/A**	584,524	N/A	N/A	616,688	N/A	N/A
Total assets and interest income			**2,712,376**	**60,152**	**2.22**	2,611,976	54,824	2.10	2,521,640	45,240	1.79
Average yield on all interest-earning assets					**2.82**			2.69			2.37
Short-term funds and loans and advances to banks											
Europe	HSBC Bank plc	1	**84,254**	**376**	**0.45**	113,605	471	0.41	97,645	299	0.31
	HSBC UK Bank plc	1	**38,830**	**277**	**0.71**	22,457	147	0.65	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**66,430**	**1,147**	**1.73**	71,631	1,169	1.63	67,264	898	1.34
MENA	HSBC Bank Middle East Limited		**3,247**	**71**	**2.19**	3,419	52	1.52	2,556	39	1.53
North America	HSBC North America Holdings Inc.		**15,820**	**307**	**1.94**	23,949	643	2.68	41,516	461	1.11
	HSBC Bank Canada		**689**	**4**	**0.58**	620	12	1.94	366	3	0.82
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**2,509**	**180**	**7.17**	2,435	178	7.31	2,165	150	6.93
	HSBC Argentina Holdings S.A.		**45**	**—**	**—**	37	1	2.70	1,083	1	0.09
Other operations and intra-region eliminations			**1,096**	**49**	**4.47**	(4,516)	(198)	4.38	23,531	179	0.76
At 31 Dec			**212,920**	**2,411**	**1.13**	233,637	2,475	1.06	236,126	2,030	0.86

Assets (continued)

		Footnotes	2019 Average balance $m	2019 Interest income $m	2019 Yield %	2018 Average balance $m	2018 Interest income $m	2018 Yield %	2017 Average balance $m	2017 Interest income $m	2017 Yield %
Loans and advances to customers											
Europe	HSBC Bank plc	1	**150,080**	**3,198**	**2.13**	251,992	6,599	2.62	342,354	9,180	2.68
	HSBC UK Bank plc	1	**231,031**	**6,650**	**2.88**	116,144	3,370	2.90	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**468,359**	**16,263**	**3.47**	440,143	14,466	3.29	395,062	11,716	2.97
MENA	HSBC Bank Middle East Limited		**20,557**	**1,000**	**4.86**	20,832	983	4.72	20,498	861	4.20
North America	HSBC North America Holdings Inc.		**66,074**	**2,713**	**4.11**	63,036	2,479	3.93	69,281	2,390	3.45
	HSBC Bank Canada		**42,942**	**1,585**	**3.69**	40,587	1,425	3.51	36,557	1,205	3.30
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**20,379**	**2,348**	**11.52**	17,486	2,038	11.66	14,932	1,767	11.83
	HSBC Argentina Holdings S.A.		**2,081**	**652**	**31.33**	2,903	741	25.53	3,306	712	21.54
Other operations and intra-region eliminations			**20,051**	**1,169**	**5.83**	19,840	1,184	5.97	20,224	920	4.55
At 31 Dec			**1,021,554**	**35,578**	**3.48**	972,963	33,285	3.42	902,214	28,751	3.19
Reverse repurchase agreements – non-trading											
Europe	HSBC Bank plc	1	**98,391**	**1,191**	**1.21**	85,967	905	1.05	58,419	503	0.86
	HSBC UK Bank plc	1	**4,345**	**36**	**0.83**	854	8	0.94	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**56,093**	**1,030**	**1.84**	50,730	902	1.78	45,772	612	1.34
MENA	HSBC Bank Middle East Limited		**857**	**32**	**3.73**	1,131	16	1.41	1,101	14	1.27
North America	HSBC North America Holdings Inc.		**75,215**	**2,560**	**3.40**	77,111	1,871	2.43	77,921	928	1.19
	HSBC Bank Canada		**5,895**	**121**	**2.05**	5,233	79	1.51	5,775	44	0.76
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**1,100**	**75**	**6.82**	1,134	90	7.94	882	61	6.92
	HSBC Argentina Holdings S.A.		**35**	**16**	**45.71**	40	15	37.50	70	15	21.43
Other operations and intra-region eliminations			**(16,989)**	**(371)**	**2.18**	(16,773)	(147)	0.88	(16,180)	14	(0.09)
At 31 Dec			**224,942**	**4,690**	**2.08**	205,427	3,739	1.82	173,760	2,191	1.26
Financial investments											
Europe	HSBC Bank plc	1	**64,021**	**1,195**	**1.87**	69,552	1,205	1.73	83,213	1,219	1.46
	HSBC UK Bank plc	1	**20,865**	**302**	**1.45**	7,830	104	1.33	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**228,733**	**5,831**	**2.55**	218,439	5,074	2.32	216,233	4,094	1.89
MENA	HSBC Bank Middle East Limited		**7,723**	**173**	**2.24**	6,317	134	2.12	6,406	83	1.30
North America	HSBC North America Holdings Inc.		**50,321**	**1,202**	**2.39**	45,668	1,134	2.48	47,021	945	2.01
	HSBC Bank Canada		**19,115**	**371**	**1.94**	18,424	341	1.85	17,304	214	1.24
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**7,082**	**466**	**6.58**	7,154	494	6.91	6,296	366	5.81
	HSBC Argentina Holdings S.A.		**961**	**526**	**54.73**	750	217	28.93	600	98	16.33
Other operations and intra-region eliminations			**19,118**	**639**	**3.34**	12,096	463	3.83	12,734	421	3.31
At 31 Dec			**417,939**	**10,705**	**2.56**	386,230	9,166	2.37	389,807	7,440	1.91

Assets (continued)

		Footnotes	2019 Average balance $m	2019 Interest income $m	2019 Yield %	2018 Average balance $m	2018 Interest income $m	2018 Yield %	2017 Average balance $m	2017 Interest income $m	2017 Yield %
Other interest-earning assets											
Europe	HSBC Bank plc	1	**41,949**	**1,060**	**2.53**	35,757	808	2.26	6,540	444	6.79
	HSBC UK Bank plc	1	**461**	**8**	**1.74**	226	2	0.88	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**5,417**	**146**	**2.69**	3,987	87	2.18	26,363	396	1.50
MENA	HSBC Bank Middle East Limited		**(205)**	**2**	**(0.98)**	(67)	25	(37.31)	4,044	66	1.63
North America	HSBC North America Holdings Inc.		**5,407**	**132**	**2.44**	5,522	122	2.21	3,375	225	6.67
	HSBC Bank Canada		**573**	**19**	**3.32**	262	10	3.82	510	10	1.96
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**1,154**	**14**	**1.22**	763	8	1.05	843	8	0.95
	HSBC Argentina Holdings S.A.		**(146)**	**258**	**(176.70)**	330	154	46.67	59	1	1.69
Other operations and intra-region eliminations			**(9,143)**	**(326)**		(5,691)	(272)		(17,521)	(567)	
At 31 Dec			**45,467**	**1,313**	**2.89**	41,089	944	2.30	24,213	583	2.41
Total interest-earning assets											
Europe	HSBC Bank plc	1	**438,696**	**7,019**	**1.60**	556,873	9,988	1.79	588,171	11,645	1.98
	HSBC UK Bank plc	1	**295,532**	**7,273**	**2.46**	147,511	3,631	2.46	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**825,033**	**24,417**	**2.96**	784,930	21,698	2.76	750,694	17,716	2.36
MENA	HSBC Bank Middle East Limited		**32,179**	**1,278**	**3.97**	31,632	1,210	3.83	34,605	1,063	3.07
North America	HSBC North America Holdings Inc.		**212,838**	**6,914**	**3.25**	215,286	6,249	2.90	239,114	4,949	2.07
	HSBC Bank Canada		**69,215**	**2,099**	**3.03**	65,126	1,867	2.87	60,512	1,476	2.44
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**32,224**	**3,082**	**9.56**	28,972	2,808	9.69	25,118	2,352	9.36
	HSBC Argentina Holdings S.A.		**2,976**	**1,453**	**48.82**	4,060	1,128	27.78	5,118	827	16.16
Other operations and intra-region eliminations			**14,129**	**1,160**		4,956	1,030		22,788	967	
At 31 Dec			**1,922,822**	**54,695**	**2.84**	1,839,346	49,609	2.70	1,726,120	40,995	2.37

1 *Impacted by transfers from HSBC Bank plc to HSBC UK Bank plc on 1 July 2018 following the completion of ring-fencing activities in the UK under the Financial Services (Banking Reform) Act 2013.*

Equity and liabilities

	Footnotes	2019 Average balance $m	2019 Interest expense $m	2019 Cost %	2018 Average balance $m	2018 Interest expense $m	2018 Cost %	2017 Average balance $m	2017 Interest expense $m	2017 Cost %
Summary										
Interest-bearing liabilities measured at amortised cost (itemised below)		**1,634,057**	**24,233**	**1.48**	1,581,519	19,120	1.21	1,455,070	12,819	0.88
Trading liabilities and financial liabilities designated at fair value (excluding own debt issued)		**151,224**	**3,639**	**2.41**	142,184	3,524	2.48	153,776	2,325	1.51
Non-interest bearing current accounts		**227,651**			211,815			197,104		
Total equity and other non-interest bearing liabilities		**699,442**			676,458			715,690		
Total equity and liabilities		**2,712,374**	**27,872**	**1.03**	2,611,976	22,644	0.87	2,521,640	15,144	0.60
Average cost on all interest-bearing liabilities				**1.56**			1.31			0.94

Equity and liabilities (continued)

			2019			2018			2017		
			Average balance	**Interest expense**	**Cost**	Average balance	Interest expense	Cost	Average balance	Interest expense	Cost
		Footnotes	**$m**	**$m**	**%**	$m	$m	%	$m	$m	%
Deposits by banks		2									
Europe	HSBC Bank plc	1	**29,717**	**246**	**0.83**	28,960	207	0.71	20,624	83	0.40
	HSBC UK Bank plc	1	**422**	**25**	**5.92**	281	9	3.20	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**25,216**	**290**	**1.15**	22,687	202	0.89	20,052	177	0.88
MENA	HSBC Bank Middle East Limited		**1,905**	**53**	**2.78**	1,596	41	2.57	695	10	1.44
North America	HSBC North America Holdings Inc.		**5,987**	**45**	**0.75**	5,079	132	2.60	3,632	41	1.13
	HSBC Bank Canada		**726**	**2**	**0.28**	716	17	2.37	231	1	0.43
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**1,458**	**93**	**6.38**	1,245	99	7.95	1,820	120	6.59
	HSBC Argentina Holdings S.A.		**62**	**18**	**29.03**	82	9	10.98	3	1	33.33
Other operations and intra-region eliminations			**(12,978)**	**(70)**	**0.54**	(16,116)	(210)	1.30	280	18	6.43
At 31 Dec			**52,515**	**702**	**1.34**	44,530	506	1.14	47,337	451	0.95
Debt Securities in issue – non trading		3									
Europe	HSBC Holdings plc		**99,375**	**3,797**	**3.82**	85,042	3,290	3.87	73,627	2,477	3.36
	HSBC Bank plc	1	**69,328**	**1,138**	**1.64**	68,211	1,063	1.56	43,958	632	1.44
	HSBC UK Bank plc	1	**12,679**	**354**	**2.79**	2,471	69	2.79	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**37,336**	**1,202**	**3.22**	32,213	1,088	3.38	9,195	202	2.20
MENA	HSBC Bank Middle East Limited		**3,030**	**111**	**3.66**	3,043	95	3.12	1,329	20	1.50
North America	HSBC North America Holdings Inc.		**32,991**	**1,256**	**3.81**	26,643	958	3.60	32,325	909	2.81
	HSBC Bank Canada		**11,525**	**311**	**2.70**	10,134	254	2.51	7,550	164	2.17
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**2,885**	**212**	**7.35**	1,339	84	6.27	1,198	77	6.43
	HSBC Argentina Holdings S.A.		**280**	**94**	**33.57**	421	113	26.84	55	15	27.27
Other operations and intra-region eliminations			**(58,200)**	**(1,953)**	**3.36**	(46,082)	(1,339)	2.91	7	(104)	(1,485.71)
At 31 Dec			**211,229**	**6,522**	**3.09**	183,434	5,675	3.09	169,244	4,391	2.59
Customer accounts		4									
Europe	HSBC Bank plc	1	**174,160**	**1,428**	**0.82**	297,353	1,862	0.63	377,353	1,303	0.35
	HSBC UK Bank plc	1	**214,028**	**806**	**0.38**	122,406	372	0.30	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**612,698**	**5,520**	**0.90**	585,575	3,742	0.64	566,309	2,430	0.43
MENA	HSBC Bank Middle East Limited		**9,308**	**134**	**1.44**	9,213	86	0.93	9,807	40	0.41
North America	HSBC North America Holdings Inc.		**65,917**	**872**	**1.32**	63,309	564	0.89	66,745	376	0.56
	HSBC Bank Canada		**41,352**	**642**	**1.55**	39,717	480	1.21	38,150	305	0.80
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**16,687**	**832**	**4.99**	13,929	640	4.59	11,662	406	3.48
	HSBC Argentina Holdings S.A.		**2,840**	**554**	**19.51**	3,316	384	11.58	3,292	245	7.44
Other operations and intra-region eliminations			**12,493**	**450**	**3.60**	3,802	157	4.13	21,602	300	1.39
At 31 Dec			**1,149,483**	**11,238**	**0.98**	1,138,620	8,287	0.73	1,094,920	5,405	0.49
Repurchase agreements – non-trading											
Europe	HSBC Bank plc	1	**63,521**	**936**	**1.47**	66,045	826	1.25	50,844	340	0.67
	HSBC UK Bank plc	1	**727**	**8**	**1.10**	238	2	0.84	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**23,330**	**471**	**2.02**	18,723	356	1.90	16,620	141	0.85
MENA	HSBC Bank Middle East Limited		**66**	**2**	**3.03**	47	1	2.13	32	1	3.13
North America	HSBC North America Holdings Inc.		**79,298**	**2,510**	**3.17**	82,178	1,970	2.40	77,704	890	1.15
	HSBC Bank Canada		**7,011**	**149**	**2.13**	5,932	87	1.47	4,158	30	0.72
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**5,499**	**458**	**8.33**	5,297	458	8.65	3,845	259	6.74
	HSBC Argentina Holdings S.A.		**30**	**13**	**43.33**	20	3	15.00	15	3	20.00
Other operations and intra-region eliminations			**(18,632)**	**(524)**	**2.81**	(17,276)	(294)	1.70	(16,657)	1	(0.01)
At 31 Dec			**160,850**	**4,023**	**2.50**	161,204	3,409	2.11	136,561	1,665	1.22

Equity and liabilities (continued)

			2019			2018			2017		
			Average balance	**Interest expense**	**Cost**	Average balance	Interest expense	Cost	Average balance	Interest expense	Cost
		Footnotes	**$m**	**$m**	**%**	$m	$m	%	$m	$m	%
Other interest-bearing liabilities											
Europe	HSBC Bank plc	*1*	**49,181**	**1,384**	**2.81**	43,648	987	2.26	31,948	1,331	4.17
	HSBC UK Bank plc	*1*	**633**	**11**	**1.74**	104	1	0.96	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**8,796**	**228**	**2.59**	7,574	176	2.32	20,529	623	3.03
MENA	HSBC Bank Middle East Limited		**39**	**3**	**7.69**	—	—	—	2,414	73	3.02
North America	HSBC North America Holdings Inc.		**6,116**	**145**	**2.37**	10,468	300	2.87	16,685	394	2.36
	HSBC Bank Canada		**1,631**	**40**	**2.45**	1,430	31	2.17	3,022	67	2.22
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**155**	**25**	**16.13**	—	—	—	61	22	36.07
	HSBC Argentina Holdings S.A.		**23**	**151**	**656.5**	462	72	15.58	97	4	4.12
Other operations and intra-region eliminations			**(6,594)**	**(239)**		(9,955)	(324)		(67,747)	(1,607)	
At 31 Dec			**59,980**	**1,748**	**2.91**	53,731	1,243	2.31	7,009	907	12.94
Total interest-bearing liabilities											
Europe	HSBC Holdings plc		**99,642**	**3,803**	**3.82**	85,042	3,304	3.89	74,664	2,568	3.44
	HSBC Bank plc	*1*	**385,906**	**5,131**	**1.33**	504,217	4,945	0.98	524,727	3,689	0.70
	HSBC UK Bank plc	*1*	**228,487**	**1,204**	**0.53**	125,500	453	0.36	—	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited		**707,377**	**7,711**	**1.09**	666,772	5,564	0.83	632,705	3,573	0.56
MENA	HSBC Bank Middle East Limited		**14,348**	**303**	**2.11**	13,899	223	1.60	14,277	144	1.01
North America	HSBC North America Holdings Inc.		**190,309**	**4,828**	**2.54**	187,677	3,924	2.09	197,091	2,610	1.32
	HSBC Bank Canada		**62,245**	**1,143**	**1.84**	57,929	869	1.50	53,111	567	1.07
Latin America	Grupo Financiero HSBC, S. A. de C. V.		**26,683**	**1,620**	**6.07**	21,810	1,281	5.87	18,586	884	4.76
	HSBC Argentina Holdings S.A.		**3,235**	**832**	**25.72**	4,301	581	13.51	3,462	268	7.74
Other operations and intra-region eliminations			**(84,175)**	**(2,342)**		(85,628)	(2,024)		(63,553)	(1,484)	
At 31 Dec			**1,634,057**	**24,233**	**1.48**	1,581,519	19,120	1.21	1,455,070	12,819	0.88

1 Impacted by transfers from HSBC Bank plc to HSBC UK Bank plc on 1 July 2018 following the completion of ring-fencing activities in the UK under the Financial Services (Banking Reform) Act 2013.
2 This includes interest-bearing bank deposits only. See page 65 for an analysis of all bank deposits.
3 Financial liabilities designated at fair value – own debt issued' and 'Debt securities in issue' lines have been merged into one new line; 'Debt Securities in issue – non-trading'. Interest expense on financial liabilities designated at fair value is reported as 'Net income/ (expense) from financial instruments held for trading or managed on a fair value basis' in the consolidated income statement, other than interest on own debt, which is reported in 'Interest expense'.
4 This includes interest-bearing customer accounts only. See page 66 for an analysis of all customer accounts.

Net interest margin[1]

		2019	2018	2017
		%	%	%
Europe	HSBC Bank plc[2]	**0.43**	0.89	1.35
	HSBC UK Bank plc[2]	**2.05**	2.16	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**2.02**	2.06	1.88
MENA	HSBC Bank Middle East Limited	**3.03**	3.12	2.62
North America	HSBC North America Holdings Inc.	**0.98**	1.08	0.98
	HSBC Bank Canada	**1.38**	1.53	1.50
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**4.54**	5.27	5.85
	HSBC Argentina Holdings S.A.	**20.88**	13.44	10.94
At 31 Dec		**1.58**	1.66	1.63

1 Net interest margin is calculated as net interest income divided by average interest-earning assets.
2 Impacted by transfers from HSBC Bank plc to HSBC UK Bank plc on 1 July 2018 following the completion of ring-fencing activities in the UK under the Financial Services (Banking Reform) Act 2013.

Distribution of average total assets

		2019	2018	2017
		%	%	%
Europe	HSBC Bank plc[1]	**32.0**	38.0	43.0
	HSBC UK Bank plc[1]	**12.0**	6.0	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**40.0**	40.0	40.0
MENA	HSBC Bank Middle East Limited	**1.0**	1.0	2.0
North America	HSBC North America Holdings Inc.	**12.0**	13.0	14.0
	HSBC Bank Canada	**3.0**	3.0	3.0
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**2.0**	2.0	1.0
	HSBC Argentina Holdings S.A.	**—**	—	—
Other operations and intra-region eliminations		**(2.0)**	(3.0)	(3.0)
At 31 Dec		**100.0**	100.0	100.0

1 *Impacted by transfers from HSBC Bank plc to HSBC UK Bank plc on 1 July 2018 following the completion of ring-fencing activities in the UK under the Financial Services (Banking Reform) Act 2013*

Analysis of changes in net interest income and net interest expense

The following tables allocate changes in net interest income and net interest expense between volume and rate for 2019 compared with 2018, and for 2018 compared with 2017. We isolate rate variances and allocate any change arising from both volume and rate/volume to volume.

Interest income

			Increase/(decrease) in 2019 compared with 2018			Increase/(decrease) in 2018 compared with 2017		
		2019	Volume	Rate	2018	Volume	Rate	2017
		$m	$m	$m	$m	$m	$m	$m
Short-term funds and loans and advances to banks								
Europe	HSBC Bank plc[1]	**376**	**(140)**	**45**	471	74	98	299
	HSBC UK Bank plc[1]	**277**	**117**	**13**	147	147	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**1,147**	**(94)**	**72**	1,169	76	195	898
MENA	HSBC Bank Middle East Limited	**71**	**(4)**	**23**	52	13	—	39
North America	HSBC North America Holdings Inc.	**307**	**(159)**	**(177)**	643	(470)	652	461
	HSBC Bank Canada	**4**	**—**	**(8)**	12	5	4	3
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**180**	**5**	**(3)**	178	20	8	150
	HSBC Argentina Holdings S.A.	**—**	**—**	**(1)**	1	(28)	28	1
Other operations and intra-region eliminations		**49**	**251**	**(4)**	(198)	(1,229)	852	179
At 31 Dec		**2,411**	**(228)**	**164**	2,475	(27)	472	2,030
Loans and advances to customers								
Europe	HSBC Bank plc[1]	**3,198**	**(2,166)**	**(1,235)**	6,599	(2,376)	(205)	9,180
	HSBC UK Bank plc[1]	**6,650**	**3,303**	**(23)**	3,370	3,370	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**16,263**	**1,005**	**792**	14,466	1,486	1,264	11,716
MENA	HSBC Bank Middle East Limited	**1,000**	**(12)**	**29**	983	15	107	861
North America	HSBC North America Holdings Inc.	**2,713**	**121**	**113**	2,479	(244)	333	2,390
	HSBC Bank Canada	**1,585**	**87**	**73**	1,425	143	77	1,205
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**2,348**	**334**	**(24)**	2,038	296	(25)	1,767
	HSBC Argentina Holdings S.A.	**652**	**(257)**	**168**	741	(103)	132	712
Other operations and intra-region eliminations		**1,169**	**13**	**(28)**	1,184	(23)	287	920
At 31 Dec		**35,578**	**1,709**	**584**	33,285	2,459	2,075	28,751
Reverse repurchase agreements – non-trading								
Europe	HSBC Bank plc[1]	**1,191**	**148**	**138**	905	291	111	503
	HSBC UK Bank plc[1]	**36**	**29**	**(1)**	8	8	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**1,030**	**98**	**30**	902	89	201	612
MENA	HSBC Bank Middle East Limited	**32**	**(10)**	**26**	16	—	2	14
North America	HSBC North America Holdings Inc.	**2,560**	**(59)**	**748**	1,871	(23)	966	928
	HSBC Bank Canada	**121**	**14**	**28**	79	(8)	43	44
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**75**	**(2)**	**(13)**	90	20	9	61
	HSBC Argentina Holdings S.A.	**16**	**(2)**	**3**	15	(11)	11	15
Other operations and intra-region eliminations		**(371)**	**(6)**	**(218)**	(147)	(4)	(157)	14
At 31 Dec		**4,690**	**417**	**534**	3,739	575	973	2,191

Interest income (continued)

		2019	Increase/(decrease) in 2019 compared with 2018		2018	Increase/(decrease) in 2018 compared with 2017		2017
		2019	**Volume**	**Rate**	2018	Volume	Rate	2017
		$m	**$m**	**$m**	$m	$m	$m	$m
Financial investments								
Europe	HSBC Bank plc[1]	**1,195**	**(107)**	**97**	1,205	(239)	225	1,219
	HSBC UK Bank plc[1]	**302**	**189**	**9**	104	104	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**5,831**	**255**	**502**	5,074	50	930	4,094
MENA	HSBC Bank Middle East Limited	**173**	**31**	**8**	134	(2)	53	83
North America	HSBC North America Holdings Inc.	**1,202**	**109**	**(41)**	1,134	(32)	221	945
	HSBC Bank Canada	**371**	**13**	**17**	341	21	106	214
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**466**	**(4)**	**(24)**	494	59	69	366
	HSBC Argentina Holdings S.A.	**526**	**115**	**194**	217	43	76	98
Other operations and intra-region eliminations		**639**	**235**	**(59)**	463	(24)	66	421
At 31 Dec		**10,705**	**805**	**734**	9,166	(67)	1,793	7,440

1 *Impacted by transfers from HSBC Bank plc to HSBC UK Bank plc on 1 July 2018 following the completion of ring-fencing activities in the UK under the Financial Services (Banking Reform) Act 2013.*

Interest expense

		2019	Increase/(decrease) in 2019 compared with 2018		2018	Increase/(decrease) in 2018 compared with 2017		2017
		2019	**Volume**	**Rate**	2018	Volume	Rate	2017
		$m	**$m**	**$m**	$m	$m	$m	$m
Deposits by banks								
Europe	HSBC Bank plc[1]	**246**	**4**	**35**	207	60	64	83
	HSBC UK Bank plc[1]	**25**	**8**	**8**	9	9	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**290**	**29**	**59**	202	23	2	177
MENA	HSBC Bank Middle East Limited	**53**	**9**	**3**	41	23	8	10
North America	HSBC North America Holdings Inc.	**45**	**7**	**(94)**	132	38	53	41
	HSBC Bank Canada	**2**	**—**	**(15)**	17	12	4	1
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**93**	**14**	**(20)**	99	(46)	25	120
	HSBC Argentina Holdings S.A.	**18**	**(6)**	**15**	9	9	(1)	1
Other operations and intra-region eliminations		**(70)**	**18**	**122**	(210)	(214)	(14)	18
At 31 Dec		**702**	**107**	**89**	506	(35)	90	451
Customer accounts								
Europe	HSBC Bank plc[1]	**1,428**	**(999)**	**565**	1,862	(498)	1,057	1,303
	HSBC UK Bank plc[1]	**806**	**336**	**98**	372	372	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**5,520**	**256**	**1,522**	3,742	123	1,189	2,430
MENA	HSBC Bank Middle East Limited	**134**	**1**	**47**	86	(5)	51	40
North America	HSBC North America Holdings Inc.	**872**	**36**	**272**	564	(32)	220	376
	HSBC Bank Canada	**642**	**27**	**135**	480	19	156	305
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**832**	**136**	**56**	640	105	129	406
	HSBC Argentina Holdings S.A.	**554**	**(93)**	**263**	384	3	136	245
Other operations and intra-region eliminations		**450**	**313**	**(20)**	157	(735)	592	300
At 31 Dec		**11,238**	**104**	**2,847**	8,287	254	2,628	5,405

Interest expense (continued)

		2019	Increase/(decrease) in 2019 compared with 2018		2018	Increase/(decrease) in 2018 compared with 2017		2017
		2019	**Volume**	**Rate**	2018	Volume	Rate	2017
		$m	**$m**	**$m**	$m	$m	$m	$m
Repurchase agreements – non-trading								
Europe	HSBC Bank plc[1]	**936**	**(35)**	**145**	826	191	295	340
	HSBC UK Bank plc[1]	**8**	**5**	**1**	2	2	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**471**	**93**	**22**	356	40	175	141
MENA	HSBC Bank Middle East Limited	**2**	**1**	**—**	1	—	—	1
North America	HSBC North America Holdings Inc.	**2,510**	**(93)**	**633**	1,970	109	971	890
	HSBC Bank Canada	**149**	**23**	**39**	87	26	31	30
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**458**	**17**	**(17)**	458	126	73	259
	HSBC Argentina Holdings S.A.	**13**	**4**	**6**	3	1	(1)	3
Other operations and intra-region eliminations		**(524)**	**(38)**	**(192)**	(294)	(10)	(285)	1
At 31 Dec		**4,023**	**(15)**	**629**	3,409	529	1,215	1,665
Debt securities in issue – non trading[2]								
Europe	HSBC Holdings	**3,797**	**550**	**(43)**	3,290	438	375	2,477
	HSBC Bank plc[1]	**1,138**	**21**	**55**	1,062	376	53	633
	HSBC UK Bank plc[1]	**354**	**285**	**2**	67	67	—	—
Asia	The Hongkong and Shanghai Banking Corporation Limited	**1,202**	**166**	**(52)**	1,088	777	109	202
MENA	HSBC Bank Middle East Limited	**111**	**—**	**16**	95	38	26	31
North America	HSBC North America Holdings Inc.	**1,256**	**242**	**56**	958	(206)	255	909
	HSBC Bank Canada	**311**	**38**	**19**	254	64	26	164
Latin America	Grupo Financiero HSBC, S. A. de C. V.	**212**	**114**	**14**	84	9	(2)	77
	HSBC Argentina Holdings S.A.	**94**	**(47)**	**28**	113	98	—	15
Other operations and intra-region eliminations		**(1,954)**	**(405)**	**(212)**	(1,337)	(1,323)	101	(115)
At 31 Dec		**6,521**	**846**	**—**	5,675	438	846	4,391

1 *Impacted by transfers from HSBC Bank plc to HSBC UK Bank plc on 1 July 2018 following the completion of ring-fencing activities in the UK under the Financial Services (Banking Reform) Act 2013.*
2 *'Debt securities in issue and subordinated debts' have been merged with 'Financial Liabilities designated at fair value – own debt issued' to create a new table, 'Debt securities in issue – non trading'. Prior year comparatives have been re-stated.*

Short-term borrowings

Short-term borrowings in the form of repurchase agreements – non-trading are shown separately on the face of the balance sheet. Other forms of short-term borrowings are included within customer accounts, deposits by banks, debt securities in issue and trading liabilities. Short-term borrowings are defined by the US Securities and Exchange Commission as Federal funds purchased and securities sold under agreements to repurchase, commercial paper and other short-term borrowings.

Our only significant short-term borrowings are securities sold under agreements to repurchase and certain debt securities in issue. For securities sold under agreements to repurchase, we run matched repo and reverse repo trading books. We generally observe lower year-end demand in our reverse repo lending business, which results in lower repo balances at the balance sheet date. Additional information on these is provided in the table below.

Repos and short-term bonds

	2019	2018	2017
	$m	$m	$m
Securities sold under agreements to repurchase			
Outstanding at 31 December	**140,902**	167,379	132,257
Average amount outstanding during the year	**162,158**	163,314	138,957
Maximum quarter-end balance outstanding during the year	**185,432**	172,150	148,259
Weighted average interest rate during the year	**2.5%**	2.1%	1.2%
Weighted average interest rate at the year-end	**1.5%**	2.7%	1.4%

Contractual obligations

The table below provides details of our material contractual obligations at 31 December 2019.

	Payments due by period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
	$m	$m	$m	$m	$m
Long-term debt obligations	229,165	56,057	58,081	37,294	77,733
Term deposits and certificates of deposit	125,519	115,738	5,881	1,524	2,376
Capital (finance) lease obligations	4,602	887	1,388	1,204	1,123
Purchase obligations	954	161	512	217	64
Short positions in debt securities and equity shares	70,581	70,581	–	–	–
Current tax liability	2,150	2,150	–	–	–
Pension/healthcare obligation	17,218	1,556	3,313	3,366	8,983
	450,189	247,130	69,175	43,605	90,279

Loan maturity and interest sensitivity analysis

At 31 December 2019, the geographical analysis of loan maturity and interest sensitivity by loan type on a contractual repayment basis was as follows.

	Europe	Asia	MENA	North America	Latin America	Total
	$m	$m	$m	$m	$m	$m
Maturity of 1 year or less						
Loans and advances to banks	10,610	36,656	6,335	2,557	3,565	59,723
Corporate and commercial	94,175	138,745	14,653	25,695	6,591	279,859
Non-bank financial institutions	17,770	18,460	266	4,814	478	41,788
	122,555	193,861	21,254	33,066	10,634	381,370
Maturity after 1 year but within 5 years						
Loans and advances to banks	3,127	5,151	418	138	20	8,854
Corporate and commercial	63,230	114,246	6,228	30,277	6,201	220,182
Non-bank financial institutions	7,675	11,521	24	5,173	1,088	25,481
	74,032	130,918	6,670	35,588	7,309	254,517
Interest rate sensitivity of loans and advances to banks and commercial loans to customers						
Fixed interest rate	49,602	4,335	3,386	4,162	1,571	63,056
Variable interest rate	24,430	126,583	3,284	31,426	5,738	191,461
	74,032	130,918	6,670	35,588	7,309	254,517
Maturity after 5 years						
Loans and advances to banks	156	486	–	–	–	642
Corporate and commercial	17,812	14,718	2,564	3,709	1,655	40,458
Non-bank financial institutions	1,049	2,176	–	91	120	3,436
	19,017	17,380	2,564	3,800	1,775	44,536
Interest rate sensitivity of loans and advances to banks and commercial loans to customers						
Fixed interest rate	8,191	1,055	801	827	342	11,216
Variable interest rate	10,826	16,325	1,763	2,973	1,433	33,320
	19,017	17,380	2,564	3,800	1,775	44,536

Deposits

The following tables summarise the average amount of bank deposits, customer deposits and certificates of deposit ('CDs') and other money market instruments (that are included within 'Debt securities in issue' in the balance sheet), together with the average interest rates paid thereon for each of the past three years. The geographical analysis of average deposits is based on the location of the office in which the deposits are recorded and excludes balances with HSBC companies.

Deposits by banks

	2019		2018		2017	
	Average balance	**Average rate**	Average balance	Average rate	Average balance	Average rate
	$m	**%**	$m	%	$m	%
Europe	**31,243**		28,609		33,483	
– demand and other – non-interest bearing	**4,907**	**—**	6,381	—	12,825	—
– demand – interest bearing	**11,350**	**0.6**	7,704	0.7	6,780	0.4
– time	**14,981**	**1.2**	14,503	0.9	11,747	0.3
– other	**5**	**—**	21	—	2,131	1.1
Asia	**24,893**		21,599		25,253	
– demand and other – non-interest bearing	**3,876**	**—**	3,305	—	5,201	—
– demand – interest bearing	**16,612**	**1.0**	13,775	0.8	12,521	0.5
– time	**4,398**	**2.2**	4,072	1.9	3,355	1.5
– other	**7**	**—**	447	—	4,176	1.6
Middle East and North Africa	**1,108**		981		1,311	
– demand and other – non-interest bearing	**160**	**—**	362	—	430	—
– demand – interest bearing	**236**	**0.3**	28	3.6	2	—
– time	**696**	**3.1**	475	5.5	871	3.0
– other	**16**	**—**	116	—	8	—
North America	**4,454**		3,818		5,721	
– demand and other – non-interest bearing	**1,292**	**—**	1,702	—	1,853	—
– demand – interest bearing	**2,338**	**1.3**	1,820	1.0	1,744	0.5
– time	**824**	**2.2**	296	1.0	2,116	1.6
– other	**—**	**—**	—	—	8	—
Latin America	**1,084**		1,289		2,042	
– demand and other – non-interest bearing	**32**	**—**	16	—	164	—
– demand – interest bearing	**67**	**22.4**	80	10.0	376	6.9
– time	**985**	**9.8**	1,193	6.6	1,502	6.5
– other	**—**	**—**	—	—	—	—
Total	**62,782**		56,296		67,810	
– demand and other – non-interest bearing	**10,267**	**—**	11,766	—	20,473	—
– demand – interest bearing	**30,603**	**0.9**	23,407	0.8	21,423	0.6
– time	**21,884**	**1.9**	20,539	1.6	19,591	1.2
– other	**28**	**—**	584	—	6,323	0.4

Customer accounts

	2019		2018		2017	
	Average balance	**Average rate**	Average balance	Average rate	Average balance	Average rate
	$m	**%**	$m	%	$m	%
Europe	**510,513**		500,811		458,710	
– demand and other – non-interest bearing	**119,466**	**—**	91,866	—	76,205	—
– demand – interest bearing	**310,275**	**0.5**	332,031	0.4	310,887	0.3
– savings	**49,256**	**0.8**	42,220	0.6	39,488	0.4
– time	**30,498**	**1.7**	33,264	1.3	30,939	0.8
– other	**1,018**	**0.5**	1,430	8.5	1,191	1.8
Asia	**670,088**		657,549		639,925	
– demand and other – non-interest bearing	**64,871**	**—**	73,024	—	73,704	—
– demand – interest bearing	**430,760**	**0.3**	455,443	0.2	459,067	0.1
– savings	**147,959**	**2.3**	107,078	2.1	87,551	1.8
– time	**26,493**	**2.1**	20,872	1.7	17,183	1.0
– other	**5**	**20**	1,132	0.9	2,420	0.3
Middle East and North Africa	**36,340**		35,074		35,105	
– demand and other – non-interest bearing	**17,920**	**—**	17,716	—	17,977	—
– demand – interest bearing	**7,356**	**0.9**	5,944	0.8	6,586	0.5
– savings	**11,047**	**4.8**	11,201	3.8	9,734	2.9
– time	**17**	**—**	213	2.3	808	1.6
– other	**—**	**—**	—	—	—	—
North America	**137,126**		134,486		141,192	
– demand and other – non-interest bearing	**23,271**	**—**	25,249	—	28,542	—
– demand – interest bearing	**37,090**	**0.9**	37,614	0.7	39,050	0.3
– savings	**67,780**	**1.4**	64,538	1.0	63,786	0.7
– time	**8,984**	**2.3**	7,079	1.7	9,769	1.1
– other	**1**	**—**	6	133.3	45	—
Latin America	**25,847**		24,193		21,865	
– demand and other – non-interest bearing	**4,901**	**—**	5,638	—	5,451	—
– demand – interest bearing	**9,996**	**5.2**	9,092	3.8	7,217	2.1
– savings	**3,228**	**12.9**	3,464	8.9	3,830	6.2
– time	**7,722**	**6.2**	5,906	6.4	5,346	5.3
– other	**—**	**—**	93	15.1	21	—
Total	**1,379,914**		1,352,113		1,296,797	
– demand and other – non-interest bearing	**230,429**	**—**	213,493	—	201,879	—
– demand – interest bearing	**795,477**	**0.5**	840,124	0.3	822,807	0.2
– savings	**279,270**	**2.0**	228,501	1.7	204,389	1.3
– time	**73,714**	**2.4**	67,334	1.9	64,045	1.3
– other	**1,024**	**0.8**	2,661	5.9	3,677	1.0

Certificates of deposit and other money market instruments

	2019		2018		2017	
	Average balance	**Average rate**	Average balance	Average rate	Average balance	Average rate
	$m	**%**	$m	%	$m	%
Europe	**24,894**	**1.7**	19,034	1.7	12,506	0.6
Asia	**5,214**	**2.4**	2,107	2.3	523	2.7
North America	**9,887**	**2.4**	7,497	2.4	6,950	1.6
Latin America	**3,474**	**6.4**	1,986	4.7	1,333	5.4
Total	**43,469**	**2.3**	30,624	2.1	21,312	1.3

Certificates of deposit and other time deposits

The maturity analysis of certificates of deposit ('CDs') and other wholesale time deposits is expressed by remaining maturity. The majority of CDs and time deposits are in amounts of $100,000 and over or the equivalent in other currencies.

	At 31 Dec 2019				
	3 months or less	After 3 months but within 6 months	After 6 months but within 12 months	After 12 months	Total
	$m	$m	$m	$m	$m
Europe	34,061	5,739	9,636	4,651	54,087
– certificates of deposit	3,692	2,978	8,458	1,870	16,998
– time deposits:					
banks	5,002	2,233	946	2,604	10,785
customers	25,367	528	232	177	26,304
Asia	33,317	2,902	1,996	780	38,995
– certificates of deposit	4,261	2,059	1,658	761	8,739
– time deposits:					
banks	3,421	91	1	—	3,513
customers	25,635	752	337	19	26,743
Middle East and North Africa	83	105	538	580	1,306
– certificates of deposit	—	—	—	—	—
– time deposits:					
banks	83	105	538	580	1,306
customers	—	—	—	—	—
North America	8,982	4,846	3,423	540	17,791
– certificates of deposit	3,193	3,096	2,037	—	8,326
– time deposits:					
banks	1	—	—	—	1
customers	5,788	1,750	1,386	540	9,464
Latin America	5,584	1,924	2,753	3,209	13,470
– certificates of deposit	768	27	1,545	2,121	4,461
– time deposits:					
banks	—	—	7	1,041	1,048
customers	4,816	1,897	1,201	47	7,961
Total	82,027	15,516	18,346	9,760	125,649
– certificates of deposit	11,914	8,160	13,698	4,752	38,524
– time deposits:	—	—	—	—	—
banks	8,507	2,429	1,492	4,225	16,653
customers	61,606	4,927	3,156	783	70,472

Footnotes to pages 49 to 55.

1 *The debt instruments, issued for funding purposes, are designated under the fair value option to reduce an accounting mismatch.*

2 *Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.*

3 *Dividends recorded in the financial statements are dividends per ordinary share declared in a year and are not dividends in respect of, or for, that year.*

4 *Dividends per ordinary share expressed as a percentage of basic earnings per share.*

5 *Gross interest yield is the average annualised interest rate earned on average interest-earning assets ('AIEA'). Cost of funds is the average annualised interest cost as a percentage on average interest-bearing liabilities.*

6 *Net interest spread is the difference between the average annualised interest rate earned on AIEA, net of amortised premiums and loan fees, and the average annualised interest rate payable on average interest-bearing funds.*

7 *Net interest margin is net interest income expressed as an annualised percentage of AIEA.*

8 *Including interest-bearing bank deposits only.*

9 *Including interest-bearing customer accounts only.*

10 *'Financial liabilities designated at fair value – own debt issued' and 'Debt securities' lines have been merged into one new line: 'Debt securities in issue – non-trading'. Interest expense on financial liabilities designated at fair value is reported as 'Net income/(expense) from financial instruments held for trading or managed on a fair value basis' in the consolidated income statement, other than interest on own debt, which is reported in 'Interest expense'.*

11 *Net of impairment allowances.*

12 *Capital resources are regulatory capital, the calculation of which is set out on page 188.*

13 *Including perpetual preferred securities, details of which can be found in Note 28 on the financial statements.*

14 *The definition of net asset value per ordinary share is total shareholders' equity, less non-cumulative preference shares and capital securities, divided by the number of ordinary shares in issue, excluding own shares held by the company, including those purchased and held in treasury.*

15 *'Others' includes items with no currency information available ($9,334m for loans to banks, $62,037m for loans to customers, $15m for deposits by banks and $33m for customer accounts).*

Global businesses and geographical regions

Summary

The Group Chief Executive and the rest of the Group Management Board ('GMB') review operating activity on a number of bases, including by global business and geographical region. Global businesses are our reportable segments under IFRS 8 'Operating Segments' and are presented in Note 10: Segmental analysis on page 294.

Geographical information is classified by the location of the principal operations of the subsidiary or, for The Hongkong and Shanghai Banking Corporation Limited, HSBC Bank plc, HSBC UK Bank plc, HSBC Bank Middle East Limited and HSBC Bank USA, by the location of the branch responsible for reporting the results or providing funding.

The expense of the UK bank levy is included in the Europe geographical region as HSBC regards the levy as a cost of being headquartered in the UK. For the purposes of the presentation by global business, the cost of the levy is included in the Corporate Centre.

The results of geographical regions are presented on a reported basis.

Reconciliation of reported and adjusted items – global businesses

Supplementary unaudited analysis of significant items by global business is presented below.

		2019					
		Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
	Footnotes	$m	$m	$m	$m	$m	$m
Revenue	1						
Reported		23,192	15,285	14,840	1,848	933	56,098
Significant items		208	7	76	–	(980)	(689)
– customer redress programmes		156	7	–	–	–	163
– disposals, acquisitions and investment in new businesses		52	–	–	–	(820)	(768)
– fair value movements on financial instruments	2	–	–	76	–	(160)	(84)
Adjusted		23,400	15,292	14,916	1,848	(47)	55,409
ECL							
Reported		(1,390)	(1,184)	(153)	(22)	(7)	(2,756)
Adjusted		(1,390)	(1,184)	(153)	(22)	(7)	(2,756)
Operating expenses							
Reported		(15,429)	(9,829)	(13,640)	(1,817)	(1,634)	(42,349)
Significant items		1,412	3,028	4,223	393	498	9,554
– costs of structural reform	3	–	4	42	–	112	158
– customer redress programmes		1,264	17	–	–	–	1,281
– goodwill impairment		–	2,956	3,962	431	–	7,349
– restructuring and other related costs		148	51	217	32	379	827
– settlements and provisions in connection with legal and regulatory matters		–	–	2	(70)	7	(61)
Adjusted		(14,017)	(6,801)	(9,417)	(1,424)	(1,136)	(32,795)
Share of profit in associates and joint ventures							
Reported		55	–	–	–	2,299	2,354
Adjusted		55	–	–	–	2,299	2,354
Profit before tax							
Reported		6,428	4,272	1,047	9	1,591	13,347
Significant items		1,620	3,035	4,299	393	(482)	8,865
– revenue		208	7	76	–	(980)	(689)
– operating expenses		1,412	3,028	4,223	393	498	9,554
Adjusted		8,048	7,307	5,346	402	1,109	22,212
Loans and advances to customers (net)							
Reported		395,393	346,060	246,266	47,593	1,431	1,036,743
Adjusted		395,393	346,060	246,266	47,593	1,431	1,036,743
Customer accounts							
Reported		689,283	386,522	292,284	62,943	8,083	1,439,115
Adjusted		689,283	386,522	292,284	62,943	8,083	1,439,115

For footnotes, see page 84.

Reconciliation of reported and adjusted items (continued)

	Footnotes	2018					
		Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
		$m	$m	$m	$m	$m	$m
Revenue	1						
Reported		21,928	14,938	15,634	1,790	(510)	53,780
Currency translation		(562)	(423)	(489)	(28)	(115)	(1,617)
Significant items		8	(50)	(120)	(5)	335	168
– customer redress programmes		—	(53)	—	—	—	(53)
– disposals, acquisitions and investment in new businesses		7	—	—	(5)	111	113
– fair value movements on financial instruments	2	—	—	(122)	—	222	100
– currency translation on significant items		1	3	2	—	2	8
Adjusted		21,374	14,465	15,025	1,757	(290)	52,331
ECL							
Reported		(1,177)	(739)	26	8	115	(1,767)
Currency translation		43	27	5	(1)	4	78
Adjusted		(1,134)	(712)	31	7	119	(1,689)
Operating expenses							
Reported		(13,902)	(6,480)	(9,348)	(1,550)	(3,379)	(34,659)
Currency translation		467	203	287	28	124	1,109
Significant items		180	2	(109)	97	1,474	1,644
– costs of structural reform	3	2	8	41	—	310	361
– customer redress programmes		173	(5)	(22)	—	—	146
– disposals, acquisitions and investment in new businesses		—	—	—	52	—	52
– past service costs of guaranteed minimum pension benefits equalisation		—	—	—	—	228	228
– restructuring and other related costs		—	—	—	7	59	66
– settlements and provisions in connection with legal and regulatory matters		16	—	(131)	42	889	816
– currency translation on significant items		(11)	(1)	3	(4)	(12)	(25)
Adjusted		(13,255)	(6,275)	(9,170)	(1,425)	(1,781)	(31,906)
Share of profit in associates and joint ventures							
Reported		33	—	—	—	2,503	2,536
Currency translation		—	—	—	—	(90)	(90)
Adjusted		33	—	—	—	2,413	2,446
Profit/(loss) before tax							
Reported		6,882	7,719	6,312	248	(1,271)	19,890
Currency translation		(52)	(193)	(197)	(1)	(77)	(520)
Significant items		188	(48)	(229)	92	1,809	1,812
– revenue		8	(50)	(120)	(5)	335	168
– operating expenses		180	2	(109)	97	1,474	1,644
Adjusted		7,018	7,478	5,886	339	461	21,182
Loans and advances to customers (net)							
Reported		361,872	333,162	244,978	39,217	2,467	981,696
Currency translation		6,045	3,937	2,147	385	66	12,580
Adjusted		367,917	337,099	247,125	39,602	2,533	994,276
Customer accounts							
Reported		640,924	357,596	290,914	64,658	8,551	1,362,643
Currency translation		8,248	4,678	3,670	395	104	17,095
Adjusted		649,172	362,274	294,584	65,053	8,655	1,379,738

For footnotes, see page 84.

Reconciliation of reported and adjusted items (continued)

	Footnotes	2017 Retail Banking and Wealth Management $m	Commercial Banking $m	Global Banking and Markets $m	Global Private Banking $m	Corporate Centre $m	Total $m
Revenue	1						
Reported		20,519	13,120	14,617	1,723	1,466	51,445
Currency translation		(578)	(336)	(264)	(5)	(161)	(1,344)
Significant items		(233)	99	470	(20)	(244)	72
– customer redress programmes		3	103	2	—	—	108
– disposals, acquisitions and investment in new businesses		(235)	—	99	(20)	(118)	(274)
– fair value movements on financial instruments	2	—	—	373	—	(128)	245
– currency translation on significant items		(1)	(4)	(4)	—	2	(7)
Adjusted		19,708	12,883	14,823	1,698	1,061	50,173
LICs							
Reported		(980)	(496)	(459)	(16)	182	(1,769)
Currency translation		39	28	20	(1)	(3)	83
Adjusted		(941)	(468)	(439)	(17)	179	(1,686)
Operating expenses							
Reported		(13,734)	(6,001)	(8,723)	(1,586)	(4,840)	(34,884)
Currency translation		471	178	133	9	124	915
Significant items		877	53	(119)	193	2,706	3,710
– costs of structural reform	3	6	3	8	—	403	420
– costs to achieve		270	44	240	3	2,445	3,002
– customer redress programmes		637	16	2	—	—	655
– disposals, acquisitions and investment in new businesses		—	—	—	31	22	53
– gain on partial settlement of pension obligation		(26)	(9)	(9)	(3)	(141)	(188)
– settlements and provisions in connection with legal and regulatory matters		—	—	(376)	164	14	(198)
– currency translation on significant items		(10)	(1)	16	(2)	(37)	(34)
Adjusted		(12,386)	(5,770)	(8,709)	(1,384)	(2,010)	(30,259)
Share of profit in associates and joint ventures							
Reported		18	—	—	—	2,357	2,375
Currency translation		(6)	—	—	—	(41)	(47)
Adjusted		12	—	—	—	2,316	2,328
Profit/(loss) before tax							
Reported		5,823	6,623	5,435	121	(835)	17,167
Currency translation		(74)	(130)	(111)	3	(81)	(393)
Significant items		644	152	351	173	2,462	3,782
– revenue		(233)	99	470	(20)	(244)	72
– operating expenses		877	53	(119)	193	2,706	3,710
Adjusted		6,393	6,645	5,675	297	1,546	20,556
Loans and advances to customers (net)							
Reported		346,148	316,533	252,474	40,326	7,483	962,964
Currency translation		(8,380)	(7,663)	(5,584)	(313)	(101)	(22,041)
Adjusted		337,768	308,870	246,890	40,013	7,382	940,923
Customer accounts							
Reported		639,592	362,908	283,943	66,512	11,507	1,364,462
Currency translation		(10,150)	(6,420)	(7,309)	(1,021)	(490)	(25,390)
Adjusted		629,442	356,488	276,634	65,491	11,017	1,339,072

For footnotes, see page 84.

Reconciliation of reported and adjusted risk-weighted assets

	Footnotes	Retail Banking and Wealth Management $bn	Commercial Banking $bn	Global Banking and Markets $bn	Global Private Banking $bn	Corporate Centre $bn	Total $bn
		At 31 Dec 2019					
Risk-weighted assets							
Reported		**134.0**	**316.7**	**258.2**	**14.0**	**120.5**	**843.4**
Adjusted	4	**134.0**	**316.7**	**258.2**	**14.0**	**120.5**	**843.4**
		At 31 Dec 2018					
Risk-weighted assets							
Reported		126.9	321.2	281.0	16.8	119.4	865.3
Currency translation		0.7	3.4	1.1	0.1	0.4	5.7
Disposals		—	—	—	—	(0.8)	(0.8)
– operations in Brazil		—	—	—	—	(0.8)	(0.8)
Adjusted	4	127.6	324.6	282.1	16.9	119.0	870.2
		At 31 Dec 2017					
Risk-weighted assets							
Reported		121.5	301.0	299.3	16.0	133.5	871.3
Currency translation		(2.5)	(8.0)	(4.6)	(0.1)	(1.4)	(16.6)
Disposals		—	—	—	—	(2.6)	(2.6)
– operations in Brazil		—	—	—	—	(2.6)	(2.6)
Adjusted	4	119.0	293.0	294.7	15.9	129.5	852.1

For footnotes, see page 84.

Supplementary global business disclosures

RBWM: Insurance manufacturing adjusted results

The following table shows the results of our insurance manufacturing operations by income statement line item. It shows the results of insurance manufacturing operations for RBWM and for all global business segments in aggregate, and separately the insurance distribution income earned by HSBC bank channels.

Adjusted results of insurance manufacturing operations and insurance distribution income earned by HSBC bank channels[5]

	Footnotes	**2019** RBWM $m	**2019** All global businesses $m	2018 RBWM $m	2018 All global businesses $m	2017 RBWM $m	2017 All global businesses $m
Net interest income		**2,131**	**2,306**	2,026	2,196	1,977	2,174
Net fee income		**(690)**	**(739)**	(569)	(558)	(489)	(496)
– fee income		**104**	**129**	181	274	232	330
– fee expense		**(794)**	**(868)**	(750)	(832)	(721)	(826)
Net income from financial instruments held for trading or managed on a fair value basis		**(44)**	**(29)**	(521)	167	(51)	1
Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss		**3,568**	**3,554**	(897)	(1,559)	2,830	2,771
Gains less losses from financial investments		**5**	**5**	58	57	23	31
Net insurance premium income		**10,054**	**10,718**	10,054	10,541	9,312	9,938
Other operating income		**1,765**	**1,787**	709	767	62	96
of which: PVIF		***1,696***	***1,749***	*637*	*679*	*12*	*22*
Total operating income		**16,789**	**17,602**	10,860	11,611	13,664	14,515
Net insurance claims and benefits paid and movement in liabilities to policyholders		**(14,192)**	**(14,891)**	(9,079)	(9,596)	(11,732)	(12,323)
Net operating income before change in expected credit losses and other credit impairment charges	1	**2,597**	**2,711**	1,781	2,015	1,932	2,192
ECL		**(104)**	**(115)**	(2)	(1)	—	—
Net operating income		**2,493**	**2,596**	1,779	2,014	1,932	2,192
Total operating expenses		**(520)**	**(505)**	(455)	(478)	(388)	(422)
Operating profit		**1,973**	**2,091**	1,324	1,536	1,544	1,770
Share of profit in associates and joint ventures		**44**	**44**	31	32	10	10
Profit before tax of insurance manufacturing operations	6	**2,017**	**2,135**	1,355	1,568	1,554	1,780
Annualised new business premiums of insurance manufacturing operations		**3,296**	**3,382**	3,153	3,231	2,647	2,706
Insurance distribution income earned by HSBC bank channels		**913**	**1,039**	923	1,039	889	1,012

For footnotes, see page 84.

Insurance manufacturing

The following commentary, unless otherwise specified, relates to the 'All global businesses' results.

HSBC recognises the present value of long-term in-force insurance contracts and investment contracts with discretionary participation features ('PVIF') as an asset on the balance sheet. The overall balance sheet equity, including PVIF, is therefore a measure of the embedded value in the insurance manufacturing entities, and the movement in this embedded value in the period drives the overall income statement result.

Adjusted profit before tax of $2.1bn increased by $0.6bn or 36%. This was mainly due to favourable market impacts of $0.1bn in 2019, primarily driven by strong equity market performance in Hong Kong, compared with adverse market impacts of $(0.3)bn in 2018. It also reflected a $0.1bn increase in the value of new business written.

Net operating income before change in expected credit losses and other credit impairment charges was $0.7bn or 35% higher than 2018. This reflected the following:

- 'Net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss' of $3.6bn compared with a net expense of $1.6bn in 2018, due to favourable equity market performance in Hong Kong and France in 2019 compared with 2018, resulting in revaluation gains on equity and unit trust assets supporting insurance and investment contracts. This positive movement resulted in a corresponding movement in liabilities to policyholders and PVIF (see 'Other operating income' below), reflecting the extent to which the policyholders and shareholders respectively participate in the investment performance of the associated assets portfolio.
- 'Net insurance premium income' of $10.7bn was $0.2bn higher. This was driven by higher new business volumes across all entities, and particularly in Hong Kong, Singapore and UK, partly offset by higher reinsurance ceded in Hong Kong.
- 'Other operating income' of $1.8bn increased by $1.0bn. This increase in PVIF reflected a favourable movement in 'assumption changes and experience variances' of $1.1bn, primarily in Hong Kong due to the effect of interest rate changes on the valuation of the liabilities under insurance contracts. In addition, the value of new business written increased by $0.1bn to $1.2bn. For further details, see Note 21 on the financial statements.
- 'Net insurance claims and benefits paid and movement in liabilities to policyholders' of $14.9bn were $5.3bn higher than 2018. This increase was primarily due to higher returns on financial assets supporting contracts where the policyholder is subject to part or all of the investment risk and the impact of higher new business volumes, particularly in Hong Kong and Singapore. This was partly offset by the impact of higher reinsurance ceded in Hong Kong.

Adjusted ECL of $0.1bn in 2019 primarily related to government bond exposures in Argentina.

Adjusted operating expenses of $0.5bn increased by $27m or 6% compared with 2018, reflecting investment in core insurance functions and capabilities, including preparation for the implementation of IFRS 17 'Insurance Contracts'.

Annualised new business premiums ('ANP') is used to assess new insurance premium generation by the business. It is calculated as 100% of annualised first year regular premiums and 10% of single premiums, before reinsurance ceded. Growth in ANP during the period reflected new business growth in most entities, with the main contribution coming from Hong Kong, mainland China and the UK.

Insurance distribution income from HSBC channels included $665m (2018: $651m) on HSBC manufactured products, for which a corresponding fee expense is recognised within insurance manufacturing, and $375m (2018: $389m) on products manufactured by third-party providers. The RBWM component of this distribution income was $589m (2018: $581m) from HSBC manufactured products and $325m (2018: $343m) from third-party products.

Asset Management: Funds under management

The following table shows the funds under management of our Asset Management business.

Asset Management – reported funds under management[7]

	2019 $bn	2018 $bn	2017 $bn
Opening balance	**444**	462	410
Net new money	**30**	8	8
Value change	**30**	(14)	24
Exchange and other	**2**	(12)	20
Closing balance	**506**	444	462

Asset Management – reported funds under management by geography

	2019 $bn	2018 $bn	2017 $bn
Europe	**287**	235	249
Asia	**161**	164	168
MENA	**6**	2	1
North America	**44**	36	37
Latin America	**8**	7	7
Closing balance	**506**	444	462

For footnotes, see page 84.

Funds under management represents assets managed, either actively or passively, on behalf of our customers. At 31 December 2019, Asset Management funds under management amounted to $506bn, an increase of $62bn or 14%. The increase reflected positive market performance and foreign exchange, together with strong net new money, primarily from money market solutions and discretionary products, notably in the UK.

GB&M: Securities Services

Assets held in custody[7]

Custody is the safekeeping and servicing of securities and other financial assets on behalf of clients. At 31 December 2019, we held $8.5tn of assets as custodian, 16% higher than at 31 December 2018. This increase was driven by the onboarding of assets for new clients globally, and the incremental net asset inflows for existing clients together with favourable market movements mainly in Asia.

Assets under administration

Our assets under administration business, which includes the provision of bond and loan administration services, transfer agency services and the valuation of portfolios of securities and other financial assets on behalf of clients, complements the custody business. At 31 December 2019, the value of assets held under administration by the Group amounted to $4.0tn, which was 20% higher than at 31 December 2018. This increase was mainly driven by the onboarding of significant new client assets in Europe, together with incremental net assets inflows for existing clients in both Europe and Asia.

GPB client assets

The following table shows the client assets of our GPB business.

GPB – reported client assets

	2019	2018	2017
	$bn	$bn	$bn
At 1 Jan	**309**	330	298
Net new money	**23**	10	—
Value change	**23**	(17)	21
Disposals	**—**	—	—
Exchange and other	**6**	(14)	11
At 31 Dec	**361**	309	330

GPB – reported client assets by geography

		2019	2018	2017
	Footnotes	$bn	$bn	$bn
Europe		**171**	149	161
Asia		**151**	124	130
North America		**39**	36	39
Latin America		**—**	—	—
Middle East	8	**—**	—	—
At 31 Dec		**361**	309	330

For footnotes, see page 84.

Analysis of reported results by geographical regions

HSBC reported profit/(loss) before tax and balance sheet data

		2019						
		Europe	Asia	MENA	North America	Latin America	Intra-HSBC/ Global impairment	Total
	Footnotes	$m	$m	$m	$m	$m	$m	$m
Net interest income		5,601	16,607	1,781	3,241	2,061	1,171	30,462
Net fee income		3,668	5,325	685	1,804	540	1	12,023
Net income from financial instruments held for trading or managed on a fair value basis		3,785	4,735	327	873	883	(372)	10,231
Net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit and loss		1,656	1,803	—	—	14	5	3,478
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		1,516	28	1	31	41	(805)	812
Other income/(expense)	9	1,830	1,921	916	638	(23)	(6,190)	(908)
Net operating income before change in expected credit losses and other credit impairment charges	1	18,056	30,419	3,710	6,587	3,516	(6,190)	56,098
Change in expected credit losses and other credit impairment charges		(938)	(724)	(117)	(237)	(740)	—	(2,756)
Net operating income		17,118	29,695	3,593	6,350	2,776	(6,190)	53,342
Total operating expenses excluding goodwill		(19,237)	(13,297)	(1,452)	(5,152)	(2,052)	6,190	(35,000)
Goodwill impairment		(2,522)	—	(97)	(431)	(337)	(3,962)	(7,349)
Operating profit/(loss)		(4,641)	16,398	2,044	767	387	(3,962)	10,993
Share of profit/(loss) in associates and joint ventures		(12)	2,070	283	—	13	—	2,354
Profit/(loss) before tax		(4,653)	18,468	2,327	767	400	(3,962)	13,347
		%	%	%	%	%		%
Share of HSBC's profit before tax		(34.9)	138.4	17.4	5.7	3.0		100.0
Cost efficiency ratio		120.5	43.7	41.8	84.8	67.9		75.5
Balance sheet data		$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		393,850	477,727	28,556	113,474	23,136	—	1,036,743
Total assets		1,248,205	1,102,805	65,369	377,095	52,879	(131,201)	2,715,152
Customer accounts		528,718	697,358	38,126	146,676	28,237	—	1,439,115
Risk-weighted assets	10	280,983	366,375	57,492	121,953	38,460	—	843,395

HSBC reported profit/(loss) before tax and balance sheet data (continued)

		2018						
		Europe	Asia	MENA	North America	Latin America	Intra-HSBC items	Total
	Footnotes	$m	$m	$m	$m	$m	$m	$m
Net interest income		6,841	16,108	1,763	3,521	2,020	236	30,489
Net fee income		3,996	5,676	607	1,854	498	(11)	12,620
Net income from financial instruments held for trading or managed on a fair value basis		3,942	4,134	285	728	736	(294)	9,531
Net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit and loss		(789)	(717)	—	—	18	—	(1,488)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		601	(26)	(1)	36	27	58	695
Other income/(expense)	9	3,113	3,609	33	586	(237)	(5,171)	1,933
Net operating income before change in expected credit losses and other credit impairment charges/recoveries	1	17,704	28,784	2,687	6,725	3,062	(5,182)	53,780
Change in expected credit losses and other credit impairment (charges)/recoveries		(609)	(602)	(209)	223	(570)	—	(1,767)
Net operating income		17,095	28,182	2,478	6,948	2,492	(5,182)	52,013
Total operating expenses		(17,934)	(12,466)	(1,357)	(6,149)	(1,935)	5,182	(34,659)
Operating profit/(loss)		(839)	15,716	1,121	799	557	—	17,354
Share of profit in associates and joint ventures		24	2,074	436	—	2	—	2,536
Profit/(loss) before tax		(815)	17,790	1,557	799	559	—	19,890
		%	%	%	%	%		%
Share of HSBC's profit before tax		(4.1)	89.5	7.8	4.0	2.8		100.0
Cost efficiency ratio		101.3	43.3	50.5	91.4	63.2		64.4
Balance sheet data		$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		373,073	450,545	28,824	108,146	21,108	—	981,696
Total assets		1,150,235	1,047,636	57,455	390,410	51,923	(139,535)	2,558,124
Customer accounts		503,154	664,824	35,408	133,291	25,966	—	1,362,643
Risk-weighted assets	10	298,056	363,894	56,689	131,582	38,341	—	865,318

		2017						
Net interest income		6,970	14,153	1,752	3,441	2,098	(238)	28,176
Net fee income		4,161	5,631	619	1,880	520	—	12,811
Net income from financial instruments held for trading or managed on a fair value basis	11,12	4,066	2,929	180	527	486	238	8,426
Net income from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit and loss		769	2,003	—	—	64	—	2,836
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other income	9,12	1,454	1,090	109	865	57	(4,379)	(804)
Net operating income before loan impairment charges/recoveries and other credit risk provisions	1	17,420	25,806	2,660	6,713	3,225	(4,379)	51,445
Loan impairment (charges)/recoveries and other credit risk provisions		(658)	(570)	(207)	189	(523)	—	(1,769)
Net operating income		16,762	25,236	2,453	6,902	2,702	(4,379)	49,676
Total operating expenses		(18,665)	(11,790)	(1,394)	(5,305)	(2,109)	4,379	(34,884)
Operating profit/(loss)		(1,903)	13,446	1,059	1,597	593	—	14,792
Share of profit/(loss) in associates and joint ventures		39	1,883	442	4	7	—	2,375
Profit/(loss) before tax		(1,864)	15,329	1,501	1,601	600	—	17,167
		%	%	%	%	%		%
Share of HSBC's profit before tax		(10.8)	89.3	8.7	9.3	3.5		100.0
Cost efficiency ratio		107.1	45.7	52.4	79.0	65.4		67.8
Balance sheet data		$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		381,547	425,971	28,050	107,607	19,789	—	962,964
Total assets		1,169,515	1,008,498	57,469	391,292	48,413	(153,416)	2,521,771
Customer accounts		505,182	657,395	34,658	143,432	23,795	—	1,364,462
Risk-weighted assets	10	311,612	357,808	59,196	131,276	36,372	—	871,337

For footnotes, see page 84.

Reconciliation of reported and adjusted items – geographical regions

Reconciliation of reported and adjusted items

	Footnotes	2019 Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Revenue	1						
Reported	11	18,056	30,419	3,710	6,587	3,516	56,098
Significant items		26	35	(828)	68	10	(689)
– customer redress programmes		163	—	—	—	—	163
– disposals, acquisitions and investment in new businesses		—	—	(828)	59	1	(768)
– fair value movements on financial instruments	2	(137)	35	—	9	9	(84)
Adjusted	11	18,082	30,454	2,882	6,655	3,526	55,409
ECL							
Reported		(938)	(724)	(117)	(237)	(740)	(2,756)
Adjusted		(938)	(724)	(117)	(237)	(740)	(2,756)
Operating expenses							
Reported	11, 14	(21,759)	(13,297)	(1,549)	(5,583)	(2,389)	(42,349)
Significant items	14	4,435	126	112	544	375	9,554
– costs of structural reform	3	154	4	—	—	—	158
– customer redress programmes		1,281	—	—	—	—	1,281
– goodwill impairment	14	2,522	—	97	431	337	7,349
– restructuring and other related costs		538	123	15	113	38	827
– settlements and provisions in connection with legal and regulatory matters		(60)	(1)	—	—	—	(61)
Adjusted	14	(17,324)	(13,171)	(1,437)	(5,039)	(2,014)	(32,795)
Share of profit/(loss) in associates and joint ventures							
Reported		(12)	2,070	283	—	13	2,354
Adjusted		(12)	2,070	283	—	13	2,354
Profit/(loss) before tax							
Reported	14	(4,653)	18,468	2,327	767	400	13,347
Significant items	14	4,461	161	(716)	612	385	8,865
– revenue		26	35	(828)	68	10	(689)
– operating expenses	14	4,435	126	112	544	375	9,554
Adjusted		(192)	18,629	1,611	1,379	785	22,212
Loans and advances to customers (net)							
Reported		393,850	477,727	28,556	113,474	23,136	1,036,743
Adjusted		393,850	477,727	28,556	113,474	23,136	1,036,743
Customer accounts							
Reported		528,718	697,358	38,126	146,676	28,237	1,439,115
Adjusted		528,718	697,358	38,126	146,676	28,237	1,439,115

For footnotes, see page 84.

Reconciliation of reported and adjusted items (continued)

	Footnotes	2019 UK $m	Hong Kong $m	Mainland China $m	US $m	Mexico $m
Revenue	1					
Reported		13,538	19,412	3,101	4,638	2,555
Significant items		23	26	1	66	8
– customer redress programmes		162	—	—	—	—
– disposals, acquisitions and investment in new businesses		—	—	—	59	—
– fair value movements on financial instruments	2	(139)	26	1	7	8
Adjusted		13,561	19,438	3,102	4,704	2,563
ECL						
Reported		(714)	(459)	(129)	(170)	(491)
Adjusted		(714)	(459)	(129)	(170)	(491)
Operating expenses						
Reported		(16,157)	(6,935)	(2,111)	(4,033)	(1,390)
Significant items		1,795	64	6	93	20
– costs of structural reform	3	101	4	—	—	—
– customer redress programmes		1,281	—	—	—	—
– restructuring and other related costs		405	61	6	93	20
– settlements and provisions in connection with legal and regulatory matters		8	(1)	—	—	—
Adjusted		(14,362)	(6,871)	(2,105)	(3,940)	(1,370)
Share of profit/(loss) in associates and joint ventures						
Reported		(12)	31	2,016	—	13
Adjusted		(12)	31	2,016	—	13
Profit/(loss) before tax						
Reported		(3,345)	12,049	2,877	435	687
Significant items		1,818	90	7	159	28
– revenue		23	26	1	66	8
– operating expenses		1,795	64	6	93	20
Adjusted		(1,527)	12,139	2,884	594	715
Loans and advances to customers (net)						
Reported		303,041	306,964	42,380	63,588	20,426
Adjusted		303,041	306,964	42,380	63,588	20,426
Customer accounts						
Reported		419,642	499,955	48,323	90,834	23,051
Adjusted		419,642	499,955	48,323	90,834	23,051

For footnotes, see page 84.

Reconciliation of reported and adjusted items (continued)

	Footnotes	2018 Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m
Revenue	1						
Reported	11	17,704	28,784	2,687	6,725	3,062	53,780
Currency translation	11	(914)	(316)	(18)	(40)	(389)	(1,617)
Significant items		103	(36)	(1)	97	5	168
– customer redress programmes		(53)	—	—	—	—	(53)
– disposals, acquisitions and investment in new businesses		(5)	—	—	103	15	113
– fair value movements on financial instruments	2	156	(38)	(1)	(8)	(9)	100
– currency translation on significant items		5	2	—	2	(1)	8
Adjusted	11	16,893	28,432	2,668	6,782	2,678	52,331
Change in expected credit losses and other credit impairment charges							
Reported		(609)	(602)	(209)	223	(570)	(1,767)
Currency translation		12	5	9	(1)	53	78
Adjusted		(597)	(597)	(200)	222	(517)	(1,689)
Operating expenses							
Reported	11	(17,934)	(12,466)	(1,357)	(6,149)	(1,935)	(34,659)
Currency translation	11	664	175	23	23	284	1,109
Significant items		652	16	—	976	—	1,644
– costs of structural reform	3	352	9	—	—	—	361
– customer redress programmes		146	—	—	—	—	146
– disposals, acquisitions and investment in new businesses		52	—	—	—	—	52
– past service costs of guaranteed minimum pension benefits equalisation		228	—	—	—	—	228
– restructuring and other related costs		46	7	—	13	—	66
– settlements and provisions in connection with legal and regulatory matters		(147)		—	963	—	816
– currency translation on significant items		(25)	—	—	—	—	(25)
Adjusted	11	(16,618)	(12,275)	(1,334)	(5,150)	(1,651)	(31,906)
Share of profit in associates and joint ventures							
Reported		24	2,074	436	—	2	2,536
Currency translation		—	(89)	—	—	(1)	(90)
Adjusted		24	1,985	436	—	1	2,446
Profit/(loss) before tax							
Reported		(815)	17,790	1,557	799	559	19,890
Currency translation		(238)	(225)	14	(18)	(53)	(520)
Significant items		755	(20)	(1)	1,073	5	1,812
– revenue		103	(36)	(1)	97	5	168
– operating expenses		652	16	—	976	—	1,644
Adjusted		(298)	17,545	1,570	1,854	511	21,182
Loans and advances to customers (net)							
Reported		373,073	450,545	28,824	108,146	21,108	981,696
Currency translation		8,887	1,875	(84)	2,067	(165)	12,580
Adjusted		381,960	452,420	28,740	110,213	20,943	994,276
Customer accounts							
Reported		503,154	664,824	35,408	133,291	25,966	1,362,643
Currency translation		12,796	3,016	58	2,163	(938)	17,095
Adjusted		515,950	667,840	35,466	135,454	25,028	1,379,738

For footnotes, see page 84.

Reconciliation of reported and adjusted items (continued)

		2018				
		UK	Hong Kong	Mainland China	US	Mexico
	Footnotes	$m	$m	$m	$m	$m
Revenue	*1*					
Reported		13,597	18,231	2,888	4,741	2,294
Currency translation		(713)	6	(125)	—	(1)
Significant items		114	5	(1)	97	(8)
– customer redress programmes		(53)	—	—	—	—
– disposals, acquisitions and investment in new businesses		—	—	—	103	—
– fair value movements on financial instruments	*2*	162	5	(1)	(6)	(7)
– currency translation on significant items		5	—	—	—	(1)
Adjusted		12,998	18,242	2,762	4,838	2,285
Change in expected credit losses and other credit impairment charges						
Reported		(516)	(214)	(143)	199	(463)
Currency translation		9	(1)	4	—	—
Adjusted		(507)	(215)	(139)	199	(463)
Operating expenses						
Reported		(14,502)	(6,539)	(1,920)	(4,987)	(1,303)
Currency translation		494	(2)	81	—	—
Significant items		511	15	—	920	—
– costs of structural reform	*3*	294	9	—	—	—
– customer redress programmes		146	—	—	—	—
– disposals, acquisitions and investment in new businesses		—	—	—	—	—
– past service costs of guaranteed minimum pension benefits equalisation		228	—	—	—	—
– restructuring and other related costs		39	7	—	11	—
– settlements and provisions in connection with legal and regulatory matters		(176)	—	—	908	—
– currency translation on significant items		(20)	(1)	—	1	—
Adjusted		(13,497)	(6,526)	(1,839)	(4,067)	(1,303)
Share of profit in associates and joint ventures						
Reported		25	36	2,033	—	—
Currency translation		(1)	—	(90)	—	—
Adjusted		24	36	1,943	—	—
Profit/(loss) before tax						
Reported		(1,396)	11,514	2,858	(47)	528
Currency translation		(211)	3	(130)	—	(1)
Significant items		625	20	(1)	1,017	(8)
– revenue		114	5	(1)	97	(8)
– operating expenses		511	15	—	920	—
Adjusted		(982)	11,537	2,727	970	519
Loans and advances to customers (net)						
Reported		287,144	290,547	38,979	64,011	17,895
Currency translation		10,190	1,609	(477)	—	763
Adjusted		297,334	292,156	38,502	64,011	18,658
Customer accounts						
Reported		399,487	484,897	45,712	82,523	19,936
Currency translation		14,173	2,686	(559)	—	856
Adjusted		413,660	487,583	45,153	82,523	20,792

For footnotes, see page 84.

Reconciliation of reported and adjusted items (continued)

		2017					
		Europe	Asia	MENA	North America	Latin America	Total
	Footnotes	$m	$m	$m	$m	$m	$m
Revenue	1						
Reported	11	17,420	25,806	2,660	6,713	3,225	51,445
Currency translation	11	(165)	(418)	(93)	(36)	(661)	(1,344)
Significant items		61	118	1	(94)	(14)	72
– customer redress programmes		108	—	—	—	—	108
– disposals, acquisitions and investment in new businesses		(98)	(27)	—	(130)	(19)	(274)
– fair value movements on financial investments	2	54	148	1	37	5	245
– currency translation on significant items		(3)	(3)	—	(1)	—	(7)
Adjusted	11	17,316	25,506	2,568	6,583	2,550	50,173
LICs							
Reported		(658)	(570)	(207)	189	(523)	(1,769)
Currency translation		26	9	5	—	43	83
Adjusted		(632)	(561)	(202)	189	(480)	(1,686)
Operating expenses		—	—	—	—	—	—
Reported	11	(18,665)	(11,790)	(1,394)	(5,305)	(2,109)	(34,884)
Currency translation	11	135	229	87	21	472	915
Significant items		2,810	622	25	199	54	3,710
– costs of structural reform	3	420	—	—	—	—	420
– costs to achieve		1,908	623	34	371	66	3,002
– customer redress programmes		655	—	—	—	—	655
– disposals, acquisitions and investment in new businesses		36	—	—	17	—	53
– gain on partial settlement of pension obligations		—	—	—	(188)	—	(188)
– settlements and provisions in connection with legal and regulatory matters		(215)	17	—	—	—	(198)
– currency translation on significant items		6	(18)	(9)	(1)	(12)	(34)
Adjusted	11	(15,720)	(10,939)	(1,282)	(5,085)	(1,583)	(30,259)
Share of profit in associates and joint ventures							
Reported		39	1,883	442	4	7	2,375
Currency translation		(2)	(40)	—	—	(5)	(47)
Adjusted		37	1,843	442	4	2	2,328
Profit/(loss) before tax							
Reported		(1,864)	15,329	1,501	1,601	600	17,167
Currency translation		(6)	(220)	(1)	(15)	(151)	(393)
Significant items		2,871	740	26	105	40	3,782
– revenue		61	118	1	(94)	(14)	72
– operating expenses		2,810	622	25	199	54	3,710
Adjusted		1,001	15,849	1,526	1,691	489	20,556
Loans and advances to customers (net)							
Reported		381,547	425,971	28,050	107,607	19,789	962,964
Currency translation		(11,204)	(6,374)	(1,328)	(1,373)	(1,762)	(22,041)
Adjusted		370,343	419,597	26,722	106,234	18,027	940,923
Customer accounts							
Reported		505,182	657,395	34,658	143,432	23,795	1,364,462
Currency translation		(14,581)	(5,882)	(963)	(1,555)	(2,409)	(25,390)
Adjusted		490,601	651,513	33,695	141,877	21,386	1,339,072

For footnotes, see page 84.

Reconciliation of reported and adjusted items (continued)

		2017				
		UK	Hong Kong	Mainland China	US	Mexico
	Footnotes	$m	$m	$m	$m	$m
Revenue	1					
Reported		12,922	16,117	2,379	4,876	2,160
Currency translation		(129)	(87)	(52)	—	(47)
Significant items		50	(52)	100	(99)	5
– customer redress programmes		108	—	—	—	—
– disposals, acquisitions and investment in new businesses		(78)	(126)	99	(130)	—
– fair value movements on financial instruments	2	24	75	2	31	5
– currency translation on significant items		(4)	(1)	(1)	—	—
Adjusted		12,843	15,978	2,427	4,777	2,118
LICs						
Reported		(492)	(396)	(67)	108	(473)
Currency translation		21	4	1	—	11
Adjusted		(471)	(392)	(66)	108	(462)
Operating expenses						
Reported		(15,086)	(6,131)	(1,687)	(4,267)	(1,297)
Currency translation		100	31	39	—	25
Significant items		2,476	306	68	119	46
– costs of structural reform	3	410	—	—	—	—
– costs to achieve		1,766	291	69	290	46
– customer redress programmes		655	—	—	—	—
– disposals, acquisitions and investment in new businesses		—	—	—	17	—
– gain on partial settlement of pension obligations		—	—	—	(188)	—
– settlements and provisions in connection with legal and regulatory matters		(362)	17	—	—	—
– currency translation on significant items		7	(2)	(1)	—	—
Adjusted		(12,510)	(5,794)	(1,580)	(4,148)	(1,226)
Share of profit in associates and joint ventures						
Reported		38	8	1,863	—	—
Currency translation		(1)	—	(40)	—	—
Adjusted		37	8	1,823	—	—
Profit/(loss) before tax						
Reported		(2,618)	9,598	2,488	717	390
Currency translation		(9)	(52)	(52)	—	(11)
Significant items		2,526	254	168	20	51
– revenue		50	(52)	100	(99)	5
– operating expenses		2,476	306	68	119	46
Adjusted		(101)	9,800	2,604	737	430
Loans and advances to customers (net)						
Reported		295,538	268,966	40,686	65,168	15,172
Currency translation		(6,336)	904	(2,666)	1	679
Adjusted		289,202	269,870	38,020	65,169	15,851
Customer accounts						
Reported		401,733	477,104	45,991	89,887	17,809
Currency translation		(8,593)	1,605	(3,013)	—	798
Adjusted		393,140	478,709	42,978	89,887	18,607

For footnotes, see page 84.

Analysis by country

Profit/(loss) before tax by country/territory within global businesses

	Footnotes	Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
		$m	$m	$m	$m	$m	$m
Europe		(760)	(889)	(474)	72	(2,602)	(4,653)
– UK	12	(815)	1,365	(650)	(44)	(3,201)	(3,345)
– *of which: HSBC UK Bank plc (RFB)*		*(399)*	*1,497*	*70*	*16*	*123*	*1,307*
– *HSBC Bank plc (NRFB)*		*202*	*271*	*(223)*	*39*	*(419)*	*(130)*
– *Holdings and other*		*(618)*	*(403)*	*(497)*	*(99)*	*(2,905)*	*(4,522)*
– France		45	119	(66)	9	(71)	36
– Germany		6	37	74	7	37	161
– Switzerland		(1)	7	(3)	90	(2)	91
– other	13	5	(2,417)	171	10	635	(1,596)
Asia		6,935	4,266	3,793	381	3,093	18,468
– Hong Kong		6,550	3,107	1,663	366	363	12,049
– Australia		121	108	168	(1)	48	444
– India		48	181	466	—	311	1,006
– Indonesia		12	49	123	—	32	216
– mainland China		(74)	296	498	(5)	2,162	2,877
– Malaysia		85	66	184	—	7	342
– Singapore		114	80	219	22	43	478
– Taiwan		41	23	91	—	6	161
– other		38	356	381	(1)	121	895
Middle East and North Africa		190	174	722	1	1,240	2,327
– Egypt		44	65	222	—	79	410
– UAE		127	91	241	1	(35)	425
– Saudi Arabia		(3)	—	13	—	1,145	1,155
– other	13	22	18	246	—	51	337
North America		(219)	807	608	(445)	16	767
– US		(323)	365	452	(14)	(45)	435
– Canada		44	406	120	—	48	618
– other	13	60	36	36	(431)	13	(286)
Latin America		282	(86)	360	—	(156)	400
– Mexico		279	166	217	—	25	687
– other	13	3	(252)	143	—	(181)	(287)
GB&M goodwill impairment	13	—	—	(3,962)	—	—	(3,962)
Year ended 31 Dec 2019		6,428	4,272	1,047	9	1,591	13,347

For footnotes, see page 84.

Profit/(loss) before tax by country/territory within global businesses (continued)

	Footnotes	Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
		$m	$m	$m	$m	$m	$m
Europe		440	2,289	690	(122)	(4,112)	(815)
– UK	12	476	1,901	409	23	(4,205)	(1,396)
– *of which: HSBC UK Bank plc (RFB)*		*539*	*934*	*4*	*38*	*(133)*	*1,382*
– *HSBC Bank plc (NRFB)*		*548*	*1,394*	*795*	*60*	*(719)*	*2,078*
– *Holdings and other*		*(611)*	*(427)*	*(390)*	*(75)*	*(3,353)*	*(4,856)*
– France		(56)	170	8	16	(101)	37
– Germany		14	85	99	8	(5)	201
– Switzerland		(1)	5	(1)	(100)	20	(77)
– other		7	128	175	(69)	179	420
Asia		6,190	4,176	3,773	353	3,298	17,790
– Hong Kong		5,951	3,114	1,670	333	446	11,514
– Australia		115	120	185	(1)	44	463
– India		20	143	387	—	275	825
– Indonesia		(1)	13	91	—	1	104
– mainland China		(200)	262	566	(4)	2,234	2,858
– Malaysia		130	82	132	—	30	374
– Singapore		75	98	230	25	63	491
– Taiwan		55	23	117	—	30	225
– other		45	321	395	—	175	936
Middle East and North Africa		182	108	733	7	527	1,557
– Egypt		34	54	202	—	43	333
– UAE		112	58	296	7	—	473
– Saudi Arabia		—	—	—	—	436	436
– other		36	(4)	235	—	48	315
North America		(96)	968	738	11	(822)	799
– US		(205)	473	624	23	(962)	(47)
– Canada		55	455	139	—	116	765
– other		54	40	(25)	(12)	24	81
Latin America		166	178	378	(1)	(162)	559
– Mexico		194	114	197	—	23	528
– other		(28)	64	181	(1)	(185)	31
Year ended 31 Dec 2018		6,882	7,719	6,312	248	(1,271)	19,890
Europe		(159)	1,899	777	(231)	(4,150)	(1,864)
– UK	12	(177)	1,539	192	(23)	(4,149)	(2,618)
– *of which: HSBC UK Bank plc (RFB)*		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
– *HSBC Bank plc (NRFB)*		*413*	*1,911*	*889*	*63*	*(1,224)*	*2,052*
– *Holdings and other*		*(590)*	*(372)*	*(697)*	*(86)*	*(2,925)*	*(4,670)*
– France		(12)	204	228	5	(156)	269
– Germany		21	61	141	9	39	271
– Switzerland		(2)	7	1	(192)	2	(184)
– other		11	88	215	(30)	114	398
Asia		5,372	3,394	3,135	285	3,143	15,329
– Hong Kong		5,039	2,460	1,357	257	485	9,598
– Australia		122	101	108	(1)	35	365
– India		21	159	362	—	374	916
– Indonesia		(24)	76	98	—	30	180
– mainland China		(44)	161	387	(4)	1,988	2,488
– Malaysia		85	50	162	—	28	325
– Singapore		69	94	202	34	64	463
– Taiwan		43	10	107	(1)	40	199
– other		61	283	352	—	99	795
Middle East and North Africa		144	199	593	—	565	1,501
– Egypt		26	69	164	—	46	305
– UAE		110	53	268	—	48	479
– Saudi Arabia		—	—	—	—	441	441
– other		8	77	161	—	30	276
North America		305	932	671	67	(374)	1,601
– US		166	435	494	66	(444)	717
– Canada		61	453	132	—	43	689
– other		78	44	45	1	27	195
Latin America		161	199	259	—	(19)	600
– Mexico		139	105	158	—	(12)	390
– other		22	94	101	—	(7)	210
Year ended 31 Dec 2017		5,823	6,623	5,435	121	(835)	17,167

For footnotes, see page 84.

Return on equity and return on tangible equity

Return on Equity and Return on Tangible Equity

	2019	2018	2017
	$m	$m	$m
Profit			
Profit attributable to the ordinary shareholders of the parent company	**5,969**	12,608	9,683
Goodwill impairment	**7,349**	—	—
Increase/(decrease) in PVIF (net of tax)	**(1,248)**	(506)	16
Profit attributable to the ordinary shareholders, excluding goodwill impairment and PVIF	**12,070**	12,102	9,699
Significant items (net of tax) and UK bank levy and other adjustments	**2,251**	2,590	3,827
Profit attributable to the ordinary shareholders, excluding goodwill impairment, PVIF, significant items and UK bank levy	**14,321**	14,692	13,526
Equity			
Average ordinary shareholders' equity	**165,421**	163,483	163,419
Effect of goodwill, PVIF and other intangibles (net of deferred tax)	**(22,574)**	(22,102)	(20,721)
Average tangible equity	**142,847**	141,381	142,698
Fair value of own debt, DVA and other adjustments	**1,032**	2,439	2,788
Average tangible equity excluding fair value of own debt, DVA and other adjustments	**143,879**	143,820	145,486
	%	%	%
Ratio			
Return on equity	**3.6**	7.7	5.9
Return on tangible equity	**8.4**	8.6	6.8
Return on tangible equity excluding significant items and UK bank levy	**10.0**	10.2	9.3

Return on tangible equity by global business

	Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
	Year ended 31 Dec 2019					
	$m	**$m**	**$m**	**$m**	**$m**	**$m**
Profit before tax	**6,428**	**4,272**	**1,047**	**9**	**1,591**	**13,347**
Tax expense	**(1,111)**	**(1,548)**	**(1,013)**	**(81)**	**(886)**	**(4,639)**
Profit after tax	**5,317**	**2,724**	**34**	**(72)**	**705**	**8,708**
Less attributable to: preference shareholders, other equity holders, non-controlling interests	**(849)**	**(865)**	**(625)**	**(19)**	**(381)**	**(2,739)**
Profit attributable to ordinary shareholders of the parent company	**4,468**	**1,859**	**(591)**	**(91)**	**324**	**5,969**
Increase in PVIF (net of tax)	**(1,204)**	**(40)**	**—**	**(2)**	**(2)**	**(1,248)**
Significant items (net of tax) and UK bank levy	**1,234**	**3,033**	**4,213**	**401**	**716**	**9,597**
Balance Sheet Management allocation and other adjustments	**497**	**528**	**802**	**59**	**(1,883)**	**3**
Profit attributable to ordinary shareholders, excluding PVIF, significant items and UK bank levy	**4,995**	**5,380**	**4,424**	**367**	**(845)**	**14,321**
Average tangible shareholders' equity excluding fair value of own debt, DVA and other adjustments	**24,418**	**43,498**	**48,182**	**3,300**	**24,481**	**143,879**
Return on tangible equity excluding significant items and UK bank levy (%)	**20.5%**	**12.4%**	**9.2%**	**11.1%**	**(3.5)%**	**10.0%**
	Year ended 31 Dec 2018					
Profit before tax	6,882	7,719	6,312	248	(1,271)	19,890
Tax expense	(1,238)	(1,680)	(1,350)	(53)	(544)	(4,865)
Profit after tax	5,644	6,039	4,962	195	(1,815)	15,025
Less attributable to: preference shareholders, other equity holders, non-controlling interests	(763)	(746)	(659)	(19)	(230)	(2,417)
Profit attributable to ordinary shareholders of the parent company	4,881	5,293	4,303	176	(2,045)	12,608
Increase in PVIF (net of tax)	(483)	(21)	—	—	(2)	(506)
Significant items (net of tax) and UK bank levy	146	(36)	(168)	75	2,573	2,590
Balance Sheet Management allocation and other adjustments	555	581	851	82	(2,069)	—
Profit attributable to ordinary shareholders, excluding PVIF, significant items and bank levy	5,099	5,817	4,986	333	(1,543)	14,692
Average tangible shareholders' equity excluding fair value of own debt, DVA and other adjustments	24,287	41,550	47,477	3,376	27,130	143,820
Return on tangible equity excluding significant items and UK bank levy (%)	21.0%	14.0%	10.5%	9.9%	(5.7)%	10.2%

Footnotes to global businesses and geographical regions

1 Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.

2 Fair value movements on financial instruments include non-qualifying hedges and debt valuation adjustments on derivatives.

3 Comprises costs associated with preparations for the UK's exit from the European Union, costs to establish the UK ring-fenced bank (including the UK ServCo group) and costs associated with establishing an intermediate holding company in Hong Kong.

4 Adjusted risk-weighted assets are calculated using reported risk-weighted assets adjusted for the effects of currency translation differences and significant items.

5 The results presented for insurance manufacturing operations are shown before elimination of intercompany transactions with HSBC non-insurance operations.

6 The effect on the Insurance manufacturing operations of applying hyperinflation accounting in Argentina resulted in a reduction in adjusted revenue in 2019 of $3m (2018: $29m) and a reduction in PBT in 2019 of $3m (2018: $27m). These effects are recorded in 'all global businesses' within Corporate Centre.

7 Funds under management and assets held in custody are not reported on the Group's balance sheet, except where it is deemed that we are acting as principal rather than agent in our role as investment manager.

8 Client assets related to our Middle East clients are booked across various other regions, primarily in Europe.

9 'Other income' in this context comprises where applicable net income/expense from other financial instruments designated at fair value, gains less losses from financial investments, dividend income, net insurance premium income and other operating income less net insurance claims and benefits paid and movement in liabilities to policyholders.

10 Risk-weighted assets are non-additive across geographical regions due to market risk diversification effects within the Group.

11 Amounts are non-additive across geographical regions due to intercompany transactions within the Group.

12 UK includes results from the ultimate holding company, HSBC Holdings plc, and the separately incorporated group of service companies ('ServCo Group').

13 Includes the impact of goodwill impairment. As per Group accounting policy, HSBC's cash-generating units are based on geographical regions subdivided by global business, except for Global Banking and Markets, for which goodwill is monitored on a global basis.

14 Amounts are non-additive across geographical regions due to goodwill impairment recognised on the Global Banking and Markets cash-generating unit, which is monitored on a global basis.

Other information

Taxes paid by region and country/territory

The following table reflects a geographical view of HSBC's operations.

Taxes paid by HSBC relate to HSBC's own tax liabilities including tax on profits earned, employer taxes, the bank levy and other duties/levies such as stamp duty. Numbers are reported on a cash flow basis.

Taxes paid by country/territory

	2019	2018	2017
	$m	$m	$m
Europe	**3,077**	3,398	3,340
– UK	**2,468**	2,693	2,654
– *of which: HSBC Holdings*	***889***	*832*	*1,078*
– France	**476**	536	530
– Germany	**116**	111	140
– Switzerland	**(7)**	13	(67)
– other	**24**	45	83
Asia	**1,487**	2,742	2,277
– Hong Kong	**248**	1,398	1,043
– Australia	**180**	140	142
– mainland China	**76**	235	227
– India	**398**	384	297
– Indonesia	**50**	44	84
– Malaysia	**119**	94	81
– Singapore	**104**	88	64
– Taiwan	**68**	53	42
– other	**244**	306	297
Middle East and North Africa	**313**	234	419
– Saudi Arabia	**—**	—	170
– UAE	**66**	67	101
– Egypt	**136**	104	58
– Turkey	**42**	—	—
– other	**69**	63	90
North America	**314**	399	317
– US	**152**	162	134
– Canada	**162**	240	182
– other	**—**	(3)	1
Latin America	**400**	281	443
– Mexico	**179**	90	129
– Argentina	**188**	163	278
– other	**33**	191	314
– *of which: Brazil*	***21***	*28*	*36*
Year ended 31 Dec	**5,591**	7,054	6,796

The tax we paid during 2019 was lower than in 2018 due to differences in the timing of payments, particularly in Hong Kong.

Further details on our approach to tax are provided on page 25.

Carbon dioxide emissions

We report our carbon emissions following the Greenhouse Gas Protocol, which incorporates the scope 2 market-based emission methodology. We report carbon dioxide emissions resulting from energy use in our buildings and employees' business travel.

In 2019, we collected data on energy use and business travel for our operations in 28 countries and territories, which accounted for approximately 94% of our FTEs. To estimate the emissions of our operations in countries and territories where we have operational control and a small presence, we scale up the emissions data from 94% to 100%.

We then apply emission uplift rates to reflect uncertainty concerning the quality and coverage of emission measurement and estimation. The rates are 4% for electricity, 10% for other energy and 6% for business travel. This is consistent both with the Intergovernmental Panel on Climate Change's *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* and our internal analysis of data coverage and quality.

Further details on our methodology can be found in our 'CO2 Emissions Reporting Guidance 2019' on our website at www.hsbc.com/our-approach/esg-information/esg-reporting-and-policies as relevant environmental key facts.

Carbon dioxide emissions in tonnes

	2019	2018
Total	**530,000**	559,000
From energy	**414,000**	437,000
Included energy UK	**10,400**	9,700
From travel	**116,000**	122,000

Carbon dioxide emissions in tonnes per FTE

	2019	2018
Total	**2.26**	2.39
From energy	**1.76**	1.87
From travel	**0.5**	0.52

The reduction in our carbon emissions continues to be driven by energy efficiency initiatives, as well as our procurement of electricity from renewable sources under power purchase agreements.

Energy consumption in GWh

	2019	2018
Total Group	**1,050**	1,092
UK only	**281**	279

As energy takes 78% of our carbon emissions, we continue to focus on energy reduction and efficiency projects. During 2019, we implemented over 810 energy conservation measures that amount to an estimated energy avoidance in excess of 22M kWh.

Disclosure controls

The Group Chief Executive and Group Chief Financial Officer, with the assistance of other members of management, carried out an evaluation of the effectiveness of the design and operation of HSBC Holdings' disclosure controls and procedures as at 31 December 2019. Based upon that evaluation, the Group Chief Executive and Group Chief Financial Officer concluded that the disclosure controls and procedures at 31 December 2019 were effective to provide reasonable assurance that information required to be disclosed in the reports that the company files and submits under the US Securities Exchange Act of 1934, as amended, is recorded, processed, summarised and reported as and when required. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives.

There have been no changes in HSBC Holdings' internal control over financial reporting during the year ended 31 December 2019 that have materially affected, or are reasonably likely to materially affect, HSBC Holdings' internal control over financial reporting.

Management's assessment of internal controls over financial reporting

Management is responsible for establishing and maintaining an adequate internal control structure and procedures for financial reporting, and has completed an assessment of the effectiveness of the Group's internal controls over financial reporting for the year ended 31 December 2019. In making the assessment, management used the framework for internal control evaluation contained in the Financial Reporting Council's Guidance on Risk Management, Internal Control and Related Financial and Business Reporting (September 2014), as well as the criteria established by the Committee of Sponsoring Organizations of the Treadway Commission ('COSO') in 'Internal Control-Integrated Framework (2013)'.

Based on the assessment performed, management concluded that for the year ended 31 December 2019, the Group's internal controls over financial reporting were effective.

PricewaterhouseCoopers LLP, which has audited the consolidated financial statements of the Group for the year ended 31 December 2019, has also audited the effectiveness of the Group's internal control over financial reporting under Auditing Standard No. 5 of the Public Company Accounting Oversight Board (United States) as stated in their report on pages 256 to 258.

Regulation and supervision

The ordinary shares of HSBC Holdings are listed in London, Hong Kong, New York, Paris and Bermuda. As a result of the listing in London, HSBC Holdings is subject to the Listing Rules of the Financial Conduct Authority ('FCA'). As a result of the listing in Hong Kong, HSBC Holdings is subject to The Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited ('HKE'). In the US, where the listing is through an American Depositary Receipt Programme, shares are traded in the form of American Depositary Shares ('ADS'), which are registered with the US Securities and Exchange Commission ('SEC'). As a consequence of its US listing, HSBC Holdings is also subject to the reporting and other requirements of the US Securities Act of 1933, as amended; the Securities Exchange Act of 1934, as amended; and the New York Stock Exchange's ('NYSE') Listed Company Manual, in each case as applied to foreign private issuers. In France and Bermuda, HSBC Holdings is subject to the listing rules of Euronext and the Paris and Bermuda Stock Exchanges, respectively, applicable to companies with secondary listings.

A statement of our compliance with the provisions of the UK Corporate Governance Code issued by the Financial Reporting Council and with the Hong Kong Corporate Governance Code set out in Appendix 14 to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited can be found in the 'Report of the Directors: Corporate Governance Codes' on page 255.

Our operations throughout the world are regulated and supervised globally by a large number of different regulatory authorities, central banks and other bodies in those jurisdictions in which we have offices, branches or subsidiaries. These authorities impose a variety of requirements and controls designed to provide financial stability, transparency in financial markets and a contribution to economic growth. Requirements to which our operations must adhere include those relating to capital and liquidity, disclosure standards and restrictions on certain types of products or transaction structures, recovery and resolution, governance standards, conduct of business and financial crime.

The UK Prudential Regulation Authority ('PRA') is the HSBC Group's consolidated lead regulator. The other lead UK regulator, the FCA, supervises 16 HSBC entities in the UK, including nine where the PRA is responsible for prudential supervision. Additionally, both the PRA and FCA have certain direct supervisory powers over our unregulated qualifying parent company, HSBC Holdings, through which the FCA has maintained, and is expected in the future to maintain, global oversight of the Group's management of financial crime risk. In addition, each operating bank, finance company and insurance operation within HSBC is regulated by local supervisors.

The Group's primary regulatory authorities include those in the UK, Hong Kong and the US and our other principal jurisdictions of operation. However, and in addition, with the implementation of the European Union's ('EU') Single Supervisory Mechanism ('SSM') in 2014, the European Central Bank ('ECB') assumed direct supervisory responsibility for HSBC France and HSBC Malta as 'significant supervised entities' within the eurozone for the purposes of the EU's SSM Regulation, and HSBC Germany may also come under the ECB's direct supervision in the near future. Under the SSM, the ECB increasingly engages with the relevant 'national competent authorities' in relation to HSBC's businesses in other eurozone countries and more widely with HSBC's other regulators. It is therefore expected that we will continue to see changes in how the Group is regulated and supervised on a day-to-day basis in the eurozone and, more generally, as the ECB and other of our regulators develop their powers having regard to some of the regulatory initiatives highlighted in this report including the UK's exit from the EU.

UK regulation and supervision

The UK's financial services regulatory structure is comprised of three regulatory bodies: the Financial Policy Committee, a committee of the Bank of England ('BoE'); the PRA; and the FCA.

The Financial Policy Committee is responsible for macro-prudential supervision, focusing on systemic risks that may affect the UK's financial stability. The BoE prudentially regulates and supervises financial services firms through the PRA and in addition to its wider role as the UK's central bank, the BoE is also the resolution authority responsible for taking action to manage the failure of financial institutions in the UK if necessary. The latter involves a set of responsibilities and powers that apply outside of an actual bank failure and relate to general resolution planning, including an assessment of any barriers to resolution of banks, the exercise of powers to require the removal of impediments to resolvability and the setting of minimum requirements for own funds and eligible liabilities.

The PRA and the FCA are micro-prudential supervisors. The Group's banking subsidiaries in the UK, such as HSBC Bank plc and HSBC UK, are 'dual-regulated' firms, subject to prudential regulation by the PRA and to conduct regulation by the FCA. Other (generally smaller, non-bank) UK-based Group subsidiaries are 'solo regulated' by the FCA (i.e. the FCA is responsible for both prudential and conduct regulation of those subsidiaries). HSBC Group is subject to consolidated supervision by the PRA.

UK banking and financial services institutions are subject to multiple regulations. The primary UK statute in this context is the Financial Services and Markets Act 2000, as amended by subsequent legislation. Other UK financial services legislation currently includes that derived from EU directives and regulations relating to banking, securities, insurance, investments and sales of personal financial services. The Banking Act 2009, as amended ('Banking Act') defines the UK's resolution regime that applies to banks and their financial holding companies incorporated in the UK. It sets out the objectives that the BoE must pursue in its role as resolution authority and defines the responsibilities of other UK authorities (the PRA, the FCA and HM Treasury) in relation to specific aspects of the resolution regime. It also confers on the BoE a set of resolution tools to manage the failure of a bank and minimise the impact on financial stability. Further details can be found in the 'Recovery and resolution' section below.

The PRA and FCA are together responsible for authorising and supervising all our operating businesses in the UK that require authorisation under the Financial Services and Markets Act 2000. These include deposit-taking, retail banking, consumer credit, life and general insurance, pensions, investments, mortgages, custody and share-dealing businesses, and treasury and capital markets activity. The FCA is also responsible for promoting effective competition in the interests of consumers, and an independent subsidiary of the FCA, the Payment Systems Regulator, regulates payment systems in the UK.

The PRA and FCA rules establish the minimum criteria for the authorisation of banks and other financial sector entities that carry out regulated activities. In the UK, the PRA and FCA have the right to object, on prudential grounds, to persons who hold, or intend to hold, 10% or more of the voting power or shares of a financial institution that they regulate, or of its parent undertaking. In its capacity as our supervisor on a consolidated basis, the PRA receives information on the capital adequacy of, and sets requirements for, the Group as a whole. In addition, it conducts stress tests both on HSBC's UK entities and more widely on the Group. Individual banking subsidiaries in the Group are directly regulated by their local banking supervisors, who set and monitor, inter alia, their capital adequacy requirements.

The Group is subject to capital requirements as set out in the EU Capital Requirements Regulation, as amended (the 'CRR') and the EU Capital Requirements Directive, as amended (the 'CRD' and together with the CRR, the 'EU Capital Requirements Legislative Package') and implemented by the PRA. The Pillar 1 regulatory capital framework has been, and continues to be, significantly enhanced. The EU Bank Recovery and Resolution Directive, as amended ('BRRD') requires member states to enable their resolution authorities to set a minimum requirement for own funds and eligible liabilities ('MREL') for banks in their jurisdiction. These include own funds and liabilities that can be written down or converted into capital resources in order to absorb losses or recapitalise a bank in the event of its failure. These requirements are based on the resolution strategy for the Group, as agreed by the BoE in consultation with our local regulators. The UK has implemented the MREL requirements through the Banking Act, and the Bank Recovery and Resolution (No 2) Order 2014. The BoE separately updated its statement of policy on its approach to setting MREL in June 2018. The BoE expects to direct firms to comply with an end-state MREL requirement from 1 January 2022 and has set interim MREL requirements from 1 January 2019. These interim MREL requirements apply to the Group and to some of the Group's UK subsidiaries. The UK MREL framework has been designed to be broadly compatible with the term sheet published by the Financial Stability Board (the 'FSB') on total loss absorbing capacity ('TLAC') requirements for global systemically important banks ('G-SIBs'). In addition, additional TLAC requirements were implemented in 2019 through amendments to the CRR in line with the FSB TLAC standards; these also apply to HSBC as a G-SIB.

The Group is also subject to liquidity requirements as set out in the EU Capital Requirements Legislative Package and implemented by the PRA, and will in due course become subject to the net stable funding requirements prescribed under the Basel III Reforms and expected to be implemented in the first half of 2021 through changes to the CRD.

The PRA and FCA monitor authorised institutions through ongoing supervision and the review of routine and ad hoc reports relating to financial, prudential and conduct of business matters. They may also obtain independent reports from a Skilled Person on the adequacy of procedures and systems covering internal control and governing records and accounting. The PRA meets regularly with the Group's senior executives to discuss our adherence to its prudential requirements. In addition, both the PRA and FCA regularly discuss with relevant management fundamental matters relating to our business in the UK and internationally, including areas such as strategic and operating plans, risk control, loan portfolio composition, organisational changes, succession planning and recovery and resolution arrangements.

There are a substantial number of other ongoing regulatory initiatives affecting the Group driven by or from the UK. The current and anticipated areas of particular focus for the UK's regulators include:

- changes to UK law and regulation following the UK's exit from the EU;
- the UK's implementation of the final reforms to Basel III, including the changes to the market risk framework and the revised approaches to calculate credit, counterparty, operational and credit valuation adjustment RWAs, changes to the leverage ratio framework and the application of capital floors;
- ongoing implementation of requirements regarding resolution plans (see further details outlined below under 'Recovery and resolution');
- implementation of revisions to the PRA's Framework for Groups policy (particularly double-leverage) and large exposures/intra-group regimes;
- the ending of the production of the London Inter-bank Offered Rate ('Libor') and the transition to the Sterling Overnight Index Average and the replacement of other similar reference rates;
- ongoing embedding of the Senior Managers and Certification Regime, aimed at strengthening accountability in banking and its extension from banks to all UK authorised firms during 2019;
- proposed plans to increase consumer access to financial advice in the UK;
- proposals to provide greater levels of protection and remediation to SMEs;
- continued high level of focus by the FCA on management of conduct of business and customer outcomes (including fair pricing and additional High Cost Credit remedies including overdrafts) as well as on controls to combat financial crime (including market abuse and fraud);
- cyber risk, financial technology (including 'Open Banking'), operational resilience and data security initiatives that may require changes to systems and processes; and
- climate change, where the UK regulators expect firms to incorporate any financial risks arising within their Pillar 2 assessments.

The FCA also continues to apply close scrutiny to the Group's financial crime control framework both generally, in the exercise of its wider powers under FSMA, and more specifically through the exercise of direct supervisory powers over HSBC Holdings as described above.

As a result of the decision of the UK to leave the EU following the referendum on 23 June 2016, the UK left the EU on 31 January 2020. In order to smooth the transition, the UK will remain subject to EU law during an implementation period, which is expected to end on 31 December 2020. According to the withdrawal agreement entered into between the EU and the UK, this implementation period may be extended by a further two years, subject to political agreement. However, UK law currently prohibits the UK government from agreeing to an extension. At the end of the implementation period, the HSBC Group and its subsidiaries in the UK will cease to be subject to EU law; however, EU law will continue to apply to HSBC's EU subsidiaries.

In preparation for there being no agreement to leave the EU, HM Treasury, the FCA and the PRA had been working to ensure that all the EU laws and regulations that are directly applicable to UK firms can be transposed on the official date of exit. A series of statutory instruments and changes to the FCA and PRA's Handbooks to onshore EU law and regulation were published. Although these statutory instruments were prepared in the anticipation of the UK leaving without a deal, it is anticipated that these statutory instruments will form the basis of the UK's regulation after the implementation period has ended; however, these may be subject to change to reflect the introduction of new EU law during the implementation period and the terms of any trade deal between the UK and the EU.

Hong Kong regulation and supervision

The Banking Ordinance provides the legal framework for banking supervision in Hong Kong. Section 7(1) of the Ordinance provides that the principal function of the Hong Kong Monetary Authority ('HKMA') is to 'promote the general stability and effective working of the banking system'. The HKMA seeks to establish a regulatory framework in line with international standards, in particular those issued by the Basel Committee on Banking Supervision ('Basel Committee') and the Financial Stability Board ('FSB'). The objective is to maintain a prudential supervisory system that underpins the general stability and effective working of the banking system, while at the same time providing sufficient flexibility for authorised institutions to take commercial decisions. Under the Banking Ordinance, the HKMA is the licensing authority responsible for the authorisation, suspension and revocation of authorised institutions. To provide checks and balances, the HKMA is required under the Ordinance to consult with the Financial Secretary on important authorisation decisions, such as suspension and involuntary revocation.

The Hongkong and Shanghai Banking Corporation Limited and its overseas branches and subsidiaries are licensed under the Banking Ordinance and hence subject to the supervision, regulation and examination of the HKMA.

The HKMA follows international practices as recommended by the Basel Committee to supervise authorised institutions. Under the Banking Ordinance, the HKMA imposes capital requirements on authorised institutions through the Banking (Capital) Rules, liquidity requirements through the Banking (Liquidity) Rules and large exposure limits through the Banking (Exposure Limits) Rules. These rules take into account the latest standards set by the Basel Committee.

The HKMA adopts a risk-based supervisory approach based on a policy of 'continuous supervision' through on-site examinations, off-site reviews, prudential meetings, cooperation with external auditors and sharing information with other supervisors. The HKMA requires all authorised institutions to have adequate systems of internal control and requires the institutions' external auditors, upon request, to report on those systems and other matters, such as the accuracy of information provided to the HKMA. In addition, the HKMA may from time to time conduct tripartite discussions with authorised institutions and their external auditors.

The HKMA aims to ensure that the standards for regulatory disclosure in Hong Kong remain in line with those of other leading financial centres. The Banking (Disclosure) Rules take into account the latest disclosure standards released by the Basel Committee, which prescribe quarterly, semi-annual and annual disclosure of specified items, including in the form of standard templates and tables, in order to promote user-relevance and the consistency and comparability of regulatory disclosure among banks and across jurisdictions.

The HKMA's powers to collect prudential data from authorised institutions on a routine or ad hoc basis are provided by Section 63 of the Banking Ordinance. The same section of the Ordinance also empowers the HKMA to require any holding company or subsidiary or sister company of an authorised institution to submit such information as may be required for the exercise of the HKMA's functions under the Ordinance.

The HKMA has the power to serve a notice of objection on persons if they are no longer deemed to be fit and proper to be controllers of the authorised institution, if they may otherwise threaten the interests of depositors or potential depositors, or if they have contravened any conditions specified by the HKMA. The HKMA may revoke authorisation in the event of an institution's non-compliance with the provisions of the Banking Ordinance. These provisions require, among other things, the furnishing of accurate reports.

The HKMA is the relevant authority under the Anti-Money Laundering and Counter-Terrorist Financing Ordinance for supervising authorised institutions' compliance with the legal and supervisory requirements set out in the Anti-Money Laundering and Counter-Terrorist Financing Ordinance and the Guideline on Anti-Money Laundering and Counter-Financing of Terrorism (for Authorised Institutions). The HKMA requires authorised institutions in Hong Kong and its overseas branches and subsidiaries to establish effective systems and controls to prevent and detect money laundering and terrorist financing. It works closely with other stakeholders within both the government and the industry to ensure that the banking sector is able to play its gatekeeper role in Hong Kong's anti-money laundering and counter-financing of terrorism regime.

To enhance the exchange of supervisory information and cooperation, the HKMA has entered into a Memorandum of Understanding or other formal arrangements with a number of banking supervisory authorities within and outside Hong Kong.

The marketing of, dealing in and provision of advice and asset management services in relation to securities and futures in Hong Kong are subject to the provisions of the Securities and Futures Ordinance of Hong Kong. Entities engaging in activities regulated by the Ordinance are required to be licensed or registered with the Securities and Futures Commission ('SFC'). The HKMA is the front-line regulator for banks involved in the securities and futures business.

The HKMA and the SFC work very closely to ensure that there is an open market with a level playing field for all intermediaries in the securities industry of Hong Kong. The HKMA has entered into a Memorandum of Understanding with the SFC, which elaborates on the legal framework and sets out the operational details relating to the respective roles and responsibilities of the two regulators regarding the securities-related activities of authorised institutions. The HKMA and the SFC hold regular meetings under the Memorandum of Understanding to discuss matters of mutual interest.

Among other functions, the Securities and Futures Ordinance vests the SFC with powers to set and enforce market regulations, including investigating breaches of rules and market misconduct and taking appropriate enforcement action. The SFC is responsible for licensing and supervising intermediaries conducting SFC-regulated activities, such as investment advisers, fund managers and brokers. Additionally, the SFC sets standards for the authorisation and regulation of investment products, and reviews and authorises offering documents of retail investment products to be marketed to the public.

To promote proper conduct and increase awareness of individual responsibility and accountability, the SFC introduced and implemented the Manager-In-Charge ('MIC') regime in Hong Kong in October 2017. The MIC regime captures senior individuals of licensed corporations responsible for managing core functions within financial services businesses supervised by the SFC. The regime required SFC licensed corporations to review their organisational structure and the roles of senior management and their responsible officers in light of the SFC's classification of core functions within licensed corporations and its guidelines on identifying Managers-In-Charge of Core Functions. The regime also imposes new reporting requirements on SFC licensed corporations.

Similar to the SFC, the HKMA launched its Management Accountability Initiative in October 2017 aimed at increasing the accountability of the senior management of Hong Kong registered institutions ('RIs') i.e. Hong Kong banks registered to carry on one or more regulated activities under the SFO. The Management Accountability Initiative clarified the HKMA's expectations on the responsibility and accountability of RIs' senior management and enhanced its information gathering on RIs' regulated activities, while requiring RIs to better identify lines of responsibility and accountability for their regulated activities.

The HKMA and the Insurance Authority ('IA') have signed a Memorandum of Understanding to enhance the cooperation, exchange of information and mutual assistance between the two authorities. This Memorandum of Understanding sets out the framework between the HKMA and the IA for strengthening co-operation in respect of regulation and supervision of entities or financial groups in which the two authorities have a common regulatory interest. Pursuant to the statutory regulatory regime for insurance intermediaries under the Insurance Ordinance, the IA has delegated its inspection and investigation powers to the HKMA in relation to insurance related businesses of authorised institutions in Hong Kong, which aims to improve efficiency and minimise possible regulatory overlap.

Under the statutory regime for the regulation of Mandatory Provident Fund ('MPF') intermediaries, the Mandatory Provident Fund Schemes Authority is the lead regulator in respect of regulation of MPF intermediaries whereas the HKMA, the IA and the SFC are the front-line regulators of the MPF intermediaries. A Memorandum of Understanding Concerning the Regulation of Regulated Persons with Respect to Registered Schemes under the Mandatory Provident Fund Schemes Ordinance has been signed by the four regulators. It sets out certain administrative and operational arrangements among the four regulators regarding the exercise of their respective functions under the Mandatory Provident Fund Schemes Ordinance concerning regulation of MPF intermediaries.

The Financial Institutions (Resolution) Ordinance established the legal basis for a cross-sector resolution regime in Hong Kong, under which the HKMA is the resolution authority for banking sector entities, including all authorised institutions. The HKMA is also designated as the lead resolution authority for the cross-sectoral groups in Hong Kong that include banking sector entities within the scope of the Financial Institutions (Resolution) Ordinance ('FIRO'). The HKMA's function as a resolution authority is supported by the Resolution Office within the HKMA. The Resolution Office is operationally independent and has a direct reporting line to the chief executive of the HKMA.

The Financial Institutions (Resolution) (Loss-absorbing Capacity Requirements – Banking Sector) Rules ('LAC Rules') were made by the HKMA under section 19(1) of the FIRO. The LAC Rules enable the HKMA to designate entities within Hong Kong as resolution entities or material subsidiaries and require them to issue Loss Absorbing Capacity ('LAC') instruments, in accordance with the Financial Stability Board's standard 'Principles on Loss-absorbing and Recapitalisation Capacity of G-SIBs in Resolution – Total Loss-absorbing Capacity ('TLAC') Term Sheet'. The LAC Rules also incorporate the Basel Committee's disclosure standards on TLAC.

In order to support capacity building and talent development, the HKMA is working with the banking industry and relevant professional bodies to implement an industry-wide enhanced competency framework for banking practitioners. The availability of a set of common and transparent competency standards enables more effective training for new entrants and professional development for existing practitioners. Authorised institutions are encouraged to adopt it as the benchmark for enhancing the level of core competence and ongoing professional development of banking practitioners.

Currently, the enhanced competency framework for banking practitioners covers four professional work streams: anti-money laundering and counter-financing of terrorism; cybersecurity; treasury management; and retail and wealth management, with credit risk management, risk management and compliance to be launched in due course.

US regulation and supervision

The Group is subject to federal and state supervision and regulation in the US. Banking laws and regulations of the Federal Reserve Board ('FRB'), the Office of the Comptroller of the Currency (the 'OCC') and the Federal Deposit Insurance Corporation (the 'FDIC') (collectively, the 'US banking regulators') govern all aspects of our US business. HSBC Bank USA, N.A., Tysons Corner, Virginia ('HSBC Bank USA') is subject to direct supervision and regulation by the Consumer Financial Protection Bureau ('CFPB'), which has the authority to examine and take enforcement action related to compliance with US federal consumer financial laws and regulations. The Group's US securities broker/dealer and investment banking operations are also subject to ongoing supervision and regulation by the SEC, the Financial Industry Regulatory Authority and other government agencies and self-regulatory organisations under US federal and state securities laws. Similarly, the Group's US commodity futures, commodity options and swaps-related and client clearing operations are subject to ongoing supervision and regulation by the Commodity Futures Trading Commission ('CFTC'), the National Futures Association and other self-regulatory organisations under US federal and state securities laws. Furthermore, since we have substantial operations outside the US that conduct many of their day-to-day transactions with the US, HSBC entities' operations outside the US are also subject to the extraterritorial effects of US regulation in many respects.

In September 2017, HSBC Holdings and HSBC North America Holdings Inc. ('HNAH') entered into a consent order with the FRB in connection with its investigation into HSBC's historical foreign exchange activities, which requires HSBC Holdings and HNAH to undertake certain remedial steps. In January 2018, HSBC Holdings entered into a three-year deferred prosecution agreement with the Criminal Division of the US Department of Justice ('DoJ') (the 'FX DPA'), resolving the DOJ's investigation into HSBC's historical foreign exchange activities. Under the terms of the FX DPA, HSBC is required to further enhance its internal controls and procedures. For further details, see Note 34 on the Financial Statements.

HSBC Holdings and its US operations are subject to supervision, regulation and examination by the FRB because HSBC Holdings is a 'bank holding company' under the US Bank Holding Company Act of 1956, as a result of its control of HSBC Bank USA and HSBC Trust Company (Delaware), N.A., Wilmington, Delaware ('HTCD'). HNAH is also a 'bank holding company' and an intermediate holding company ('IHC'). Both HSBC Holdings and HNAH have elected to be financial holding companies pursuant to the provisions of the Gramm-Leach-Bliley Act and, accordingly, may affiliate with securities firms and insurance companies, and engage in other activities that are financial in nature or incidental or complementary to activities that are financial in nature.

Under regulations implemented by the FRB, if any financial holding company, or any depositary institution controlled by a financial holding company, ceases to meet certain capital or management standards, the FRB may impose corrective capital and/or managerial requirements on the financial holding company and place limitations on its ability to conduct the broader financial activities permissible for financial holding companies. In addition, the FRB may require divestiture of the holding company's depositary institutions or its affiliates engaged in broader financial activities in reliance on the Gramm-Leach-Bliley Act if the deficiencies persist. The regulations also provide that if any depositary institution controlled by a financial holding company fails to maintain a satisfactory rating under the Community Reinvestment Act of 1977, the FRB must prohibit the financial holding company and its subsidiaries from engaging in any additional activities other than those permissible for bank holding companies that are not financial holding companies.

The two US banks, HSBC Bank USA and HTCD, are subject to regulation and examination primarily by the OCC. HSBC Bank USA and HTCD are subject to additional regulation and supervision by the FDIC, the Consumer Financial Protection Bureau and the FRB. Banking laws and regulations restrict many aspects of their operations and administration, including the establishment and maintenance of branch offices, capital and reserve requirements, deposits and borrowings, investment and lending activities, payment of dividends and numerous other matters.

In the US, parent company insolvencies are governed by the US Bankruptcy Code, 11 U.S.C. § 101 et seq. (the 'Bankruptcy Code'). Chapter 7 of the Bankruptcy Code sets forth the procedures for liquidation of a debtor company's assets for distribution to creditors, whereas Chapter 11 permits the operation of the debtor's business while either negotiating a plan of reorganisation with the company's creditors or liquidating the business. Subsidiary banks are subject to the Federal Deposit Insurance Act (the 'FDIA'). Under the FDIA, the FDIC has the authority as receiver to liquidate and wind up a bank's affairs and to succeed to all rights, titles, powers and privileges of the bank and relevant associated persons.

Under a special regime introduced by Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act ('Dodd-Frank'), the US Secretary of the Treasury has the authority to appoint the FDIC as receiver of certain qualifying parent companies and their subsidiaries under specified conditions. The FDIC's powers under what is referred to as the Orderly Liquidation Authority incorporate elements of both the FDIA and the Bankruptcy Code, and are intended to minimise the adverse effects of a complex financial group's failure on the financial stability of the US. In respect of a banking group with a parent company not organised under the laws of the US, any actions under the Orderly Liquidation Authority would likely be directed at the US-based intermediate holding company.

Following implementation of the Basel III capital framework by the US banking regulators, HNAH, HSBC USA Inc. and HSBC Bank USA are required to maintain minimum capital ratios (exclusive of any countercyclical capital buffer), including a minimum supplementary leverage ratio of 3% and an effective minimum total risk-based capital ratio of 10.5%. The 10.5% ratio includes the capital conservation buffer, which is not a minimum requirement per se, but rather a necessary condition to allow capital distributions. A countercyclical capital buffer requirement also applies to HNAH and HSBC Bank USA, and the buffer has been currently set at 0% by the US banking regulators. Additionally, failure to maintain minimum regulatory ratios in simulated stress conditions, as required by the FRB's Comprehensive Capital Analysis and Review ('CCAR') programme, would restrict HNAH from engaging in capital distributions such as dividends or share repurchases. In addition to the CCAR stress testing requirements, the Dodd-Frank Act Stress Test ('DFAST') requires that HNAH undergo annual supervisory stress tests conducted by the FRB and company-run stress tests that HNAH must conduct annually (with disclosure of the company-run stress tests every other year).

Under CCAR, the FRB assesses whether the largest US banking organisations have sufficient capital to continue operations throughout times of economic and financial stress and whether they have robust, forward-looking capital-planning processes that account for their unique risks. As part of the CCAR process, the FRB undertakes a supervisory assessment of the capital adequacy of bank holding companies, including HNAH, based on a review of a comprehensive capital plan submitted by each participating bank holding company to the FRB that describes the company's planned capital actions, such as plans to pay or increase common stock dividends, reinstate or increase common stock repurchase programmes, or redeem preferred stock or other regulatory capital instruments, during the nine-quarter review period, as well as the results of stress tests conducted by both the company and the FRB under different hypothetical macroeconomic scenarios, including a severely adverse scenario provided by the FRB. The FRB can object to a capital plan, in which case the company cannot make capital distributions (with the exception of those that may have already received a non-objection in the previous year) without specific FRB approval.

HNAH submitted its latest CCAR capital plan and annual company-run DFAST results in April 2019. The company-run stress tests are forward-looking exercises to assess the impact of hypothetical macroeconomic baseline and severely adverse scenarios provided by the FRB for the annual exercise, and internally developed scenarios for both the annual periodic exercises, on the financial condition and capital adequacy of a bank holding company or bank over a nine-quarter planning horizon.

In June 2019, the FRB informed HNAH that it did not object to HNAH's capital plan or the planned capital distributions included in its 2019 CCAR submission.

In April 2018, the FRB issued a proposal to replace the capital conservation buffer with a stress capital buffer, which would be floored at 2.5%. Under the proposal, the stress capital buffer would equal (i) a bank holding company's projected decline in common equity tier 1 under the supervisory severely adverse stress testing scenario prior to any planned capital actions, plus (ii) one year of planned common stock dividends. The buffer would be reset each year based on the bank holding company's supervisory stress testing results.

Large international banks, such as HSBC Holdings (generally with regard to its US operations), and large insured depositary institutions, such as HSBC Bank USA, are required to file resolution plans identifying among other things, material subsidiaries and core business lines, and describing which strategy would be followed to resolve the institution in the event of significant financial distress, including identifying how insured bank subsidiaries would be adequately protected from risk created by other affiliates. The failure to cure deficiencies in a resolution plan would enable the FRB and the FDIC, acting jointly, to impose more stringent capital, leverage or liquidity requirements, or restrictions on growth, activities or operations and, if such failure persists, require the divestiture of assets or operations. HSBC Holdings and HSBC Bank USA submitted their latest resolution plans in 2018.

In 2014, the FRB adopted a rule requiring enhanced supervision of the US operations of non-US banks such as HSBC Holdings. The rule required HSBC to establish an IHC to hold their US bank and non-bank subsidiaries, although because the HSBC Group had been operating in the US through such an IHC structure (i.e. HNAH), the implementation of this requirement did not itself have a significant impact on our US operations.

In October 2019, the FRB and the other US banking regulators jointly finalised rules that would tailor the application of the enhanced prudential standards for large US banking organisations and certain foreign banking organisations (the 'Tailoring Rules'). The Tailoring Rules assign each BHC and US IHC with $50bn or more in total US assets to one of five categories based on its size and four risk-based indicators.

As a Category III firm, HNAH and its subsidiary HSBC Bank USA are no longer considered 'Advanced Approaches banking organisations'. Prior to adoption of the Tailoring Rules, HNAH and HSBC Bank USA had requested and received regulatory approval to opt out of the Advanced Approaches and therefore have previously calculated and will continue to calculate their risk-based capital requirements for credit risk solely under the Standardised Approach. Under the Tailoring Rules, HNAH and HSBC Bank USA remain subject to certain other capital requirements that were previously applicable only to 'Advanced Approaches banking organisations', including the SLR and the countercyclical capital buffer. The Tailoring Rules also permit Category III firms, including HNAH and HSBC Bank USA, to make a one-time election to opt-out of the requirement to recognise most elements of accumulated other comprehensive income in regulatory capital. The provisions of the Tailoring Rules relevant to HSBC, HNAH and HSBC Bank USA became effective on 1 January 2020.

Category III firms such as HNAH and HSBC Bank USA will also benefit from (i) simpler capital requirements for mortgage servicing assets, certain deferred tax assets, and investments in the capital of unconsolidated financial institutions and (ii) a simplified treatment for the amount of capital issued by consolidated subsidiaries to third parties (generally known as minority interests) which can be included in regulatory capital, relative to the rules that will continue to apply to Advanced Approaches banking organisations. These simplifying amendments were adopted in a separate rulemaking finalised by the US banking regulators in July 2019 and become effective 1 April 2020, although firms may choose to apply the simplifications as early as 1 January 2020. In November 2019, the

US banking regulators finalised a rule to implement a revised standardised approach for counterparty credit risk (SA-CCR) to calculate exposure amounts for derivative transactions. SA-CCR would replace the existing current exposure method for certain bank holding companies. The Tailoring Rules clarify that Category III firms and their subsidiary banks are not required to use SA-CCR to measure their derivative exposure. Instead, Category III firms (such as HNAH and HSBC Bank USA) have the option to use either SA-CCR or the current exposure methodology for their risk-based capital ratios, SLR and single counterparty credit limits. The US banking regulators issued a separate proposal in April 2019 which would exclude Category III firms and their subsidiary banks from the requirement to deduct from their regulatory capital holdings of TLAC instruments issued by other banks.

The Tailoring Rules will also reduce the liquidity coverage ratio requirement for Category III IHCs with weighted short-term wholesale funding under $75bn and their depository institution subsidiaries, including HNAH and HSBC Bank USA, from 100 to 85% on a daily basis. The Tailoring Rules also indicate that an 85% NSFR would apply to Category III IHCs with weighted short-term wholesale funding under $75bn and their depository institution subsidiaries once the NSFR is finalised. As a Category III firm, HNAH remains subject to liquidity stress testing on a monthly basis and related liquidity buffer and liquidity risk management requirements.

Simultaneous with the Tailoring Rules, the FRB and FDIC jointly finalised a proposal to revise the regulations implementing the resolution planning requirements for depository institution holding companies in the Dodd-Frank Act (the 'Holdco Resolution Plan Rule'). Under the Holdco Resolution Plan Rule, HSBC Holdings is required to file a resolution plan every three years (rather than annually), alternating between a full resolution plan and a targeted resolution plan, which would generally be limited to core areas such as capital and liquidity, as well as material changes in other areas. Under the Holdco Resolution Plan Rule, HSBC's first targeted resolution plan submission is not required until 1 July 2021 and its full resolution plan submission is not required until 1 July 2024. The Holdco Resolution Plan Rule did not revise the resolution plan requirements applicable to HSBC Bank USA, which are administered solely by the FDIC. In April 2019, the FDIC requested comment on an advance notice of proposed rulemaking that would alter the FDIC's separate resolution plan requirements for insured depository institutions (the 'IDI Plan') with total consolidated assets of at least $50bn ('Covered IDIs'), including HSBC Bank USA. The proposal delays the requirement for HSBC Bank USA (as well as other Covered IDIs) to file a resolution plan under the FDIC's current rules until a future date to be specified by the FDIC. Consequently, HSBC Bank USA did not file an IDI Plan during 2019.

In June 2018, the FRB finalised a rule to limit credit exposures to single counterparties for large bank holding companies and IHCs, including HNAH. Under the rule, HNAH, together with its subsidiaries, will be prohibited from having net credit exposure to a single unaffiliated counterparty in excess of 25% of HNAH's tier 1 capital beginning 1 July 2020. In addition, HNAH, together with its subsidiaries, could become subject to a separate limit on its exposures to certain unaffiliated systemically important counterparties if its parent, HSBC Holdings, cannot certify its compliance with a large exposure regime in the UK that is consistent with the Basel large exposure framework by 1 July 2020. In November 2019, the FRB proposed to extend the initial compliance dates for the combined US operations of foreign banks, but not their IHCs. We continue to evaluate the potential effects of this rule and the recent proposal on our operations.

In the US, the FRB adopted final rules implementing the FSB's TLAC standard. The rules require that IHC companies of non-US G-SIBs, including HNAH, maintain minimum amounts of TLAC that may include minimum levels of tier 1 capital and long-term debt satisfying certain eligibility criteria, and a related TLAC buffer commencing 1 January 2019 without the benefit of a phase-in period. The TLAC rules also include 'clean holding company requirements' that impose limitations on the types of financial transactions HSBC's US intermediate holding company, HNAH, may engage in. In December 2018, the FRB formally approved HNAH's TLAC structure. The FSB's TLAC standard and the FRB's TLAC rules represent a significant expansion of the current regulatory capital framework. To support compliance with the TLAC rules, in 2018, HNAH has issued additional long-term debt that is TLAC-compliant and has modified the terms of existing long-term debt in order for that debt to be TLAC-compliant.

In April 2018, the FRB issued a proposal to align the calculation of TLAC for US IHCs of non-US G-SIBs with the calculation methodology used by US G-SIBs beginning on 1 January 2019. The proposal seeks to modify the leverage requirements related to TLAC and will likely impact the calculation of TLAC for HNAH. The comment period for the proposal closed on 25 June 2018.

Title VII of Dodd-Frank provides for an extensive framework for the regulation of over-the-counter ('OTC') derivatives by the CFTC and the SEC, including mandatory clearing, exchange trading, and public and regulatory transaction reporting of certain OTC derivatives, as well as rules regarding the registration of swap dealers and major swap participants, and related capital, margin, business conduct, record keeping and other requirements applicable to such entities.

The CFTC has adopted rules implementing many of the most significant provisions of Title VII. In particular, HSBC Bank USA and HSBC Bank plc are provisionally registered as swap dealers with the CFTC. Because HSBC Bank plc is a non-US swap dealer, the CFTC generally limits its direct regulation of HSBC Bank plc's swap transactions to swaps with US persons and certain affiliates of US persons. However, the CFTC continues to consider whether to apply mandatory clearing, exchange trading, public transaction reporting, margin and business conduct rules to swaps with non-US persons arranged, negotiated or executed by US personnel or agents. The CFTC is also considering whether to apply regulatory transaction reporting requirements on all swaps entered into by a non-US swap dealer or instead to permit reliance on transaction reporting under comparable EU rules. The application of CFTC rules to HSBC Bank plc's swaps with non-US persons could have an adverse effect on the willingness of non-US counterparties to trade swaps with HSBC Bank plc, and we continue to assess how developments in these areas will affect our business. On 25 July 2017, the CFTC extended pre-existing relief from the requirement for non-US swap dealers (e.g., HSBC Bank plc) to comply with clearing, trade execution, reporting, and business conduct rules for swaps with non-US counterparties, when using personnel or agents located in the US to arrange, negotiate, or execute such swaps. This relief extends until the CFTC takes further action on whether to subject such swaps to particular rule requirements. HSBC Bank plc also relies on substituted compliance with comparable EU regulation to satisfy certain CFTC internal business conduct requirements. In the event of a withdrawal by the UK from the EU, swap dealers located in the UK would technically no longer be permitted to rely on substituted compliance with EU law, which would negatively affect HSBC Bank plc's business and its ability to compete with swap dealers located outside the UK. As an interim measure, in April of 2019, the CFTC issued relief that would permit swap dealers located in the UK to continue to rely on substituted compliance with EU requirements in the event of a withdrawal of the UK from the EU until permanent steps are taken by the CFTC.

In November 2018, the CFTC proposed amendments to rules governing swap execution facilities and the associated mandatory trading obligation that requires certain products subject to mandatory clearing to be executed on a swap execution facilities or a designated contract market. The proposed rules would significantly expand the mandatory trading requirement to effectively cover all swaps subject to mandatory clearing.
The proposed expansion of the mandatory trading requirements would significantly increase the burden and cost of executing certain interest rate and credit-default swaps and may adversely affect HSBC to a greater extent than some of our competitors. The CFTC has also proposed rules that would apply position limits to certain physical commodity swaps.

The SEC has finalised the key rules governing the application of Title VII requirements to security-based swap ('SBS') dealers and major SBS participants. These rules share many similarities with parallel rules applicable to swap dealers finalised by the CFTC, but there are material differences in several key rulemaking areas. Because our equity and credit derivatives businesses are also subject to the CFTC's jurisdiction under Title VII, material differences between the final SEC rules and existing CFTC rules could materially increase our costs of compliance with Title VII by requiring the implementation of significant additional policies, procedures, documentation, systems and controls for those businesses. Compliance with the SEC's SBS dealer rules, including registration of SBS dealers, is expected to begin in September 2021. Accordingly, HSBC Bank plc expects to rely on substituted compliance in connection with certain of its SBS dealer requirements, although the SEC has not yet made any substituted compliance determinations. The substance and scope of those determinations will materially affect our costs of implementation and compliance.

In 2015, the OCC, jointly with other US banking regulators, adopted final rules establishing margin requirements for non-cleared swaps and SBS. Subject to certain exceptions, the final margin rules require HSBC Bank USA and HSBC Bank plc to collect and post initial and variation margin for certain non-cleared swaps and SBS entered into with other swap dealers and financial end-users that exceed a minimum threshold of transactional activity and for financial end-users that do not meet the minimum transactional activity threshold, to collect and post variation margin (but not initial margin).

The final margin rules also limit the types of assets that are eligible to satisfy initial and variation margin requirements, require initial margin to be segregated at a third-party custodian, impose requirements on internal models used to calculate initial margin requirements and contain specific provisions for cross-border transactions and inter-affiliate transactions. The final margin rules follow a phased implementation schedule with additional counterparties becoming subject to initial margin requirements in September 2020, depending on the transactional volume of the parties and their affiliates. These final rules, as well as parallel non-cleared swaps and SBS margin rules from the CFTC, the SEC and certain non-US regulators will increase the costs and liquidity burden associated with trading non-cleared swaps and SBS, and may adversely affect our business in such products. In particular, the imposition of initial margin requirements on inter-affiliate transactions will significantly increase the cost of certain consolidated risk management activities and may adversely affect HSBC to a greater extent than some of our competitors.

Dodd-Frank grants the SEC discretionary rule-making authority to modify the standard of care that applies to brokers, dealers and investment advisers when providing personalised investment advice to retail customers and to harmonise other rules applying to these regulated entities. In June 2019, pursuant to this authority, the SEC finalised a rule that requires broker-dealers to act in the best interest of a retail customer when making a recommendation of any securities transaction or investment strategy involving securities. This rule impacts the manner in which business is conducted with customers seeking investment advice and may affect certain investment product offerings.

Dodd-Frank also expands the extra-territorial jurisdiction of US courts over actions brought by the SEC or the US with respect to violations of the anti-fraud provisions in the Securities Act, the Securities Exchange Act of 1934 and the Investment Advisers Act of 1940. In addition, regulations which the FSOC, the consumer financial protection bureau or other regulators may adopt could affect the nature of the activities that our FDIC-insured depository institution subsidiaries may conduct, and may impose restrictions and limitations on the conduct of such activities. The implementation of the remaining Dodd-Frank provisions could result in additional costs or limit or restrict the way we conduct our business in the US.

Global and regional prudential and other regulatory developments

The Group is subject to regulation and supervision by a large number of regulatory bodies and other agencies. In addition to changes being introduced at a country level, changes are often driven by global bodies such as the G-20, the FSB and the Basel Committee, which are then implemented at country level or regionally through the EU and the UK sometimes with modifications and with separate additional measures.

We are also subject to regulatory stress testing in many jurisdictions. These have increased both in frequency and in the granularity of information required by supervisors. They include the programmes of the BoE, the FRB (as explained in the 'US regulation and supervision' section), the OCC, the EBA, the ECB, the HKMA and other regulators. For further details, see 'Stress testing' on page 97. On prudential changes, further details can be found in the 'Regulatory developments' section on page 5 of the *Pillar 3 Disclosures at 31 December 2019*.

Recovery and resolution

HSBC and its subsidiaries have a recovery plan that details actions which management would take to mitigate actual or impending stress that would adversely impact key risk appetite metrics (capital, funding and liquidity).

For a capital stress, these actions include measures to de-risk the business, RWA management, reduction of costs, debt/liability management exercises, disposals, winding down businesses (for example investment banking business), reducing or cancelling dividends and raising new equity. For a liquidity stress, actions include measures to monetise assets to meet outflows (particularly high quality liquid assets), reduce lending, raise funding and access repo markets and central bank liquidity facilities. The choice of recovery actions to be taken would be dependent on the nature and severity of the stress.

HSBC's recovery plans are continually re-appraised, and this involves stress testing and regular 'fire drill' tests at the Group and material entity levels. HSBC files its recovery plans with its regulators typically on an annual basis.

The Group's corporate structure and global footprint mean that the preferred resolution strategy for the Group is a multiple point of entry ('MPE') strategy. Resolution refers to the period where a financial institution and or its parent or other group company is unable to recover from an actual or impending stress and is deemed by its regulators to be failing, or likely to fail. In such a scenario, one or more regulators may exercise their statutory resolution powers to ensure the continuity of banking services and financial stability. Consistent with a MPE strategy, the BoE is the Group's lead regulator and would coordinate any resolution of the Group with host regulators. The Group's other key regulators are the HKMA, FRB/OCC and the EU's Single Resolution Board.

HSBC is a G-SIB and is required to hold an additional buffer of 2% of CET1 capital. It also has to meet requirements to maintain sufficient MREL resources which can be written down or converted into capital resources in order to absorb losses or recapitalise a financial institution in the event of its failure (see 'UK regulation and supervision' above). MREL is down-streamed from HSBC Holdings to its subsidiaries in accordance with set requirements from HSBC's regulators. This strategy gives the option to host regulators, in accordance with any statutory powers that they may exercise, to recapitalise subsidiaries in resolution.

By 2022, HSBC has to comply with the BoE's Resolvability Assessment Framework (the 'RAF'). The RAF sets out a framework to operationalise resolution planning and places the onus on firms to demonstrate their own resolvability. In order to be considered resolvable, HSBC must (i) have adequate resources in resolution; (ii) be able to continue business through resolution and restructuring; and (iii) be able to co-ordinate its resolution and communicate effectively with stakeholders.

The key requirements under the RAF are: maintaining sufficient MREL resources; the ability to assess the value of its businesses; maintaining funding in resolution; and continuing to run its businesses or restructure it as appropriate. HSBC must also comply with a related Statement of Policy on valuation capabilities to support resolvability by 1 January 2021.

Under the RAF, HSBC has to submit a self-assessment report of its preparations for resolution to the PRA in 2020 and make public a summary of this report in 2021. The BoE will make a public statement regarding HSBC's resolvability following HSBC's disclosure. HSBC must meet the RAF requirements fully by 1 January 2022.

HSBC continues to engage with the BoE, PRA and its regulators in other jurisdictions to ensure that it meets current and future recovery and resolution requirements.

European regulation

Through the UK's membership of the EU, HSBC has been both directly and indirectly subject to European financial services regulation. As discussed in the 'UK regulation and supervision' section above, the UK left the EU on 31 January 2020 and will remain subject to EU law during an implementation period, which is expected to end on 31 December 2020. According to the withdrawal agreement entered into between the EU and the UK, this implementation period may be extended by a further two years, subject to political agreement. However, UK law currently prohibits the UK government from agreeing to an extension. At the end of the implementation period, the HSBC Group and its subsidiaries in the UK will cease to be subject to EU law; however, EU law will continue to apply to HSBC's EU subsidiaries.

It is not clear how the UK will treat EU regulation that comes into effect after the end of the implementation period. This includes changes to EU law which are enacted but have yet to be implemented. In particular, it remains unclear how the UK will implement the changes to the CRD that were enacted by the EU during 2019 but are not scheduled to be implemented until 2021, after the anticipated end of the implementation period. The changes implement parts of the Basel III Reforms, including changes to counterparty risk and equity investment in funds RWAs, the market risk framework and the leverage ratio. It would also include various proposals falling under the Capital Markets Union initiative in the areas of consumer protection and financial markets and various proposals in relation to cyber risk, use of financial technology and data processing.

Financial crime regulation

HSBC operates in many countries around the world. As part of financial crime risk management, we have built a strong global financial crime compliance framework, and have a dedicated financial crime risk team. HSBC takes a comprehensive, risk-based approach to compliance with applicable financial crime-related laws and regulations, including anti-money laundering, sanctions, anti-bribery and corruption, fraud and tax transparency laws and regulations.

HSBC has established a global anti-money laundering ('AML') programme for this purpose. The objective of the AML programme is to ensure that money laundering risks identified by HSBC are appropriately mitigated. The AML programme is based upon various laws, regulations and regulatory guidance from the UK, the EU, Hong Kong, the US, and, as applicable, local jurisdictions in which HSBC does business.

HSBC continues to monitor and assess changes in financial crime regulations in the countries in which it operates. Where appropriate, HSBC will incorporate revised standards as part of its Global AML Programme. Where local country regulations exceed the Global AML Programme requirements, all such requirements must be followed by the HSBC entities that are located in that jurisdiction or are obligated through their legal structure to incorporate them.

HSBC's global sanctions policy is based on a comprehensive assessment of financial crime risk and is informed by the sanctions laws and regulations administered by the US, the United Nations, the UK, the EU and Hong Kong and seeks to adopt the highest and most effective standard. During 2019, the US has continued to expand the scope of sanctions against Iran, Russia, Venezuela and Cuba. Some of these US sanctions have extraterritorial effect and may affect non-US operators undertaking certain activity captured by these sanctions. The EU also imposed targeted sanctions against Russia and, in September 2019, reaffirmed its commitment to the Iran Nuclear Deal from which the US had withdrawn in 2018. Under the EU Blocking Regulation amendment in 2018, EU persons remain generally prohibited from complying with certain US Iran-related sanctions laws and regulations. As HSBC's global sanctions policy is based on a comprehensive assessment of financial crime risk and acknowledges the primacy of local laws, no material changes were required to our sanctions policy as a result of the changes to the US and EU sanctions regulations. We do not consider that our business activities with counterparties with whom transactions are restricted under applicable sanctions are material to our business for the year ended 31 December 2019.

HSBC requires compliance with all applicable anti-bribery and corruption laws in all markets and jurisdictions in which we operate. These laws include the UK Bribery Act, the US Foreign Corrupt Practices Act, and the Hong Kong Prevention of Bribery Ordinance, as well as other similar laws and regulations in the countries where we operate. We have a global anti-bribery and corruption policy, which gives practical effect to these laws and regulations, but also requires compliance with the spirit of laws and regulations to demonstrate HSBC's commitment to ethical behaviours and conduct.

Despite the expiration on 11 December 2017 of the five-year Deferred Prosecution Agreement entered into with the US Department of Justice, and the dismissal of the charges contained within, we continue to take further steps to refine and strengthen our defences against financial crime by investing in advanced analytics and artificial intelligence. HSBC Bank USA entered into a Consent Order with the Office of the Comptroller of the Currency, and HSBC North American Holdings ('HNAH') entered into a Consent Order with the Federal Reserve Board in October 2010. The Orders required improvement of our compliance risk management programme, including AML controls across our US businesses. These Orders were both terminated in 2018.

In 2012, Holdings entered into a Consent Order with the Federal Reserve Board (the "2012 Order") and agreed to an undertaking with the Financial Services Authority (now a Direction from the UK Financial Conduct Authority (the "FCA Direction")), both of which contained certain forward-looking obligations in relation to HSBC's AML and sanctions compliance programme. The 2012 Order and the FCA Direction remain in effect as of year-end 2019.

Disclosures pursuant to Section 13(r) of the Securities Exchange Act

Section 13(r) of the Securities Exchange Act requires each issuer registered with the SEC to disclose in its annual or quarterly reports whether it or any of its affiliates have knowingly engaged in specified activities or transactions with persons or entities targeted by U.S. sanctions programmes relating to Iran, terrorism, or the proliferation of weapons of mass destruction, even if those activities are not prohibited by U.S. law and are conducted outside the U.S. by non-U.S. affiliates in compliance with local laws and regulations.

To comply with this requirement, HSBC Holdings plc (together with its affiliates, "HSBC") has requested relevant information from its affiliates globally. The following activities conducted by HSBC are disclosed in response to Section 13(r):

Legacy contractual obligations related to guarantees

Between 1996 and 2007, we provided guarantees to a number of our non-Iranian customers in Europe and the Middle East for various business activities in Iran. In a number of cases, we issued counter indemnities in support of guarantees issued by Iranian banks as the Iranian beneficiaries of the guarantees required that they be backed directly by Iranian banks. The Iranian banks to which we provided counter indemnities included Bank Tejarat, Bank Melli, and the Bank of Industry and Mine.

There was no measurable gross revenue in 2019 under those guarantees and counter indemnities. We do not allocate direct costs to fees and commissions and, therefore, have not disclosed a separate net profit measure. We are seeking to cancel all relevant guarantees and counter indemnities, and we do not currently intend to provide any new guarantees or counter indemnities involving Iran. None were cancelled in 2019 and approximately 16 remain outstanding.

Other relationships with Iranian banks

Activity related to U.S.-sanctioned Iranian banks not covered elsewhere in this disclosure includes the following:

- We act as the trustee and administrator for a pension scheme involving eight employees of a U.S.-sanctioned Iranian bank in Hong Kong. Under the rules of this scheme, we accept contributions from the Iranian bank each month and allocate the funds into the pension accounts of the Iranian bank's employees. We run and operate this pension scheme in accordance with Hong Kong laws and regulations. Estimated gross revenue, which includes fees and/or commissions, generated by this pension scheme during 2019, was approximately $1,736.

For the Iranian bank related-activity discussed above, we do not allocate direct costs to fees and commissions and, therefore, have not disclosed a separate net profit measure.

We have been holding a safe custody box for the Central Bank of Iran. For a number of years, the box has not been accessed by the Central Bank of Iran, and no fees have been charged to the Central Bank of Iran.

We currently intend to continue to wind down the activity discussed in this section, to the extent legally permissible, and not enter into any new such activity.

Activity related to U.S. Executive Order 13224

During 2019, we processed the following transactions relating to Executive Order 13224:

- We processed a local currency payment from a UK customer's account to that customer's account at another financial institution, which had been designated the previous day under Executive Order 13224.
- We closed the accounts of and paid the closing balances to an individual designated under Executive Order 13224 in accordance with local legal requirements in that jurisdiction.
- We set off mortgage debt owed by an individual who, at the time of the set-off, was designated under Executive Order 13224, using funds from the individual's frozen local currency cash accounts. The individual is no longer designated.
- We processed a number of small local currency payments on behalf of UK customers to a UK-registered charity that is designated under Executive Order 13224, but that is not sanctioned by the UK, EU, or the United Nations Security Council. We have identified that we also processed domestic payments from UK customers to this UK-registered charity over the course of 2013-2018.
- We processed a local currency payment that was sent to a UK customer by another financial institution on behalf an individual that is designated under Executive Order 13224, but that is not sanctioned by the UK, EU, or the United Nations Security Council.

There was no measurable gross revenue or net profit generated from these transactions.

Other activity

We have an insurance company customer in the United Arab Emirates that, during 2019, made payments for the reimbursement of medical treatment to a hospital located in the United Arab Emirates and owned by the Government of Iran. We processed these payments to the hospital made by its customer.

We have a customer in the United Arab Emirates that, during 2019, made credit card payments for medical treatment to a hospital located in the United Arab Emirates and owned by the Government of Iran. We processed these payments to the hospital made by its customer.

We maintain certain accounts for customers in the United Arab Emirates that, during 2019, received cheque payments from entities owned by the Government of Iran.

We have a customer that, during 2019, received a domestic payment for the reimbursement of a vehicle inspection that was provided for the benefit of the Iranian Embassy. We processed this payment.

For these activities, there was no measurable gross revenue or net profit to HSBC during 2019.

Frozen accounts and transactions

We maintain several accounts that are frozen as a result of relevant sanctions programmes, and safekeeping boxes and other similar custodial relationships, for which no activity, except as licensed or otherwise authorised, took place during 2019.
There was no measurable gross revenue or net profit to HSBC during 2019 relating to these frozen accounts.

Risk

Our approach to risk

Our risk appetite

We have maintained a consistent risk profile throughout our history. This is central to our business and strategy. We recognise the importance of a strong culture, which refers to our shared attitudes, values and standards that shape behaviours related to risk awareness, risk taking and risk management. All our people are responsible for the management of risk, with the ultimate accountability residing with the Board.

We seek to build our business for the long term by balancing social, environmental and economic considerations in the decisions we make. Our strategic priorities are underpinned by our endeavour to operate in a sustainable way. This helps us to carry out our social responsibility and manage the risk profile of the business. We are committed to managing and mitigating climate-related risks, both physical and transition, and continue to incorporate consideration of these into how we manage and oversee risks internally and with our customers.

The following principles guide the Group's overarching appetite for risk and determine how our businesses and risks are managed.

Financial position

- We aim to maintain a strong capital position, defined by regulatory and internal capital ratios.
- We carry out liquidity and funding management for each operating entity, on a stand-alone basis.

Operating model

- We seek to generate returns in line with a conservative risk appetite and strong risk management capability.
- We aim to deliver sustainable earnings and consistent returns for shareholders.

Business practice

- We have zero tolerance for any of our people knowingly engaging in any business, activity or association where foreseeable reputational risk or damage has not been considered and/or mitigated.
- We have no appetite for deliberately or knowingly causing detriment to consumers, or incurring a breach of the letter or spirit of regulatory requirements.
- We have no appetite for inappropriate market conduct by any member of staff or by any Group business.

Enterprise-wide application

Our risk appetite encapsulates the consideration of financial and non-financial risks. We define financial risk as the risk of a financial loss as a result of business activities. We actively take these types of risks to maximise shareholder value and profits. Non-financial risk is defined as the risk to achieving our strategy or objectives as a result of inadequate or failed internal processes, people and systems, or from external events.

Our risk appetite is expressed in both quantitative and qualitative terms and applied at the global business level, at the regional level and to material operating entities. Every three years, the Global Risk function commissions an external independent firm to review the Group's approach to risk appetite and to help ensure that it remains in line with market best practice and regulatory expectations. The exercise carried out in 2019 confirmed the Group's risk appetite statement ('RAS') remains aligned to best practices, regulatory expectations and strategic goals. The review highlighted strengths across our governance and risk appetite reporting, and noted that our risk appetite continues to evolve and expand its scope as part of our regular review process.

The Board reviews and approves the Group's risk appetite twice a year to make sure it remains fit for purpose. The Group's risk appetite is considered, developed and enhanced through:

- an alignment with our strategy, purpose, values and customer needs;
- trends highlighted in other Group risk reports, such as the 'Risk map' and 'Top and emerging risks';
- communication with risk stewards on the developing risk landscape;
- strength of our capital, liquidity and balance sheet;
- compliance with applicable laws and regulations;
- effectiveness of the applicable control environment to mitigate risk, informed by risk ratings from risk control assessments;
- functionality, capacity and resilience of available systems to manage risk; and
- the level of available staff with the required competencies to manage risks.

We formally articulate our risk appetite through our RAS, which is approved by the Board on the recommendation of the Group Risk Committee ('GRC'). Setting out our risk appetite ensures that planned business activities provide an appropriate balance of return for the risk we are taking, and that we agree a suitable level of risk for our strategy. In this way, risk appetite informs our financial planning process and helps senior management to allocate capital to business activities, services and products.

The RAS consists of qualitative statements and quantitative metrics, covering financial and non-financial risks. It is fundamental to the development of business line strategies, strategic and business planning and senior management balanced scorecards. At a Group level, performance against the RAS is reported to the Risk Management Meeting of the Group Management Board ('RMM') on a monthly basis so that any actual performance that falls outside the approved risk appetite is discussed and appropriate mitigating actions are determined. This reporting allows risks to be promptly identified and mitigated, and informs risk-adjusted remuneration to drive a strong risk culture.

Each global business, region and strategically important country and territory is required to have its own RAS, which is monitored to help ensure it remains aligned with the Group's. Each RAS and business activity is guided and underpinned by qualitative principles and/or quantitative metrics.

Risk management

We recognise that the primary role of risk management is to protect our customers, business, colleagues, shareholders and the communities that we serve, while ensuring we are able to support our strategy and provide sustainable growth. This is supported through our three lines of defence model described on page 97. As we move into a revised business focus and carry out a major change programme, it will be critical for us to ensure we use active risk management to manage the execution risks.

We will also perform periodic risk assessments, including against strategies, to help ensure retention of key personnel for our continued safe operation.

We use a comprehensive risk management framework across the organisation and across all risk types, underpinned by the Group's culture and values. This outlines the key principles, policies and practices that we employ in managing material risks, both financial and non-financial.

The framework fosters continual monitoring, promotes risk awareness and encourages sound operational and strategic decision making. It also ensures a consistent approach to identifying, assessing, managing and reporting the risks we accept and incur in our activities.

Our risk management framework

The following diagram and descriptions summarise key aspects of the risk management framework, including governance and structure, our risk management tools and our culture, which together help align employee behaviour with our risk appetite.

Key components of our risk management framework

HSBC Values and risk culture		
Risk governance	Non-executive risk governance	The Board approves the Group's risk appetite, plans and performance targets. It sets the 'tone from the top' and is advised by the Group Risk Committee (see page 202).
	Executive risk governance	Our executive risk governance structure is responsible for the enterprise-wide management of all risks, including key policies and frameworks for the management of risk within the Group (see pages 97 and 119).
Roles and responsibilities	Three lines of defence model	Our 'three lines of defence' model defines roles and responsibilities for risk management. An independent Global Risk function helps ensure the necessary balance in risk/return decisions (see page 97).
Processes and tools	Risk appetite	The Group has processes in place to identify/assess, monitor, manage and report risks to help ensure we remain within our risk appetite.
	Enterprise-wide risk management tools	
	Active risk management: identification/assessment, monitoring, management and reporting	
Internal controls	Policies and procedures	Policies and procedures define the minimum requirements for the controls required to manage our risks.
	Control activities	Operational risk management defines minimum standards and processes for managing operational risks and internal controls.
	Systems and infrastructure	The Group has systems and/or processes that support the identification, capture and exchange of information to support risk management activities.

Risk governance

The Board has ultimate responsibility for the effective management of risk and approves our risk appetite. In 2019, it was advised on risk-related matters by the GRC and the Financial System Vulnerabilities Committee ('FSVC'). The final meeting of the FSVC was held on 15 January 2020, with responsibility for oversight of financial crime risk transferred to the GRC, which will continue to advise the Board on risk-related matters.

The Group Chief Risk Officer, supported by the RMM, holds executive accountability for the ongoing monitoring, assessment and management of the risk environment and the effectiveness of the risk management framework.

The Group Chief Risk Officer is also responsible for oversight of reputational risk, with the support of the Group Reputational Risk Committee. The Group Reputational Risk Committee considers matters arising from customers, transactions and third parties that either present a serious potential reputational risk to the Group or merit a Group-led decision to ensure a consistent risk management approach across the regions, global businesses and global functions. Our reputational risk policy sets out our risk appetite and the principles for managing reputational risk. Further details can be found under the 'Reputational risk' section of www.hsbc.com/our-approach/risk-and-responsibility.

The management of financial crime risk resides with the Group Chief Compliance Officer. He is supported by the Financial Crime Risk Management Meeting, as described under 'Financial crime risk management' on page 181.

Day-to-day responsibility for risk management is delegated to senior managers with individual accountability for decision making. All our people have a role to play in risk management. These roles are defined using the three lines of defence model, which takes into account our business and functional structures as described in the following commentary, 'Our responsibilities'.

We use a defined executive risk governance structure to help ensure there is appropriate oversight and accountability of risk, which facilitates reporting and escalation to the RMM. This structure is summarised in the following table.

Governance structure for the management of risk

Authority	Membership	Responsibilities include:
Risk Management Meeting of the Group Management Board	Group Chief Risk Officer Chief Legal Officer Group Chief Executive Group Chief Financial Officer All other Group Managing Directors	• Supporting the Group Chief Risk Officer in exercising Board-delegated risk management authority • Overseeing the implementation of risk appetite and the enterprise risk management framework • Forward-looking assessment of the risk environment, analysing possible risk impacts and taking appropriate action • Monitoring all categories of risk and determining appropriate mitigating action • Promoting a supportive Group culture in relation to risk management and conduct
Global Risk Management Board	Group Chief Risk Officer Chief risk officers of HSBC's global businesses and regions Heads of Global Risk sub-functions	• Supporting the Group Chief Risk Officer in providing strategic direction for the Global Risk function, setting priorities and providing oversight • Overseeing a consistent approach to accountability for, and mitigation of, risk across the Global Risk function
Global business/regional risk management meetings	Global business/regional chief risk officer Global business/regional chief executive officer Global business/regional chief financial officer Global business/regional heads of global functions	• Supporting the Chief Risk Officer in exercising Board-delegated risk management authority • Forward-looking assessment of the risk environment, analysing the possible risk impact and taking appropriate action • Implementation of risk appetite and the enterprise risk management framework • Monitoring all categories of risk and determining appropriate mitigating actions • Embedding a supportive culture in relation to risk management and controls

The Board committees with responsibility for oversight of risk-related matters are set out on page 207.

Our responsibilities

All our people are responsible for identifying and managing risk within the scope of their roles as part of the three lines of defence model.

Three lines of defence

To create a robust control environment to manage risks, we use an activity-based three lines of defence model. This model delineates management accountabilities and responsibilities for risk management and the control environment.

The model underpins our approach to risk management by clarifying responsibility and encouraging collaboration, as well as enabling efficient coordination of risk and control activities. The three lines of defence are summarised below:

- The first line of defence owns the risks and is responsible for identifying, recording, reporting and managing them in line with risk appetite, and ensuring that the right controls and assessments are in place to mitigate them.
- The second line of defence challenges the first line of defence on effective risk management, and provides advice and guidance in relation to the risk.
- The third line of defence is our Global Internal Audit function, which provides independent assurance that our risk management approach and processes are designed and operating effectively.

Global Risk function

Our Global Risk function, headed by the Group Chief Risk Officer, is responsible for the Group's risk management framework. This responsibility includes establishing global policy, monitoring risk profiles, and forward-looking risk identification and management. Global Risk is made up of sub-functions covering all risks to our business. Global Risk forms part of the second line of defence. It is independent from the global businesses, including sales and trading functions, to provide challenge, appropriate oversight and balance in risk/return decisions.

Responsibility for minimising both financial and non-financial risk lies with our people. They are required to manage the risks of the business and operational activities for which they are responsible. We maintain adequate oversight of our risks through our various specialist risk stewards and the collective accountability held by our chief risk officers.

Non-financial risk includes some of the most material risks we face, such as cyber-attacks, the loss of data and poor conduct outcomes. Actively managing non-financial risk is crucial to serving our customers effectively and having a positive impact on society. During 2019, we continued to strengthen the control environment and our approach to the management of non-financial risk, as set out in our operational risk management framework. The approach outlines non-financial risk governance and risk appetite, and provides a single view of the non-financial risks that matter the most, and associated controls. It incorporates a risk management system designed to enable the active management of non-financial risk. Our ongoing focus is on simplifying our approach to non-financial risk management, while driving more effective oversight and better end-to-end identification and management of non-financial risks. This is overseen by the Operational Risk function, headed by the Group Head of Operational Risk.

Stress testing and recovery planning

We operate a wide-ranging stress testing programme that is a key part of our risk management and capital planning. Stress testing provides management with key insights into the impact of severely adverse events on the Group, and provides confidence to regulators on the Group's financial stability.

Our stress testing programme assesses our capital strength through a rigorous examination of our resilience to external shocks. As well as undertaking regulatory-driven stress tests, we conduct our own internal stress tests in order to understand the nature and level of all material risks, quantify the impact of such risks and develop plausible business-as-usual mitigating actions.

Many of our regulators – including the Bank of England ('BoE'), the US Federal Reserve Board ('FRB') and the Hong Kong Monetary Authority ('HKMA') – use stress testing as a prudential regulatory tool, and the Group has focused significant governance and resources to meet their requirements.

Regulatory stress test: 2019 Bank of England stress test results

In 2019, the Group participated in the concurrent annual cyclical scenario and the biennial exploratory scenario stress tests, run by the BoE.

The annual cyclical scenario, as published by the BoE, featured a synchronised economic downturn that impacted a number of key regions including Hong Kong. The Group's stress results showed that our capital ratios, after taking account of CRD IV restrictions and strategic management actions, exceeded the BoE's requirements on both an IFRS 9 transitional and non-transitional basis. This outcome reflected our strong capital position, conservative risk appetite and diversified geographical and business mix.

From a common equity tier 1 ('CET1') position of 14.0% at 31 December 2018, the Group stress CET1 ratio reached a low point of 8.9% (after management actions), which was above the hurdle rates of 7.7%. The tier 1 leverage ratio remained above the minimum requirement throughout the stress testing period.

The 2019 biennial exploratory stress scenario is underway and explores the implications of a severe and broad-based liquidity shock affecting major UK banks simultaneously over a 12-month horizon.

Internal stress tests

Our internal capital assessment uses a range of stress scenarios that explore risks identified by management. They include potential adverse macroeconomic, geopolitical and operational risk events, as well as other potential events that are specific to HSBC.

The selection of stress scenarios is based upon the output of our identified top and emerging risks and our risk appetite. Stress testing analysis helps management understand the nature and extent of vulnerabilities to which the Group is exposed. Using this information, management decides whether risks can or should be mitigated through management actions or, if they were to crystallise, be absorbed through capital. This in turn informs decisions about preferred capital levels and allocations.

In addition to the Group-wide stress testing scenarios, each major subsidiary conducts regular macroeconomic and event-driven scenario analyses specific to its region. They also participate, as required, in the regulatory stress testing programmes of the jurisdictions in which they operate, such as the Comprehensive Capital Analysis and Review and Dodd-Frank Act Stress Testing programmes in the US, and the stress tests of the HKMA. Global functions and businesses also perform bespoke stress testing to inform their assessment of risks to potential scenarios.

The Group stress testing programme is overseen by the GRC and results are reported, where appropriate, to the RMM and GRC.

We also conduct reverse stress tests each year at Group level and, where required, at subsidiary entity level to understand potential extreme conditions that would make our business model non-viable. Reverse stress testing identifies potential stresses and vulnerabilities we might face, and helps inform early warning triggers, management actions and contingency plans designed to mitigate risks.

Recovery and resolution plans

Recovery and resolution plans form part of the integral framework safeguarding the Group's financial stability. The Group recovery plan together with stress testing help us understand the likely outcomes of adverse business or economic conditions and in the identification of appropriate risk mitigating actions. The Group is committed to further developing its recovery and resolution capabilities in line with the BoE resolvability assessment framework requirements.

Key developments in 2019

In 2019, it was announced that Marc Moses was stepping down from his role of Group Chief Risk Officer on 31 December 2019. Pam Kaur, who was Head of Wholesale Market and Credit Risk, was appointed as Group Chief Risk Officer with effect from 1 January 2020. Marc assisted with a handover of his executive responsibilities as Group Chief Risk Officer and will continue to provide support in advising the Group Chief Executive in a non-executive capacity until he formally retires from the Group on 9 December 2020.

During the year, we also undertook a number of initiatives to enhance our approach to the management of risk. We continued efforts to simplify and enhance how we manage risk. We simplified the Group risk taxonomy by consolidating certain existing risks into broader categories. These changes streamlined risk reporting and promoted common language in our risk management approach. These changes included:

- We formed a Resilience Risk sub-function to reflect the growing regulatory importance of being able to ensure our operations continue to function when an operational disturbance occurs. Resilience Risk was formed to simplify the way we interact with our stakeholders and to deliver clear, consistent and credible responses globally. The leadership of the Resilience Risk function is the responsibility of the Global Head of Resilience Risk. For further details on resilience risk, see page 179.
- We created a combined Reputational and Sustainability Risk team to further improve the way we manage these risks. For further information on sustainability risk, see 'Our approach to sustainability risk management' on page 40 of our *ESG Update*.
- The approach to capital risk management is evolving with the creation of a dedicated second line of defence function, which will provide independent oversight of capital management activities. This will operate across the Group focusing on both adequacy of capital and sufficiency of returns.
- We have placed greater focus on our model risk activities. To reflect this, we created the role of Chief Model Risk Officer. This has been filled on an interim basis while we seek a permanent role holder.

Further simplification is expected to continue during 2020, including the combining of our two key risk management frameworks.

Risk elements in the loan portfolio

Unless otherwise stated, the disclosure of credit risk elements in this section reflects US accounting practice and classifications. The purpose of the disclosure is to present within the US disclosure framework those elements of the loan portfolios with a greater risk of loss. The three main classifications of credit risk elements presented are:

- impaired loans;
- unimpaired loans contractually more than 90 days past due as to interest or principal; and
- troubled debt restructurings not included in the above.

Interest forgone on impaired and restructured loans

	2019	2018
	$m	$m
Europe	**181**	152
Asia	**103**	90
Middle East and North Africa	**125**	107
North America	**69**	104
Latin America	**37**	27
Year ended 31 Dec	**515**	480

Interest recognised on impaired and restructured loans

	2019	2018
	$m	$m
Europe	**178**	145
Asia	**43**	41
Middle East and North Africa	**38**	29
North America	**57**	85
Latin America	**38**	26
Year ended 31 Dec	**354**	326

Impaired loans

A loan is impaired, and an impairment allowance is recognised, when there is objective evidence of a loss event that has an effect on the cash flows of the loan that can be reliably estimated. In accordance with IFRSs, we recognise interest income on assets after they have been written down as a result of an impairment loss.

The balance of impaired loans at 31 December 2019 was $13.7bn, $0.4bn higher than $13.3bn at 31 December 2018. This increase was largely due to pause in write-offs and changes in credit quality in the UK.

Unimpaired loans more than 90 days past due

Under IFRS 9, the Group determines that a financial instrument is credit impaired and in stage 3 by considering relevant objective evidence, primarily whether:

- contractual payments of either principal or interest are past due for more than 90 days;
- there are other indications that the borrower is unlikely to pay such as that a concession has been granted to the borrower for economic or legal reasons relating to the borrower's financial condition; and
- the loan is otherwise considered to be in default.

If such unlikeliness to pay is not identified at an earlier stage, it is deemed to occur when an exposure is 90 days past due, even where regulatory rules permit default to be defined based on 180 days past due. Therefore, the definitions of credit impaired and default are aligned as far as possible so that stage 3 represents all loans that are considered defaulted or otherwise credit impaired. Interest income is recognised by applying the effective interest rate to the amortised cost amount, (i.e. gross carrying amount less ECL allowance).

As a financial instrument is considered impaired if contractual payments of either principal or interest are past due for more than 90 days, these amounts will be reported under impaired loans with no balance reported under unimpaired loans more than 90 days past due.

Previously under IAS 39, examples of unimpaired loans more than 90 days past due included individually assessed mortgages that are in arrears more than 90 days where there was no other indicators of impairment, but where the value of collateral was sufficient to repay both the principal debt and all potential interest for at least one year; and short-term trade facilities past due more than 90 days for technical reasons such as delays in documentation, but where there was no concern over the creditworthiness of the counterparty.

Troubled debt restructurings

Under US GAAP, a troubled debt restructuring ('TDR') is a loan, the terms of which have been modified for economic or legal reasons related to the borrower's financial difficulties to grant a concession to the borrower that the lender would not otherwise consider. A modification that results in a delay in payment that is considered insignificant is not regarded as a concession for the purposes of this disclosure. The SEC requires separate disclosure of any loans that meet the definition of a TDR that are not included in the previous two loan categories. These are classified as TDRs in the table on page 100. Loans that have been identified as a TDR under the US guidance retain this designation until maturity or derecognition. This treatment differs from the Group's impaired loans disclosure convention under IFRSs under which a loan may return to unimpaired status after demonstrating a significant reduction in the risk of non-payment of future cash flows. As a result, reported TDRs include those loans that have returned to unimpaired status under the Group's disclosure convention for renegotiated loans.

The balance of TDRs not included as impaired loans at 31 December 2019 was $2.4bn, $0.4bn lower than 2018 mainly due to a reduction in Europe and Asia. Under the Group's IFRS 9 methodology financial instruments (except for renegotiated loans) are transferred out of stage 3 when they no longer exhibit any evidence of credit impairment. Wholesale renegotiated loans will continue to be in stage 3 until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows, observed over a minimum one-year period and there are no other indicators of impairment. For loans that are assessed for impairment on a portfolio basis, the evidence typically comprises a history of payment performance against the original or revised terms, as appropriate to the circumstances. For loans that are assessed for impairment on an individual basis, all available evidence is assessed on a case-by-case basis. Retail renegotiated loans are deemed to remain credit impaired until repayment or derecognition.

Potential problem loans

Potential problem loans are loans where information on possible credit problems among borrowers causes management to seriously doubt their ability to comply with the loan repayment terms. The following concentrations of credit risk have a higher risk of containing potential problem loans. Interest bearing financial instruments included in the "substandard" credit quality classification as disclosed on page 136 include financial instruments that would be regarded as potential problem loans. These are debt securities and bills with an external rating of CCC and below, wholesale lending rated CRR 8 and retail lending rated in band 6.

Under IFRS 9, an assessment of whether credit risk has increased significantly since initial recognition is performed at each reporting period by considering the change in the risk of default occurring over the remaining life of the financial instrument. Any financial instrument deemed to have suffered a significant increase in credit risk is transferred from stage 1 to stage 2.

The assessment explicitly or implicitly compares the risk of default occurring at the reporting date compared to that at initial recognition, taking into account reasonable and supportable information, including information about past events, current conditions and future economic conditions. The assessment is unbiased, probability weighted, and to the extent relevant, uses forward-looking information consistent with that used in the measurement of ECL.

The analysis of credit risk is multifactor. The determination of whether a specific factor is relevant and its weight compared with other factors depends on the type of product, the characteristics of the financial instrument and the borrower, and the geographical region. Therefore, it is not possible to provide a single set of criteria that will determine what is considered to be a significant increase in credit risk and these criteria will differ for different types of lending, particularly between retail and wholesale. However, unless identified at an earlier stage, all financial assets are deemed to have suffered a significant increase in credit risk when 30 days past due.

'Renegotiated loans and forbearance' on page 140 includes disclosure about the credit quality of loans whose contractual terms have been changed at some point in the life of the loan because of significant concerns about the borrower's ability to make contractual payments when due. Renegotiated loans are classified as impaired when:

- there has been a change in contractual cash flow as a result of a concession that the lender would otherwise not consider; and
- it is probable that without the concession, the borrower would be unable to meet contractual payment obligations in full.

This presentation applies unless the concession is insignificant and there are no other indicators of impairment. The renegotiated loan will continue to be disclosed as impaired until there is sufficient evidence to demonstrate a significant reduction in the risk of non-repayment of future cash flows, and there are no other indicators of impairment.

Renegotiated loans that are not classified as impaired may have a higher risk of becoming delinquent in the future, and may therefore be potential problem loans. Further information regarding the credit quality classification of renegotiated loans can be found on page 121.

Analysis of risk elements in the loan portfolio by geographical region

The following table sets out the amount of risk elements in loan portfolios included within loans and advances to customers and banks in the consolidated balance sheet, trading loans classified as in default and assets obtained by taking possession of security. The table excludes the amount of risk elements in loan portfolios classified as 'Assets held for sale' in the consolidated balance sheet.

Risk elements in the loan portfolio by geographical region

	2019	2018	2017	2016	2015
	$m	$m	$m	$m	$m
Impaired loans					
Europe	**7,135**	6,434	8,042	8,062	9,265
Asia	**2,284**	2,521	2,249	2,499	2,375
Middle East and North Africa	**2,003**	2,233	1,949	2,230	2,178
North America	**1,696**	1,500	2,606	4,842	8,930
Latin America	**592**	659	624	595	1,030
	13,710	13,347	15,470	18,228	23,778
Unimpaired loans contractually more than 90 days past due as to principal or interest					
Europe	**—**	—	—	—	7
Asia	**—**	—	—	—	2
Middle East and North Africa	**—**	—	24	15	96
North America	**—**	—	—	3	27
Latin America	**—**	—	—	—	—
	—	—	24	18	132
Troubled debt restructurings (not included in the classifications above)					
Europe	**1,665**	1,682	1,890	1,900	1,495
Asia	**68**	98	273	269	284
Middle East and North Africa	**452**	527	459	549	584
North America	**136**	229	174	518	3,698
Latin America	**30**	189	83	130	164
	2,351	2,725	2,879	3,366	6,225
Trading loans classified as in default					
North America	**—**	—	—	—	—
Europe	**—**	—	56	—	—
Middle East and North Africa	**—**	—	—	—	—
North America	**—**	—	—	—	—
Latin America	**—**	—	—	—	—
	—	—	56	—	—
Risk elements on loans					
Europe	**8,800**	8,116	9,988	9,962	10,767
Asia	**2,352**	2,619	2,522	2,768	2,661
Middle East and North Africa	**2,455**	2,760	2,432	2,794	2,858
North America	**1,832**	1,729	2,780	5,363	12,655
Latin America	**622**	848	707	725	1,194
	16,061	16,072	18,429	21,612	30,135
Assets held for sale					
Europe	**18**	16	14	16	23
Asia	**27**	39	51	46	19
Middle East and North Africa	**—**	—	—	1	1
North America	**10**	12	11	57	116
Latin America	**3**	9	18	22	20
	58	76	94	142	179
Total risk elements					
Europe	**8,818**	8,132	10,002	9,978	10,790
Asia	**2,379**	2,658	2,573	2,814	2,680
Middle East and North Africa	**2,455**	2,760	2,432	2,795	2,859
North America	**1,842**	1,741	2,791	5,420	12,771
Latin America	**625**	857	725	747	1,214
At 31 Dec	**16,119**	16,148	18,523	21,754	30,314
	%	%	%	%	%
Allowance for ECL/loan impairment allowances as a percentage of risk elements on loans	**54.5**	53.7	40.6	36.3	31.8

Supplementary information

Gross loans and advances by industry sector over five years

	In accordance with IFRS 9		In accordance with IAS 39		
	2019	2018	2017	2016	2015
	$m	$m	$m	$m	$m
Personal	**434,271**	394,337	376,481	339,798	374,082
– first lien residential mortgages	**322,178**	293,333	278,173	249,778	274,511
– other personal	**112,093**	101,004	98,308	90,020	99,571
Corporate and commercial	**540,499**	534,577	522,248	465,827	499,513
– agriculture, forestry and fishing	**6,696**	6,701	6,302	5,261	6,595
– mining and quarrying	**14,435**	14,172	10,911	15,781	22,236
– manufacturing	**104,380**	105,704	115,531	112,965	117,536
– electricity, gas, steam and air-conditioning supply	**15,040**	16,044	17,397	14,302	16,603
– water supply, sewerage, waste management and remediation	**3,501**	3,523	2,806	2,380	3,311
– construction	**15,287**	15,254	15,443	14,876	18,102
– wholesale and retail trade, repair of motor vehicles and motorcycles	**94,681**	97,665	98,079	82,848	90,719
– transportation and storage	**25,580**	25,541	24,258	23,081	26,399
– accommodation and food	**24,656**	21,547	16,971	12,823	14,135
– publishing, audiovisual and broadcasting	**19,971**	21,172	18,405	19,058	22,043
– real estate	**130,752**	123,233	114,349	96,639	95,768
– professional, scientific and technical activities	**24,122**	22,573	18,094	15,557	17,528
– administrative and support services	**25,714**	25,103	19,960	15,707	14,725
– public administration and defence, compulsory social security	**2,377**	1,463	221	137	167
– education	**1,900**	1,829	1,490	1,033	1,169
– health and care	**4,465**	4,308	5,688	4,971	4,896
– arts, entertainment and recreation	**2,824**	5,041	3,003	2,490	2,545
– other services	**14,276**	13,913	20,354	16,989	16,761
– activities of households	**791**	830	—	—	—
– extra-territorial organisations and bodies activities	**2**	59	—	—	—
– government	**8,313**	8,073	11,728	8,442	7,455
– asset-backed securities	**736**	829	1,258	487	820
Financial	**139,924**	133,587	162,112	151,855	150,833
– non-bank financial institutions	**70,705**	61,407	71,719	63,729	60,414
– banks	**69,219**	72,180	90,393	88,126	90,419
Total gross loans and advances	**1,114,694**	1,062,501	1,060,841	957,480	1,024,428
Impaired loans and advances to customers	**13,710**	13,347	15,470	18,228	23,758
Impairment allowances on loans and advances to customers and banks	**8,748**	8,638	7,484	7,850	9,555
Loans and advances change in ECL/Loan impairment charge	**2,629**	1,896	1,992	3,350	3,592
– new allowances net of allowance releases	**2,990**	2,304	2,636	3,977	4,400
– recoveries	**(361)**	(408)	(644)	(627)	(808)

Loans and advances change in ECL/loan impairment charges by industry sector over five years

	In accordance with IFRS 9		In accordance with IAS 39		
	2019	2018	2017	2016	2015
	$m	$m	$m	$m	$m
Change in ECL/loan impairment charge/(release)					
Personal	**1,221**	1,158	959	1,703	1,834
Corporate and commercial	**1,331**	786	927	1,608	1,769
Financial	**77**	(48)	106	39	(11)
Year ended 31 Dec	**2,629**	1,896	1,992	3,350	3,592

Loans and advances change in ECL/impairment losses as a percentage of average gross loans and advances to customers

	In accordance with IFRS 9		In accordance with IAS 39		
	2019	2018	2017	2016	2015
	%	%	%	%	%
New allowances net of allowance releases	**0.29**	0.23	0.29	0.46	0.48
Recoveries	**(0.04)**	(0.04)	(0.07)	(0.07)	(0.09)
Total charge for ECL/impairment losses	**0.25**	0.19	0.22	0.39	0.39
Amount written off net of recoveries	**0.24**	0.22	0.28	0.32	0.37

Movement in loans and advances allowance for ECL/impairment allowances over five years

	In accordance with IFRS 9		In accordance with IAS 39		
	2019	2018	2017	2016	2015
	$m	$m	$m	$m	$m
Impairment allowances at 1 Jan	**8,638**	7,484	7,850	9,573	12,386
Opening adjustment upon adoption of IFRS 9	**—**	1,882	N/A	N/A	N/A
Amounts written off	**(2,797)**	(2,553)	(3,173)	(3,456)	(4,194)
– personal	**(1,345)**	(1,380)	(1,720)	(1,602)	(2,707)
– corporate and commercial	**(1,447)**	(1,050)	(1,376)	(1,830)	(1,473)
– financial	**(5)**	(123)	(77)	(24)	(14)
Recoveries of amounts written off in previous years	**361**	408	644	627	808
– personal	**314**	290	545	515	681
– corporate and commercial	**46**	108	97	109	124
– financial	**1**	10	2	3	3
Loans and advances change in ECL/loan impairment charge	**2,970**	1,896	1,992	3,350	3,592
Exchange and other movements	**(424)**	(479)	171	(2,244)	(3,019)
Allowance for ECL/Impairment allowances at 31 Dec	**8,748**	8,638	7,484	7,850	9,573
ECL/Impairment allowances[1]					
– stage 1	**1,311**	1,287	N/A	N/A	N/A
– stage 2	**2,286**	2,110	N/A	N/A	N/A
– stage 3	**5,052**	5,047	N/A	N/A	N/A
– POCI	**99**	194	N/A	N/A	N/A
– individually assessed	**N/A**	N/A	4,960	4,932	5,420
– collectively assessed	**N/A**	N/A	2,524	2,918	4,153
Allowance for ECL/Impairment allowances at 31 Dec	**8,748**	8,638	7,484	7,850	9,573

1 *In IAS 39, impairment allowances were categorised as being either individually or collectively assessed whereas IFRS 9 categorises ECL by staging.*

Movement in renegotiated loans and advances to customers

	2019				2018			
	Personal	**Corporate and commercial**	**Financial**	**Total**	Personal	Corporate and commercial	Financial	Total
	$m	**$m**	**$m**	**$m**	$m	$m	$m	$m
Renegotiated loans as at 1 Jan	**2,248**	**6,769**	**71**	**9,088**	2,478	7,096	508	10,082
Loans renegotiated in the year without derecognition	**489**	**1,084**	**7**	**1,580**	512	1,688	31	2,231
Loans renegotiated in the year resulting in recognition of a new loan (POCI in 2019)	**—**	**132**	**—**	**132**	—	69	—	69
Net repayments and other	**(530)**	**(2,038)**	**(15)**	**(2,583)**	(742)	(2,084)	(468)	(3,294)
– Repayments	**(438)**	**(1,345)**	**(16)**	**(1,799)**	(520)	(1,610)	(64)	(2,194)
– Amounts written off	**(108)**	**(441)**	**(2)**	**(551)**	(104)	(182)	(121)	(407)
– Other	**16**	**(252)**	**3**	**(233)**	(118)	(292)	(283)	(693)
Renegotiated loans as at 31 Dec	**2,207**	**5,947**	**63**	**8,217**	2,248	6,769	71	9,088

Country distribution of outstandings and cross-border exposures

We control the risk associated with cross-border lending through a centralised structure of internal country limits. Exposures to individual countries and cross-border exposure in the aggregate are kept under continual review.

The following table summarises the aggregate of our in-country foreign currency and cross-border outstandings by type of borrower to countries that individually represent in excess of 0.75% of our total assets. The classification is based on the country of residence of the borrower but also recognises the transfer of country risk in respect of third-party guarantees, eligible collateral held and residence of the head office when the borrower is a branch. In accordance with the Bank of England Country Exposure Report (Form CE) guidelines, outstandings comprise loans and advances (excluding settlement accounts), amounts receivable under finance leases, acceptances, commercial bills, certificates of deposit, and debt and equity securities (net of short positions), and exclude accrued interest and intra-HSBC exposures.

In-country foreign currency and cross-border amounts outstanding

	Footnotes	Banks $bn	Government and official institutions $bn	Other $bn	Total $bn
At 31 Dec 2019					
US		**4.4**	**73.3**	**36.7**	**114.4**
UK		**25.1**	**9.6**	**45.8**	**80.5**
Mainland China		**23.0**	**8.3**	**38.0**	**69.3**
Japan		**17.9**	**29.7**	**10.5**	**58.1**
Hong Kong		**2.6**	**0.2**	**43.7**	**46.5**
Germany		**15.7**	**7.1**	**7.6**	**30.4**
Canada	1	**8.7**	**9.2**	**8.4**	**26.3**
Singapore	1	**2.9**	**5.4**	**15.0**	**23.3**
France	1	**6.2**	**8.0**	**7.4**	**21.6**
At 31 Dec 2018					
US		4.3	50.5	30.6	85.4
UK		28.0	9.5	39.8	77.3
Mainland China		23.0	6.7	32.2	61.9
Japan		18.6	33.0	7.7	59.3
Hong Kong		5.8	0.3	40.6	46.7
Germany		15.0	9.6	5.5	30.1
Canada		10.2	10.9	8.4	29.5
Singapore	1	4.1	8.9	12.1	25.1
France	1	4.6	5.9	8.8	19.3
At 31 Dec 2017					
US		5.8	29.5	37.6	72.9
UK		21.4	4.8	33.7	59.9
Mainland China		25.5	10.3	30.3	66.1
Japan		16.7	26.5	13.3	56.5
Hong Kong		4.3	0.3	39.3	43.9
Germany		10.8	8.8	10.7	30.3
Canada	1	7.3	6.8	5.8	19.9
Singapore	1	2.9	5.7	11.9	20.5
France		6.9	4.7	14.1	25.7

1 These balances were between 0.75% and 1% of total assets. All other balances were above 1%.

Top and emerging risks

We use a top and emerging risks process to provide a forward-looking view of issues with the potential to threaten the execution of our strategy or operations over the medium to long term.

We proactively assess the internal and external risk environment, as well as review the themes identified across our regions and global businesses, for any risks that may require global escalation, updating our top and emerging risks as necessary.

We define a 'top risk' as a thematic issue that may form and crystallise within one year, and which has the potential to materially affect the Group's financial results, reputation or business model. It may arise across any combination of risk types, regions or global businesses. The impact may be well understood by senior management and some mitigating actions may already be in place. Stress tests of varying granularity may also have been carried out to assess the impact.

An 'emerging risk' is a thematic issue with large unknown components that may form and crystallise beyond a one-year time horizon. If it were to materialise, it could have a material effect on our long-term strategy, profitability and/or reputation. Existing mitigation plans are likely to be minimal, reflecting the uncertain nature of these risks at this stage. Some high-level analysis and/or stress testing may have been carried out to assess the potential impact.

Our current top and emerging risks are as follows.

Externally driven

Economic outlook and capital flows

Global manufacturing was in recession in 2019 as the Chinese economy slowed, trade and geopolitical tensions continued, and key sectors like automotive and information technology suffered from idiosyncratic issues. This had an impact on trade-reliant regions including the European Union ('EU'), while the US benefited from a resilient consumer. Early in 2019, global central banks abandoned their previous intentions to tighten monetary policy gradually in order to underpin economic activity.

These and other factors contributed to an increase in market optimism towards the end of 2019 that global economic activity may be bottoming out.

However, a significant degree of caution is warranted. US-China relations are likely to remain tense as negotiations move to a second phase, covering aspects like intellectual property. Changing global consumption patterns and the introduction of stricter environmental standards may continue to hamper the automotive and other traditional industries. The net impact on trade flows could be negative, and may damage HSBC's traditional lines of business.

The coronavirus outbreak is a new emerging risk. In a baseline scenario, the outbreak should be contained but may lead to a slowdown in China's economic activity during the first quarter of 2020, followed by a rebound in the remainder of the year, helped by an increased policy stimulus in response to the outbreak. However, there is a risk that containment proves more challenging, and the resulting socio-economic disruption is more extensive and prolonged, extending beyond China. Since the beginning of January, the coronavirus outbreak has caused disruption to our staff, suppliers and customers, particularly in mainland China and Hong Kong. Should the coronavirus continue to cause disruption to economic activity in Hong Kong and mainland China through 2020, there could be adverse impacts on income due to lower lending and transaction volumes, and insurance manufacturing revenue, which may impact our RWAs and capital position. We have invoked our business continuity plans to help ensure the safety and well-being of our staff, as well as our capability to support our customers and maintain our business operations.

Elsewhere, there could also be other downside idiosyncratic risks in emerging markets, which could include a disorderly sovereign debt restructuring in Argentina.

It is anticipated that oil prices are likely to remain range-bound in 2020, with occasional spikes in volatility.

The run-up to the US Presidential Election in November may be a key factor in causing market volatility. Persistent social tensions in Hong Kong may disrupt local economy and business sentiment further. In Europe, political uncertainty around the ultimate shape of UK-EU relations may lead to occasional periods of market volatility and economic uncertainty. We believe our businesses are well placed to weather risks, but would nevertheless be affected by severe shocks.

Mitigating actions

- We actively assess the impact of economic developments in key markets on specific customer segments and portfolios and take appropriate mitigating actions. These actions include revising risk appetite and/or limits, as circumstances evolve.
- We use internal stress testing and scenario analysis, as well as regulatory stress test programmes, to evaluate the potential impact of macroeconomic shocks on our businesses and portfolios. Our approach to stress testing is described on page 97.
- We have carried out detailed reviews and stress tests of our wholesale credit, retail credit and trading portfolios to determine those sectors and customers most vulnerable to the UK's exit from the EU, in order to manage and mitigate this risk proactively.
- In Hong Kong we are actively monitoring our credit and trading portfolios. We have also performed internal stress tests and scenario analysis. We continue to support our customers and manage risk and exposures as appropriate.

Geopolitical risk

Our operations and portfolios are exposed to risks associated with political instability, civil unrest and military conflict, which could lead to disruption of our operations, physical risk to our staff and/or physical damage to our assets.

Global tensions over trade, technology and ideology can manifest themselves in divergent regulatory, standards and compliance regimes, presenting long-term strategic challenges for multinational businesses.

In 2019, societies in nearly all the markets in which we operate were affected by a series of common issues, which are likely to continue in 2020. Migration, income inequality, corruption, climate change and terrorism are examples of those issues, which have led to discontent in the markets in which we operate. This discontent is reflected in increased protest activity and challenging traditional political structures. This level of geopolitical risk is expected to remain heightened throughout 2020.

The UK formally left the EU on 31 January 2020 and entered a transition period until 31 December 2020. The top risk is that the UK fails to agree a trade deal with the EU and commits to its pledge to not extend the 11-month transition period. This scenario would likely renew economic and financial uncertainty.

In 2019, Hong Kong experienced heightened levels of domestic social unrest and, if prolonged, there could be broader economic ramifications, affecting several of the Group's portfolios.

In the US, there will be political uncertainty and increased partisanship, as the US Presidential election campaign was preceded by a presidential impeachment trial.

More broadly, intensified US-China competition and occasional confrontation are expected to feature prominently in 2020, despite the 'phase one' trade deal, as negotiations move to phase two, which covers aspects such as intellectual property.

The impact of US-China competition may also be felt in our other markets, particularly in Europe. New regulations from both the US and China will likely increase scrutiny of companies involved in cross-border data transfers and limit the use of foreign technology in private and national infrastructure. Combined, these regulations could drive the bifurcation of US and Chinese technology sectors, standards and supply chain ecosystems, which may limit innovation and drive up production and compliance costs for firms operating in both markets.

In the Middle East, Iran is expected to remain central to regional security in 2020. The risk of escalation remains high, and any mismanaged incidents would have significant regional security and global market repercussions. Continued geopolitical risks have negative implications for economic growth. Central banks in key markets are likely to see little need to raise their policy interest rates above current levels and may even resort to lowering rates to accommodate the risks to growth.

Mitigating actions

- We continually monitor the geopolitical outlook, in particular in countries where we have material exposures and/or a physical presence. We have also established dedicated forums to monitor geopolitical developments.
- We use internal stress tests and scenario analysis as well as regulatory stress test programmes to adjust limits and exposures to reflect our risk appetite and mitigate risks as appropriate. Our internal credit risk ratings of sovereign counterparties take into account geopolitical developments that could potentially disrupt our portfolios and businesses.
- We continue to carry out contingency planning following the UK's exit from the EU and we are assessing the potential impact on our portfolios, operations and staff. This includes the increased possibility of an exit without a comprehensive trade agreement.
- We have taken steps to enhance physical security in those geographical areas deemed to be at high risk from terrorism and military conflicts.
- In Hong Kong, we are actively monitoring our credit portfolio. We have performed internal stress tests and scenario analysis. We continue to support our customers and manage risk and exposures as appropriate.

The credit cycle

Dovish global monetary policies remained accommodative through much of 2019, and share indices hit record highs. The US FRB, European Central Bank ('ECB') and the Bank of Japan ('BoJ') are expected to keep global liquidity abundant in 2020. However, there are signs of stress in parts of the credit market, as shown by the FRB's interventions in the repo market. There has been a surge in borrowing by entities in the lowest investment grade segment, which now makes up 55% of the total universe of rated corporate bonds. Profit margins at US non-financial corporations are falling, as are job openings, both of which could foreshadow a turn in the credit cycle. Corporate credit quality in Europe is also deteriorating, leading to some analysts to predict a credit bear market largely centred on industrial sectors. However, sterling borrowers may suffer less than their euro counterparts, given UK policymakers' somewhat greater room for policy stimulus, and also the UK economy's lesser concentration in manufacturing, as opposed to services.

Chinese authorities are more concerned than in the past about increasing debt, but they are still expected to step up stimulus measures, particularly as a result of the coronavirus outbreak. Chinese economic stimulus could act to limit broader macroeconomic downside risks to a degree. Debt is high in some emerging markets, with specific events like an Argentine debt restructuring possibly having wider implications.

Mitigating actions

- We closely monitor economic developments in key markets and sectors and undertake scenario analysis. This helps enable us to take portfolio actions where necessary, including enhanced monitoring, amending our risk appetite and/or reducing limits and exposures.
- We stress test portfolios of particular concern to identify sensitivity to loss under a range of scenarios, with management actions being taken to rebalance exposures and manage risk appetite where necessary.
- We undertake regular reviews of key portfolios to help ensure that individual customer or portfolio risks are understood and our ability to manage the level of facilities offered through any downturn is appropriate.

Cyber threat and unauthorised access to systems

We and other organisations continue to operate in a challenging cyber threat environment, which requires ongoing investment in business and technical controls to defend against these threats.

Key threats include unauthorised access to online customer accounts, advanced malware attacks and distributed denial of service attacks.

Mitigating actions

- We continually evaluate threat levels for the most prevalent attack types and their potential outcomes. To further protect our business and our customers, we strengthened our controls to reduce the likelihood and impact of advanced malware, data leakage, infiltration of payment systems and denial of service attacks. We continued to enhance our cybersecurity capabilities, including threat detection and access control as well as back-up and recovery. An important part of our defence strategy is ensuring our people remain aware of cybersecurity issues and know how to report incidents.
- Cyber risk is a priority area for the Board. We report and review cyber risk and control effectiveness quarterly at executive and non-executive Board level. We also report it across the global businesses, functions and regions to help ensure appropriate visibility and governance of the risk and mitigating actions.
- We participate globally in several industry bodies and working groups to share information about tactics employed by cyber-crime groups and to collaborate in fighting, detecting and preventing cyber-attacks on financial organisations.

Regulatory developments including conduct, with adverse impact on business model and profitability

Financial service providers continue to face demanding regulatory and supervisory requirements, particularly in the areas of capital and liquidity management, conduct of business, financial crime, internal control frameworks, the use of models, digital, cyber, sustainability and the integrity of financial services delivery. HSBC is particularly affected by regulatory change, given the geographic scope of the Group's operations.

The competitive landscape in which the Group operates may be significantly altered by future regulatory changes and government intervention. Regulatory changes, including any resulting from the UK's exit from the EU, may affect the activities of the Group as a whole, or of some or all of its principal subsidiaries. This could include the loss of passporting rights and free movement of services, depending on the final terms of the future relationship between the UK and the EU. Changes to business models and structures will be necessary to accommodate any such restrictions.

As described in Note 34 on the financial statements, we continue to be subject to a number of material legal proceedings, regulatory actions and investigations, including our January 2018 deferred prosecution agreement with the US Department of Justice ('DoJ') arising from its investigation into HSBC's historical foreign exchange activities (the 'FX DPA').

Mitigating actions

- We continue to enhance our horizon scanning capabilities to identify new developments and regulatory publications. We are investing in – and rolling out – a new system that collects regulatory change information from multiple sources, to drive clear accountability and responsibility for the implementation and oversight of regulatory development.
- Relevant governance forums within the Group oversee change programmes. Significant regulatory programmes are overseen by the Group Change Committee.
- We are fully engaged, wherever appropriate, with governments and regulators in the countries in which we operate, to help ensure that new proposals achieve their policy objectives and can be implemented effectively. We hold regular meetings with all relevant authorities to discuss strategic contingency plans across the range of regulatory priorities.
- We have invested in significant resources and have taken, and will continue to take, a number of steps to improve our compliance systems and controls relating to our activities in global markets. These include enhancements to pricing and disclosure, order management and trade execution; trade, voice and audio surveillance; front office supervision; and improvements to our enforcement and discipline framework for employee misconduct. For further details, see 'Regulatory compliance risk management' on page 180.

Financial crime risk environment

Financial institutions remain under considerable regulatory scrutiny regarding their ability to prevent and detect financial crime. There is an increased regulatory focus on fraud and anti-bribery and corruption controls, with expectations that banks should do more to protect customers from fraud and identify and manage bribery and corruption risks within our businesses. Financial crime threats continue to evolve, often in tandem with geopolitical developments. The highly speculative, volatile and opaque nature of virtual currencies, including the pace of development in this area, create challenges in effectively managing financial crime risks. The evolving regulatory environment continues to present execution challenges. We continue to see increasing challenges presented by national data privacy requirements in a global organisation, which may affect our ability to effectively manage financial crime risks.

In December 2012, among other agreements, HSBC Holdings plc ('HSBC Holdings') agreed to an undertaking with the UK Financial Services Authority, which was replaced by a Direction issued by the UK Financial Conduct Authority ('FCA') in 2013, and consented to a cease-and-desist order with the US Federal Reserve Board ('FRB'), both of which contained certain forward-looking anti-money laundering ('AML') and sanctions-related obligations. HSBC also agreed to retain an independent compliance monitor (who is, for FCA purposes, a 'Skilled Person' under section 166 of the Financial Services and Markets Act and, for FRB purposes, an 'Independent Consultant') to produce periodic assessments of the Group's AML and sanctions compliance programme (the 'Skilled Person/Independent Consultant'). In December 2012, HSBC Holdings also entered into an agreement with the Office of Foreign Assets Control ('OFAC') regarding historical transactions involving parties subject to OFAC sanctions.

Reflective of HSBC's significant progress in strengthening its financial crime risk management capabilities, HSBC's engagement with the current Skilled Person will be terminated and a new Skilled Person with a narrower mandate will be appointed to assess the remaining areas that require further work in order for HSBC to transition fully to business-as-usual financial crime risk management. The Independent Consultant will continue to carry out an annual OFAC compliance review at the FRB's discretion. The role of the Skilled Person/Independent Consultant is discussed on page 181.

Mitigating actions

- We continue to enhance our financial crime risk management capabilities. We are investing in next generation capabilities to fight financial crime through the application of advanced analytics and artificial intelligence.
- We are strengthening and investing in our fraud controls, to introduce next generation anti-fraud capabilities to protect both customers and the Group.
- We continue to embed our improved anti-bribery and corruption policies and controls, focusing on conduct.
- We continue to educate our staff on emerging digital landscapes and associated risks.
- We have developed procedures and controls to help manage the risks associated with direct and indirect exposure to virtual currencies, and we continue to monitor external developments.
- We continue to work with jurisdictions and relevant international bodies to address data privacy challenges through international standards, guidance, and legislation to help enable effective management of financial crime risk.
- We continue to take steps designed to ensure that the reforms we have put in place are both effective and sustainable over the long term.

Ibor transition

Interbank offered rates ('Ibors') are used to set interest rates on hundreds of trillions of US dollars of different types of financial transactions and are used extensively for valuation purposes, risk measurement and performance benchmarking.

Following the announcement by the UK's FCA in July 2017 that it will no longer persuade or require banks to submit rates for the London interbank offered rate ('Libor') after 2021, the national working groups for the affected currencies were tasked with facilitating an orderly transition of the relevant Libors to their chosen replacement rates. The euro national working group is also responsible for facilitating an orderly transition of the Euro Overnight Index Average ('Eonia') to the euro short-term rate ('€STER') as a result of Eonia not being made compliant with the EU Benchmark Regulation.

The process of developing products that reference the replacement rates and transitioning legacy Ibor contracts exposes HSBC to material execution, conduct, contractual and financial risks.

Mitigating actions

- We have a global programme to facilitate an orderly transition from Libor and Eonia for our business and our clients. The execution of this programme is overseen by the Group Chief Risk Officer.
- Our programme is focused on developing alternative rate products that reference the proposed replacement rates and making them available to customers. It is also focused on the supporting processes and systems to developing these products. At the same time, we are developing the capability to transition, through repapering, outstanding Libor and Eonia contracts.
- We have identified a number of execution, conduct, litigation and financial risks and are in the process of addressing these. We continue to analyse these risks and their evolution over the course of the transition.
- We will continue to engage with industry participants and the official sector to support an orderly transition.

Climate-related risks

Climate change can have an impact across HSBC's risk taxonomy through both transition and physical channels. Transition risk can arise from the move to a low-carbon economy, such as through policy, regulatory and technological changes. Physical risk can arise through increasing severity and/or frequency of severe weather or other climatic events, such as rising sea levels and flooding.

These have the potential to cause both idiosyncratic and systemic risks, resulting in potential financial impacts for HSBC. Impacts could materialise through higher risk-weighted assets over the longer term, greater transactional losses and/or increased capital requirements.

The awareness of climate risk, regulatory expectations and reputational risk have all heightened through 2019. The exposure we have to the risk and materialisation of the risk have not materially heightened.

Mitigating actions

- We have an established governance framework to help ensure that risks associated with climate change are escalated to and discussed at the Board, as appropriate, in a timely manner. At each meeting, the Board is presented with a risk profile report, which includes key issues and common themes identified across the enterprise risk reports. In 2019, the Group Chief Risk Officer raised concerns directly by providing verbal or written updates on a regular basis to the Board and Group Management Board.
- We are in the process of incorporating climate-related risk, both physical and transition, into how we manage and oversee risks. We have a Board-approved risk appetite statement that contains a qualitative statement on our approach to climate risk, which we intend to further enhance in 2020.
- We continue to enhance our approach to climate-related risks, and develop and embed how we measure, monitor and manage it. An internal climate risk working group provides oversight by seeking to develop policy and limit frameworks to achieve desired portfolios over time, and protect the Group from climate-related risks that are outside of risk appetite.
- We have assigned responsibility to relevant senior management function holders, in line with the Prudential Regulation Authority ('PRA') and regulatory requirements. Climate risk has been brought under Reputational and Sustainability Risk to promote alignment. Risk stewards are expected to consider physical and transition risks from climate change relevant to their specific risk function.
- We are considering transition risk from three perspectives: understanding our exposure to transition risk; understanding how our clients are managing transition risk; and measuring our client's progress in reducing carbon emissions. We are carrying out sector-specific scenario analysis and continue to source data. For wholesale credit portfolios, we are using questionnaires to assess transition risk across six sectors and 11 countries (for further information, see our TCFD disclosure on page 22). For our retail credit portfolio, we review mortgage exposures on a geographical basis in respect of natural hazard risk and mitigants. For operational risk, we are working with our property insurers to understand geographical exposure of the property portfolio and assess effectiveness of controls for design resilience, operations and business continuity.
- We have public and internal policies for certain sectors that pose sustainability risk to our business. These include policies on energy, agricultural commodities, chemicals, forestry, mining and metals, and UNESCO World Heritage Sites and Ramsar-designated wetlands. We are working with the PRA, FCA and the wider industry through the Climate Financial Risk Forum to help ensure we remain aware of and drive emerging best practice.
- We continue to proactively engage our customers, investors and regulators in compiling and disclosing the data and information needed to manage the risks in transition to a low-carbon economy. This will be a key area of focus during 2020.

Internally driven

IT systems infrastructure and resilience

We are committed to investing in the reliability and resilience of our IT systems and critical services. We do so to protect our customers and ensure they do not receive disruption to services, which could result in reputational and regulatory damage.

Mitigating actions

- We continue to invest in transforming how software solutions are developed, delivered and maintained, with a particular focus on providing high-quality, stable and secure services. We are materially improving system resilience and service continuity testing. We have enhanced the security features of our software development life cycle and improved our testing processes and tools.
- We have upgraded many of our IT systems, simplified our service provision and replaced older IT infrastructure and applications. These enhancements led to continued global improvements in service availability during 2019 for both our customers and employees.

Risks associated with workforce capability, capacity and environmental factors with potential impact on growth

Our success in delivering our strategic priorities and proactively managing the regulatory environment depends on the development and retention of our leadership and high-performing employees. The ability to continue to attract, develop and retain competent individuals in alignment with our strategy in an employment market where expertise is often mobile and in short supply is critical, particularly as our business lines execute their strategic business outlooks. This may be affected by external, internal and environmental factors, such as the UK's exit from the EU, changes to immigration policies and regulations, organisational restructuring and tax reforms in key markets that require active responses.

Mitigating actions

- HSBC University is focused on developing opportunities and tools for current and future skills, personal skills and leaders to create an environment for success.
- We continue to develop succession plans for key management roles, with actions agreed and reviewed on a regular basis by the Group Management Board.
- We actively respond to immigration changes through the global immigration programme. Other political and regulatory challenges are closely monitored to minimise the impact on the attraction and retention of talent and key performers.
- We promote a diverse and inclusive workforce and provide active support across a wide range of health and well-being activities.
- We have robust plans in place, driven by senior management, to mitigate the effect of external factors that may impact our employment practices. We will also be monitoring the impact on people linked to organisational changes announced in 2020.

Risks arising from the receipt of services from third parties

We use third parties for the provision of a range of services, in common with other financial service providers. Risks arising from the use of third-party service providers may be less transparent and therefore more challenging to manage or influence. It is critical that we ensure we have appropriate risk management policies, processes and practices. These should include adequate control over the selection, governance and oversight of third parties, particularly for key processes and controls that could affect operational resilience. Any deficiency in our management of risks arising from the use of third parties could affect our ability to meet strategic, regulatory or customer expectations.

Mitigating actions

- We continued to embed our delivery model in the first line of defence through a dedicated team. We have deployed processes, controls and technology to assess third-party service providers against key criteria and associated control monitoring, testing and assurance.
- A dedicated oversight forum in the second line of defence monitors the embedding of policy requirements and performance against risk appetite.

Enhanced model risk management expectations

Model risk arises whenever business decision making includes reliance on models. We use models in both financial and non-financial contexts and in a range of business applications such as customer selection, product pricing, financial crime transaction monitoring, creditworthiness evaluation and financial reporting.

Mitigating actions

We strengthened the Model Risk Management sub-function, including:

- We created a new Chief Model Risk Officer role, reporting directly to the Group Chief Risk Officer, which was filled on an interim basis.
- We appointed regional heads of Model Risk Management in all of our key geographies, and a Global Head of Model Risk Governance.
- We refined the model risk policy to enable a more risk-based approach to model risk management.
- We conducted a full review and enhancement of model governance arrangements overseeing model risk across the Group, resulting in a range of enhancements to the underlying structure to improve effectiveness and increase business engagement.
- We designed a new target operating model for Model Risk Management, informed by internal and industry best practice.
- We are refreshing the existing model risk controls to enable a better understanding of control objectives and to provide the modelling areas with implementation guidance to enhance effectiveness.

Data management

We use a large number of systems and applications to support key business processes and operations. As a result, we often need to reconcile multiple data sources, including customer data sources, to reduce the risk of error. Along with other organisations, we also need to meet external/regulatory obligations such as the General Data Protection Regulation ('GDPR'), the Basel Committee for Banking Supervision (BCBS 239) principles and Basel III.

Mitigating actions

- We are improving data quality across a large number of systems globally. Our data management, aggregation and oversight continue to strengthen and enhance the effectiveness of internal systems and processes. We are implementing data controls for critical processes in the front office systems to improve our data capture at the point of entry. We achieved a 'largely compliant' rating in support of the Basel Committee for Banking Supervision (BCBS 239) principles and have embedded them across the key markets and regions.
- We are expanding and enhancing our data governance processes to monitor proactively the quality of critical customer, product, reference and transaction data and resolving associated data issues in a timely manner. We have implemented data controls to improve the reliability of data used by our customers and staff.
- We are modernising our data and analytics infrastructure through investments in advanced capabilities in Cloud, visualisation, machine learning and artificial intelligence platforms.
- We have implemented a global data privacy framework that establishes data privacy practices, design principles and guidelines that demonstrate compliance with data privacy laws and regulations in the jurisdictions in which we operate, such as the GDPR in the UK and the EU, and the California Consumer Protection Act in the US state of California.
- We continue to hold annual data symposiums and data privacy awareness training to help our employees keep abreast of data management and data privacy laws and regulations. These highlight our commitment to protect personal data for our customers, employees and stakeholders.

Risk factors

We have identified a suite of risk factors that cover a broad range of risks our businesses are exposed to. These risks have the potential to have a material adverse effect on our business, financial condition, results of operations, prospects, capital position, strategy, reputation and/or customers. They may not necessarily be deemed as top or emerging risks; however, they inform the ongoing assessment of our top and emerging risks that may result in our risk appetite being revised. The risk factors are set out below.

Macroeconomic and geopolitical risk

Current economic and market conditions may adversely affect our results

Our earnings are affected by global and local economic and market conditions.

Uncertain and at times volatile economic conditions can create a challenging operating environment for financial services companies such as HSBC. In particular, we may face the following challenges to our operations and operating model in connection with these factors:

- the demand for borrowing from creditworthy customers may diminish if economic activity slows or remains subdued;
- if interest rates rise, consumers and businesses may struggle with the additional debt burden, which could lead to increased delinquencies and expected credit losses ('ECLs');
- our ability to borrow from other financial institutions or to engage in funding transactions may be adversely affected by market disruption; and
- market developments may depress consumer and business confidence beyond expected levels. If economic growth is subdued, for example, asset prices and payment patterns may be adversely affected, leading to greater than expected increases in delinquencies, default rates and ECLs. However, if growth is too rapid, new asset valuation bubbles could appear, particularly in the real estate sector, with potentially negative consequences for banks.

The occurrence of any of these events or circumstances could have a material adverse effect on our business, financial condition, results of operations, prospects and customers.

The UK's withdrawal from the European Union may adversely affect our operating model and financial results

The modalities of the UK's exit from the European Union on 31 January 2020 and the scheduled end of the transition period on 31 December 2020 will likely have a significant impact on general economic conditions in the United Kingdom and the European Union. The UK's future relationship with the EU and its trading relationships with the rest of the world will likely take a number of years to resolve. This may result in a prolonged period of uncertainty, unstable economic conditions and market volatility, including currency fluctuations.

We also expect the UK's withdrawal to have implications for our London-based cross-border operations. The extent of these implications will depend on the outcome of negotiations. To ensure continuity of service, independent of the outcome of negotiations, HSBC assumes a scenario whereby the UK exits the EU without the existing passporting or regulatory equivalence framework that supports cross-border business. This scenario would impact (i) our legal entities in the UK and the EU, (ii) our product offering, (iii) our clients and (iv) our employees.

We made good progress to ensure we were prepared for the UK leaving the EU (see 'Process of UK withdrawal from the European Union' on page 116. However, there remain execution risks, many of them linked to the uncertain outcome of negotiations and potentially tight timelines to implement significant changes to our UK and European operating models. If these risks materialise, HSBC's clients and employees are likely to be affected. The exact impact on our clients will depend on their individual circumstances and, in a worst case scenario, could include disruption to the provision of products and services.

We are likely to be affected by global geopolitical trends, including the risk of government intervention

While economic globalisation appears to remain deeply embedded in the international system, it is increasingly challenged by nationalism and protectionism and international institutions may be less capable of arresting this trend. A shift in global power from the US and Europe towards China and emerging markets, as well as US-China competition and occasional confrontation also appears to be occurring and may continue.

A rise in nationalism and protectionism, including trade barriers, may be driven by populist sentiment and structural challenges facing developed economies. Similarly, if capital flows are disrupted, some emerging markets may impose protectionist measures that could affect financial institutions and their clients, and other emerging, as well as developed, markets, may be tempted to follow suit. This rise could contribute to weaker global trade, potentially affecting HSBC's traditional lines of business.

The broad geographic footprint and coverage of HSBC will make us and our customers susceptible to protectionist measures taken by national governments and authorities, including imposition of trade tariffs, restrictions on market access, restrictions on the ability to transact on a cross border basis, expropriation, restrictions on international ownership, interest-rate caps, limits on dividend flows and increases in taxation.

There may be uncertainty as to the conflicting nature of such measures, their duration, the potential for escalation, and their potential impact on global economies. Whether these emerging trends are cyclical or permanent is hard to determine, and their causes are likely to be difficult to address. The occurrence of any of these events or circumstances could have a material adverse effect on our business, financial condition, results of operations and prospects.

We are subject to political, social and other risks in the countries in which we operate

We operate through an international network of subsidiaries and affiliates in over 64 countries and territories around the world. Our global operations are subject to potentially unfavourable political, social, environmental and economic developments in such jurisdictions, which may include:

- coups, civil wars or acts of terrorism;
- political and / or social instability;
- climate change and acts of God, such as natural disasters and epidemics; and
- infrastructure issues, such as transportation or power failures.

These risk events may give rise to disruption to our services and result in physical damage to our operations and/or risks to the safety of our personnel and customers. In 2019, we saw heightened levels of geopolitical risk in Hong Kong. Escalation could have broader social, political and economic ramifications, affecting HSBC's portfolios.

Physical risks from natural disasters such as floods and hurricanes, could also impact credit RWAs, while the financial losses caused by these events could impair asset values and the creditworthiness of customers.

Any of the above events could also have a detrimental impact on the Group's customers and any financial losses caused thereby could affect the credit worthiness of those customers. Such developments may result in a material adverse effect on our business, financial condition, results of operations, prospects and strategy.

Impact of coronavirus

Since the beginning of January 2020, the coronavirus outbreak has caused disruption to our customers, suppliers and staff, particularly in mainland China and Hong Kong. It remains unclear how this will evolve through 2020 and we continue to monitor the situation closely.

HSBC has centres in mainland China and across Asia that perform key processes for HSBC's global operations. To date in 2020 we have invoked business continuity plans in these centres and so far we have been able to maintain an acceptable level of service with minimal disruption to our customers.

HSBC's Hong Kong operations commenced offering temporary relief measures in January 2020 to assist both personal and small business customers during this period of disruption. These measures are supported by the Hong Kong Monetary Authority and are being offered throughout Hong Kong by the banking sector. The take up of these forbearance schemes has had an immaterial impact on ECL and RWAs to date.

An immediate financial impact in early 2020 will be higher Expected Credit Losses ('ECL') driven by a change in the economic scenarios used to calculate ECL. The outbreak has led to a weakening in GDP in Hong Kong and mainland China, and the probability of a more adverse economic scenario for the short term is higher than at 31 December 2019. The economic scenarios for Hong Kong and mainland China used to calculate ECL at 31 December 2019, including tail risk scenarios are set out on pages 130 to 131.

Should the coronavirus outbreak continue to cause disruption to economic activity in Hong Kong and mainland China through 2020, there could be adverse impacts on other assets, such as our investment in Bank of Communications Co., Limited, as well as impacts on income due to lower lending and transaction volumes, and insurance manufacturing revenue, which may impact our RWAs and capital position. Further ECLs could arise from other parts of our business impacted by the disruption to global supply chains, and through the impact that coronoavirus is having more broadly on economic growth globally. If any such events materialise, it could have a material adverse effect on our business, financial condition, results of operations and prospects.

We operate in markets that are highly competitive

We compete with other financial institutions in a highly competitive industry that continues to undergo significant change as a result of financial regulatory reform, including Open Banking in the UK, as well as increased public scrutiny stemming from the financial crisis and a continued challenging macro-economic environment.

We target internationally mobile clients who need sophisticated global solutions and generally compete on the basis of the quality of our customer service, the wide variety of products and services that we can offer our customers, and the ability of those products and services to satisfy our customers' needs, the extensive distribution channels available for our customers, our innovation and our reputation. Continued and increased competition in any one or all of these areas may negatively affect our market share and/or cause us to increase our capital investment in our businesses in order to remain competitive. Additionally, our products and services may not be accepted by our targeted clients.

In many markets, there is increased competitive pressure to provide products and services at current or lower prices.

Consequently, our ability to reposition or reprice our products and services from time to time may be limited, and could be influenced significantly by the actions of our competitors who may or may not charge similar fees for their products and services. Any changes in the types of products and services that we offer our customers, and/or the pricing for those products and services, could result in a loss of customers and market share.

Further, new entrants to the market or new technologies could require us to spend more to modify or adapt our products to attract and retain customers. We may not respond effectively to these competitive threats from existing and new competitors, and may be forced to increase our investment in our business to modify or adapt our existing products and services or develop new products and services to respond to our customers' needs.

Any of these factors could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

We are subject to financial and non-financial risks associated with climate change

Climate change brings risks to our business, our customers and wider society. Climate change could impact HSBC through both transition and physical channels:

- Transition, arising from the move to a low-carbon economy, such as through policy, regulatory and technological changes.
- Physical, through increasing severity and/or frequency of severe weather events or other climatic events (e.g. sea level rise, flooding).

We currently expect that the following are the most likely ways in which climate risk may materialise for the Group:

- Transition and physical risk may impact our corporate customers, for example if regulatory, legislative or technological developments impact customers business models resulting in financial difficulty for customers and/or stranded assets;
- Physical risk may impact our mortgage portfolios, impacting the ability of customers to repay their mortgages as well as impacting the value of the underlying property.
- Physical risk may impact the bank's operations, for example if flooding or extreme weather events impacted our critical operations;
- Increasing regulatory expectations across multiple jurisdictions in short timeframes;
- Conduct risks could develop associated with the increasing demand for 'green' products where there are as yet no agreed standards or taxonomies;
- Reputational risks may result from our decisions on how we support our customers in high-emitting sectors.

These events have potential to cause both idiosyncratic and systemic risks, resulting in potential financial impacts for HSBC. These financial impacts could materialise through higher risk-weighted assets over the longer term, greater transactional losses and/or increased capital requirements. These risks are potentially enhanced by the complexity and availability of the data needed to model and measure climate-related risks over the long-term time horizon that such risks are likely to emerge.

Any of such climate-related risks could have a material adverse effect on our business, financial condition, results of operations, prospects and strategy.

Changes in foreign currency exchange rates may affect our results

We prepare our accounts in US dollars because the US dollar and currencies linked to it form the major currency bloc in which we transact and fund our business. However, a substantial portion of our assets, liabilities, assets under management, revenues and expenses are denominated in other currencies. Changes in foreign exchange rates, including those that may result from a currency becoming de-pegged from the US dollar, have an effect on our accounting standards, reported income, cash flows and shareholders' equity. For example, as a result of significant inflation, Argentina has been deemed a hyperinflationary economy effective 1 July 2018 and we are required to apply inflation accounting on a retrospective basis in accordance with IAS 29, as further described in our Financial Statements. Unfavourable changes in foreign exchange rates could have a material adverse effect on our business, financial condition, results of operations and prospects.

Market fluctuations may reduce our income or the value of our portfolios

Our businesses are inherently subject to risks in financial markets and in the wider economy, including changes in, and increased volatility of, interest rates, inflation rates, credit spreads, foreign exchange rates, commodity, equity, bond and property prices, and the risk that our customers act in a manner inconsistent with our business, pricing and hedging assumptions.

Market movements could significantly affect us in a number of key areas. For example, banking and trading activities are subject to interest rate risk, foreign exchange risk, inflation risk and credit spread risk. Changes in interest rate levels, interbank spreads over official rates and yield curves affect the interest rate spread realised between lending and borrowing costs. A declining or low interest rate environment could increase prepayment activity that reduces the weighted average lives of our interest- earning assets and could have a material adverse effect on us. The potential for future volatility and margin changes remains.

Competitive pressures on fixed rates or product terms in existing loans and deposits sometimes restrict our ability to change interest rates applying to customers in response to changes in official and wholesale market rates. Our pension scheme assets include equity and debt securities, the cash flows of which change as equity prices and interest rates vary.

Our insurance businesses are exposed to the risk that market fluctuations may cause mismatches to occur between product liabilities and the investment assets that back them. Market risks can affect our insurance products in a number of ways depending upon the product and associated contract. For example, mismatches between assets and liability yields and maturities give rise to interest rate risk. Some of these risks are borne directly by the customer and some are borne by the insurance businesses, with their excess capital invested in the markets. Some insurance contracts involve guarantees and options that increase in value in adverse investment markets. There is a risk that the insurance businesses could bear some of the cost of such guarantees and options. The performance of the investment markets could thus have a direct effect upon the value embedded in the insurance and investment contracts and our operating results, financial condition and prospects.

It is difficult to predict with any degree of accuracy changes in market conditions, and such changes could have a material adverse effect on our business, financial condition, results of operations and prospects.

Liquidity, or ready access to funds, is essential to our businesses

Our ability to borrow on a secured or unsecured basis, and the cost of doing so, can be affected by increases in interest rates or credit spreads, the availability of credit, regulatory requirements relating to liquidity or the market perceptions of risk relating to the Group or the banking sector, including our perceived or actual creditworthiness.

Current accounts and savings deposits payable on demand or at short notice form a significant part of our funding, and we place considerable importance on maintaining their stability. For deposits, stability depends upon preserving investor confidence in our capital strength and liquidity, and on comparable and transparent pricing. Although deposits have been a stable source of funding historically, this may not continue.

We also access wholesale markets in order to provide funding for entities that do not accept deposits, to align asset and liability maturities and currencies, and to maintain a presence in local markets. In 2019 we issued the equivalent of $25.1 bn of debt securities in the public capital markets in a range of currencies and maturities from a number of Group entities, including $10.97bn of senior securities issued by HSBC Holdings.

An inability to obtain financing in the unsecured long-term or short-term debt capital markets, or to access the secured lending markets, could have a material adverse effect on our liquidity.

Unfavourable macroeconomic developments, market disruptions or regulatory developments may increase our funding costs or challenge our ability to raise funds to support or expand our businesses.

If we are unable to raise funds through deposits and/or in the capital markets, our liquidity position could be adversely affected, and we might be unable to meet deposit withdrawals on demand or at their contractual maturity, to repay borrowings as they mature, to meet our obligations under committed financing facilities and insurance contracts or to fund new loans, investments and businesses. We may need to liquidate unencumbered assets to meet our liabilities. In a time of reduced liquidity, we may be unable to sell some of our assets, or we may need to sell assets at reduced prices, which in either case could materially adversely affect our business, financial condition, results of operations and prospects.

Macro-prudential, regulatory and legal risks to our business model

We are subject to unfavourable legislative or regulatory developments and changes in the policy of regulators or governments and we may fail to comply with all applicable regulations, particularly any changes thereto

Our businesses are subject to ongoing regulation and associated regulatory risks, including the effects of changes in the laws, regulations, policies, voluntary codes of practice and interpretations in the UK, the US, Hong Kong, the EU and the other markets in which we operate. This is particularly the case given the current post-financial crisis regulatory and economic environment, where we expect government and regulatory intervention in the banking sector to remain high for the foreseeable future. Additionally, many of these changes have an effect beyond the country in which they are enacted, as either regulators deliberately enact regulation with extra-territorial impact or our operations mean that the Group is obliged to give effect to 'local' laws and regulations on a wider basis.

In recent years, regulators and governments have focused on reforming both the prudential regulation of the financial services industry and the ways in which the business of financial services is conducted. Measures include enhanced capital, liquidity and funding requirements, the separation or prohibition of certain activities by banks, changes in the operation of capital markets activities, the introduction of tax levies and transaction taxes, changes in compensation practices and more detailed requirements on how business is conducted. The governments and regulators in the UK, the US, Hong Kong, the EU or elsewhere may intervene further in relation to areas of industry risk already identified, or in new areas, which could adversely affect us.

Specific areas where regulatory changes could have a material effect on our business, financial condition, results of operations, prospects, capital position, and reputation include, but are not limited to:

- the structural separation of certain banking and other activities proposed or enacted in a number of jurisdictions;
- requirements flowing from arrangements for the resolution strategy of the Group and its individual operating entities that may have different effects in different countries;
- the abolition of certain Ibor reference rates across the world and the transition to new replacement rates (as discussed further under 'We may not manage risks associated with the replacement of benchmark indices effectively');
- the UK's exit from the EU, and the transposition of existing EU financial services regulation into UK regulation, impacting the way we do business;
- the treatment of 'third countries' under EU law with regard to their access to EU markets (as discussed under 'The UK's withdrawal from the European Union may adversely affect our operating model and financial results');

- the implementation of the amendments to the BRRD and CRD, designed to implement, amongst other things, parts of the Basel III package, including changes to the market risk, counterparty risk, and equity investments in funds RWAs and the leverage ratio;
- the implementation of the remaining reforms to the Basel III package, which include changes to the approaches to credit risk, operational risk, and credit valuation adjustment RWAs and the application of capital floors (as discussed further under the 'Risks to Capital' section on page 166;
- the completion of the outstanding work by the Basel Committee in relation to the Basel III framework, including the treatment of sovereign risk and the long-term regulatory treatment for International Financial Reporting Standard 9, Financial Instruments ('IFRS 9') provisions;
- the financial effects of climate changes being incorporated within the global prudential framework, including the transition risks resulting from a shift to a low carbon economy;
- the implementation of more stringent capital, liquidity and funding requirements following supervisory review, including in relation to the scope of model permissions for measuring risk and as the result of industry wide reviews (e.g. structural foreign exchange risk);
- the corporate governance, business conduct, capital, margin, reporting, clearing, execution and other regulatory requirements to which HSBC Bank USA and certain of our affiliates are or may become subject in their role as a swap dealer, including as imposed by the CFTC and the SEC;
- the increasing focus by regulators, international bodies, organisations and unions on how institutions conduct business, particularly with regard to the delivery of fair outcomes for customers, promoting effective competition in the interests of consumers and ensuring the orderly and transparent operation of global financial markets;
- restrictions on the structure of remuneration and increasing requirements to detail management accountability within the Group (e.g. the requirements of the Senior Managers and Certification Regime in the UK and similar regimes in Hong Kong and elsewhere that are under consideration/implementation);
- the implementation of any conduct measures as a result of regulators' increased focus on institutional culture, employee behaviour and whistleblowing, including measures resulting from ongoing thematic reviews into the workings of the retail, SME and wholesale banking sectors and the provision of financial advice to consumers;
- the focus globally on data (including on data processing and subject rights/transfer of information), financial technology risks, operational resilience, crypto assets and cybersecurity and the introduction of new and/or enhanced standards in this area (as discussed further under 'We remain susceptible to a wide range of cyber risks that impact and/or are facilitated by technology, and our operations are highly dependent on our information technology systems' and 'Our data management policies and processes may not be sufficiently robust');
- changes in national or supra-national requirements regarding the ability to offshore or outsource the provision of services and resources or transfer material risk to financial services companies located in other countries, which impact our ability to implement globally consistent and efficient operating models; and
- the application and enforcement of economic sanctions including those with extra-territorial effect.

We may not manage risks associated with the replacement of benchmark indices effectively

The Financial Stability Board has observed that the decline in interbank short-term unsecured funding poses structural risks for interest rate benchmarks that reference these markets. In response, regulators and central banks in various jurisdictions have convened national working groups to identify replacement rates for these Ibors and, where appropriate, to facilitate an orderly transition to these rates.

Following the announcement by the UK's Financial Conduct Authority in July 2017 that it will no longer persuade or require banks to submit rates for Libor after 2021, the national workinggroups for the affected currencies were tasked with facilitating an orderly transition of the relevant Libors to their chosen replacement rates. The euro working group is also responsible for facilitating an orderly transition of Eonia to €STER as a result of the determination that Eonia cannot be made to comply with the European Benchmark Regulations and can therefore no longer be used beyond 2021. Although national working groups in other jurisdictions have identified replacements for their respective Ibors, there are no current plans for these benchmark rates to be discontinued.

The expected discontinuation of certain key Ibors such as Libor, the adoption of replacement risk-free benchmark rates ('RFRs') by the market, and the development of alternate RFR products by HSBC, introduce a number of risks for HSBC, its clients, and the financial services industry more widely. These include, but are not limited to:

- Legal and execution risks, relating to documentation changes required for new RFR products and for the transition of legacy contracts to RFRs, which transition will, in turn, depend, to a certain extent, on the availability of RFR products and on the participation of customers and third-party market participants in the transition process; legal proceedings or other actions regarding the interpretation and enforceability of provisions in Libor-based contracts and regulatory investigations or reviews in respect of our preparation and readiness for the replacement of Libor with alternative reference rates;
- Financial risks, arising from any changes in the valuation of financial instruments linked to RFRs and the implementation of ISDA's proposed protocol for the transition of derivatives contracts, such as potential earnings volatility resulting from contract modifications, changes in hedge accounting and a large volume of product and associated process changes;
- Pricing risks, as changes to RFRs could impact pricing mechanisms on some instruments;
- Operational risks, due to the need for HSBC, our customers and the market to adapt IT systems, trade reporting infrastructure, operational processes and controls to accommodate one or more RFRs; and
- Conduct risks, through potentially material adverse impacts on customers or financial markets if our customers are not ready and able to adapt their own processes and systems to accommodate the RFR products.

The benchmark specifications together with the timetable and mechanisms for discontinuation of existing Ibors and implementation of RFRs have not yet been agreed across the industry and regulatory authorities. Accordingly, it is not currently possible to determine to what extent any such changes would affect HSBC. However, the discontinuation of existing Ibors and implementation of RFRs could (among other things) result in the Group being required to enhance its capital position and/or position additional capital in specific subsidiaries and this could, in turn, have a material adverse effect on our business, financial condition, results of operations, prospects and customers.

We are subject to the risk of current and future legal, regulatory or administrative actions and investigations, the outcomes of which are inherently difficult to predict

We face significant risks in our business relating to legal, regulatory or administrative actions and investigations. The volume and amount of damages claimed in litigation, regulatory proceedings, administrative actions and other adversarial proceedings against financial institutions are increasing for many reasons, including a substantial increase in the number of regulatory changes taking place globally, increased media attention and higher expectations from regulators and the public. In addition, criminal prosecutions of financial institutions for, among other things, alleged conduct breaches, breaches of AML and sanctions regulations, antitrust violations, market manipulation, aiding and abetting tax evasion, and providing unlicensed cross-border banking services, have become more commonplace and may increase in frequency due to increased media attention and higher expectations from prosecutors and the public.

Any such legal, regulatory or administrative action against HSBC Holdings or one or more of our subsidiaries could result in, among other things, substantial fines, civil penalties, criminal penalties, cease and desist orders, forfeitures, the suspension or revocation of key licences, requirements to exit certain businesses, other disciplinary actions and/or withdrawal of funding from depositors and other stakeholders. Additionally, the Group's financial statements reflect provisioning for legal proceedings and regulatory matters. Provisions for legal proceedings and regulatory matters typically require a higher degree of judgment than other types of provisions, and the actual costs of any disciplinary action discussed above may exceed existing provisioning. Any threatened or actual litigation, regulatory proceeding, administrative action or other adversarial proceeding against HSBC Holdings or one or more of our subsidiaries could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

Additionally, we continue to be subject to a number of material legal proceedings, regulatory actions and investigations, including, for example, our January 2018 deferred prosecution agreement with the US DoJ arising from its investigation into HSBC's historical foreign exchange activities (the 'FX DPA'), and our December 2019 deferred prosecution agreement with the US DoJ arising from its investigation into our Swiss private bank (the 'Swiss Tax DPA'). It is inherently difficult to predict the outcome of many of the legal, regulatory and other adversarial proceedings involving our businesses, particularly those cases in which the matters are brought on behalf of various classes of claimants, seek damages of unspecified or indeterminate amounts or involve novel legal claims. Potential consequences of breaching the FX DPA and/or Swiss Tax DPA could include the imposition of additional terms and conditions on HSBC, an extension of the agreement or the criminal prosecution of HSBC, which could, in turn, entail further financial penalties and collateral consequences. Moreover, we may face additional legal proceedings, investigations or regulatory actions in the future, including in other jurisdictions and/or with respect to matters similar to, or broader than, the existing legal proceedings, investigations or regulatory actions. An unfavourable result in one or more of these proceedings could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

We may fail to meet the requirements of regulatory stress tests

We are subject to regulatory stress testing in many jurisdictions, which are described on page 182. These exercises are designed to assess the resilience of banks to potential adverse economic or financial developments and ensure that they have robust, forward-looking capital planning processes that account for the risks associated with their business profile. Assessment by regulators is on both a quantitative and qualitative basis, the latter focusing on our data provision, stress testing capability and internal management processes and controls.

Failure to meet quantitative or qualitative requirements of regulatory stress test programmes, or the failure by regulators to approve our stress results and capital plans, could result in the Group being required to enhance its capital position and / or position additional capital in specific subsidiaries, and this could, in turn, have a material adverse effect on our business, financial condition, results of operations, prospects, capital position and reputation.

We and our UK subsidiaries may become subject to stabilisation provisions under the Banking Act, in certain significant stress situations

The Banking Act implements the BRRD in the UK and creates a special resolution regime (the 'SRR'). Under the SRR, HM Treasury, the BoE and the PRA and FCA (together, the 'Authorities') are granted substantial powers to resolve and stabilise UK-incorporated institutions with permission to accept deposits pursuant to Part 4A of the FSMA that are failing or are likely to fail to satisfy the threshold conditions (within the meaning of section 55B of the FSMA) where it is in the public interest to do so. The SRR presently consists of five stabilisation options: (i) transfer of all of the business of a relevant entity or the shares of the relevant entity to a private sector purchaser; (ii) transfer of all or part of the business of the relevant entity to a 'bridge bank' wholly owned by the BoE; (iii) transfer of part of the assets, rights or liabilities of the relevant entity to one or more asset management vehicles for management of the transferor's assets, rights or liabilities; (iv) the write-down, conversation, transfer, modification, or suspension of the relevant entity's equity, capital instruments and liabilities; and (v) temporary public ownership of the relevant entity. These tools may also be applied to a parent company or affiliate of a relevant entity where certain conditions are met. In addition, the SRR provides for modified insolvency and administration procedures for relevant entities. It also confers ancillary powers on the Authorities, including the power to modify or override certain contractual arrangements in certain circumstances. The Authorities are also empowered by order to amend the law for the purpose of enabling the powers under the SRR to be used effectively. Such orders may promulgate provisions with retrospective applicability.

In general, the Banking Act requires the Authorities to have regard to specified objectives in exercising the powers provided for by the Banking Act. One of the objectives (which is required to be balanced as appropriate with the other specified objectives) refers to the protection and enhancement of the stability of the financial system of the UK. The Banking Act includes provisions related to compensation in respect of transfer instruments and orders made under it.

However, if we are at or approaching the point where we may be deemed by our regulators to be failing, or likely to fail, such as to require regulatory intervention, any exercise of any resolution regime powers by the Authorities may result in holders of our ordinary shares, or other instruments that may fall within the scope of the 'bail in' powers granted under the Banking Act, being materially adversely affected, including by the cancellation of shares, the write-down or conversion into shares of other instruments, the loss of rights associated with shares or other instruments (including rights to dividends or interest payments), the dilution of their percentage ownership of our share capital, and any corresponding material adverse effect on the market price of our ordinary shares and other instruments.

We are subject to tax-related risks in the countries in which we operate

We are subject to the substance and interpretation of tax laws in all countries in which we operate and are subject to routine review and audit by tax authorities in relation thereto. Our interpretation or application of these tax laws may differ from those of the relevant tax authorities and we provide for potential tax liabilities that may arise on the basis of the amounts expected to be paid to the tax authorities. The amounts ultimately paid may differ materially from the amounts provided depending on the ultimate resolution of such matters. Changes to tax laws and tax rates, and penalties for failing to comply, could have a material adverse effect on our business, financial condition, results of operations, prospects, capital position and reputation.

Risks related to our operations

Our operations are highly dependent on our information technology systems

The reliability and security of our information and technology infrastructure, and our customer databases are crucial to maintaining the service availability of banking applications and processes and to protecting the HSBC brand. The proper functioning of our payment systems, financial control, risk management, credit analysis and reporting, accounting, customer service and other information technology systems, as well as the communication networks between our branches and main data processing centres, are important to our operations.

Critical system failure, any prolonged loss of service availability or any material breach of data security, particularly involving confidential customer data, could cause serious damage to our ability to service our clients, could breach regulations under which we operate and could cause long-term damage to our business and brand that could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

We remain susceptible to a wide range of cyber risks that impact and/or are facilitated by technology

The threat from cyber-attacks remains a concern for our organisation, and failure to protect our operations from internet crime or cyber-attacks may result in financial loss, business disruption and/or loss of customer services and data or other sensitive information that could undermine our reputation and our ability to attract and keep customers. The most prevalent threats are destructive malware (including ransomware), organised cyber-attacks targeting banking systems and customer transactions, distributed denial of service (DDoS) and attacks on our Personal Internet Banking (PIB) platform.

In 2019, we were subjected to a small number of attacks on our PIB platform that were successfully mitigated across the Group with no destructive malware (including ransomware) or payment infrastructure attacks reported. Although cyber-attacks in 2019 had a negligible effect on our customers, services or firm, due to the increasing sophistication of cyber-attacks there is the potential for future attacks to have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

We could incur losses or be required to hold additional capital as a result of model limitations or failure

HSBC uses models for a range of purposes in managing our business, including regulatory capital calculations, stress testing, credit approvals, calculation of ECLs on an IFRS 9 basis, financial crime and fraud risk management and financial reporting. HSBC could face adverse consequences as a result of decisions that may lead to actions by management based on models that are poorly developed, implemented or used, or as a result of the modelled outcome being misunderstood or the use of such information for purposes for which it was not designed or by inherent limitations arising from the uncertainty inherent in predicting or estimating future outcomes. Regulatory scrutiny and supervisory concerns over banks' use of models is considerable, particularly the internal models and assumptions used by banks in the calculation of regulatory capital. If regulatory approval for key capital models is not achieved in a timely manner or if those models are subject to review and challenge, we could be required to hold additional capital. Evolving regulatory requirements have resulted in changes to HSBC's approach to model risk management, which poses execution challenges. The adoption of more sophisticated modelling approaches and technology by both HSBC and the financial services industry could also lead to increased model risk.

Risks arising from the use of models could have a material adverse effect on our business, financial condition, results of operations, prospects, capital position and reputation.

Our operations utilise third-party suppliers and service providers

HSBC relies on third parties to supply goods and services. The use of third-party service providers by financial institutions is of particular focus to global regulators, including with respect to how outsourcing decisions are made and how key relationships are managed. The inadequate management of third-party risk could impact our ability to meet strategic, regulatory and client expectations. This may lead to a range of effects, including regulatory censure, civil penalties or damage both to shareholder value and to our reputation, which could have a material adverse effect on our business, financial condition, results of operations, prospects and strategy.

Our operations have inherent reputational risk

Reputational risk is the risk of failing to meet stakeholder expectations as a result of any event, behaviour, action or inaction, either by HSBC , our employees or those with whom we are associated. Any material lapse in standards of integrity, compliance, customer service or operating efficiency may represent a potential reputational risk. Stakeholder expectations constantly evolve, and so reputational risk is dynamic and varies between geographical regions, groups and individuals.

Modern technologies, in particular online social media channels and other broadcast tools that facilitate communication with large audiences in short time frames and with minimal costs, may significantly enhance and accelerate the distribution and effect of damaging information and allegations. Reputational risk could also arise from negative public opinion about the actual, or perceived, manner in which we conduct our business activities, or our financial performance, as well as actual or perceived practices in banking and the financial services industry generally. Negative public opinion may adversely affect our ability to retain and attract customers, in particular, corporate and retail depositors, and to retain and motivate staff, and could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Risks related to our governance and internal controls

Our data management and data privacy policies and processes may not be sufficiently robust

Critical business processes across the Group rely on large volumes of data from a number of different systems and sources. If data governance (including data retention and deletion, data quality, data privacy and data architecture policies and procedures) is not sufficiently robust, manual intervention, adjustments and reconciliations may be required to reduce the risk of error in reporting to senior management or regulators. Inadequate policies and processes may also affect our ability to use data within the Group to service customers more effectively and/or improve our product offering. Moreover, financial institutions that fail to comply with in-country (local) and global regulatory and compliance requirements may face supervisory measures. In addition, failure to comply with GDPR or similar privacy legislation in the other jurisdictions in which we operate may result in regulatory sanctions. Any of these failures could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

Third parties may use us as a conduit for illegal activities without our knowledge

We are required to comply with applicable AML and sanctions laws and regulations, and have adopted various policies and procedures, including internal control and 'know your customer' procedures, aimed at preventing use of HSBC products and services for the purpose of committing or concealing financial crime. Moreover, in relevant situations, and where permitted by regulation, we may rely upon certain counterparties to maintain and properly apply their own appropriate AML procedures. While permitted by regulation, such reliance may not prevent third parties from using us (and our relevant counterparties) as a conduit for money laundering, without our knowledge (and that of our relevant counterparties). Further, a major focus of US and UK government policy relating to financial institutions in recent years has been combating money laundering and enforcing compliance with US and EU sanctions.

HSBC Bank USA has taken a number of remedial actions as a result of the matters to which the AML DPA related, which are intended to better protect the Group's businesses in respect of these risks. However, there can be no assurance that these will be completely effective.

Becoming a party to, associated with, or even accusations of being associated with, money laundering, or violations of sanctions laws or regulations could damage our reputation and could make us subject to fines, sanctions and/or legal enforcement. Any one of these outcomes could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

HSBC Bank USA, as the primary US dollar correspondent bank for the Group, is subject to heightened financial crime risk arising from business conducted on behalf of its non-US HSBC affiliates. HSBC Bank USA has implemented policies, procedures and controls reasonably designed to comply with financial crime legal and regulatory requirements and mitigate financial crime risk from its affiliates. Nevertheless, in the event that these controls are ineffective, it could lead to a breach of these requirements resulting in a potential enforcement action by OFAC or other US agencies that may include substantial fines or penalties. Any such action against HSBC Bank USA could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

We may suffer losses due to employee misconduct

Our businesses are exposed to risk from potential non-compliance with Group policies, including the HSBC Values, and related behaviours and employee misconduct such as fraud or negligence, all of which could result in regulatory sanctions and/or reputational or financial harm. In recent years, a number of multinational financial institutions have suffered material losses due to the actions of 'rogue traders' or other employees. It is not always possible to deter employee misconduct, and the precautions we take to prevent and detect this activity may not always be effective. Employee misconduct or regulatory sanctions if a regulator deems HSBC's actions to deter such activity to be insufficient, could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

The delivery of our strategic actions is subject to execution risk and we may not achieve any of the expected benefits of our strategic initiatives

Effective management of transformation projects is required to effectively deliver the Group's strategic priorities, involving delivering both on externally driven programmes (e.g. regulatory requirements and Ibor transition), as well as key business initiatives to deliver revenue growth, product enhancement and operational efficiency outcomes. The magnitude, complexity and, at times, concurrent demands of the projects required to meet these can result in heightened execution risk.

The Group's strategy including the 2020 business updates (see pages 12 to 13) is supported by global trends - the continued economic development in Emerging Markets, growth of international trade and capital flows, and wealth creation, particularly in faster-growing markets. We take into consideration global trends along with our strategic advantages to help us better deploy capital. The development and implementation of our strategy requires difficult, subjective and complex judgements, including forecasts of economic conditions in various parts of the world. We may fail to correctly identify the relevant factors in making decisions as to capital deployment and cost reduction.

Our ability to execute our strategy may be limited by our operational capacity and the increasing complexity of the regulatory environment in which we operate. We continue to pursue our cost management initiatives, though they may not be as effective as expected, and we may be unable to meet our cost saving targets.

In addition, factors beyond our control, including but not limited to economic and market conditions, could limit our ability to achieve any of the expected benefits of these initiatives. The global economic outlook is more uncertain, particularly with regard to UK economic risks, social and political unrest in Hong Kong, the coronavirus outbreak, global trade tensions and revised interest rate expectations. There remains a risk that, in the absence of an improvement in economic conditions, our cost and investment actions may not be sufficient to achieve the expected benefits.

The failure to successfully deliver or achieve any of the expected benefits of these key strategic initiatives could have a material adverse effect on our business, financial condition, results of operations, prospects and reputation.

Our risk management measures may not be successful

The management of risk is an integral part of all our activities. Risk constitutes our exposure to uncertainty and the consequent variability of return. Specifically, risk equates to the adverse effect on profitability or financial condition arising from different sources of uncertainty, including retail and wholesale credit risk, market risk, non-traded market risk, operational risk, insurance risk, concentration risk, liquidity and funding risk, litigation risk, reputational risk, strategic risk, pension risk and regulatory risk.

While we employ a broad and diversified set of risk monitoring and mitigation techniques, such methods and the judgements that accompany their application cannot anticipate every unfavourable event or the specifics and timing of every outcome. Failure to manage risks appropriately could have a material adverse effect on our business, financial condition, results of operations, prospects, strategy and reputation.

Risks related to our business

Non-Financial risks are inherent in our business, including the risk of fraudulent activity

We are exposed to many types of non-financial risks that are inherent in banking operations, including fraudulent and other criminal activities (both internal and external), breakdowns in processes or procedures, breaches of regulations or law, financial reporting and tax errors, external events and systems failure or non-availability. These risks are also present when we rely on outside suppliers or vendors to provide services to us and our customers.

In particular, fraudsters may target any of our products, services and delivery channels, including lending, internet banking, payments, bank accounts and cards. This may result in financial loss to the Group and/or our customers, an adverse customer experience, reputational damage and potential litigation, regulatory proceeding, administrative action or other adversarial proceeding in any jurisdiction in which we operate, depending on the circumstances of the event.

These non-financial risks could have a material adverse effect on our business, financial condition, results of operations, prospects, strategy and reputation.

We rely on recruiting, retaining and developing appropriate senior management and skilled personnel

Meeting the demand to recruit, retain and develop appropriate senior management and skilled personnel remains subject to a number of challenges. These include rapidly changing skill requirements and ways of working, the evolving regulatory landscape plus increased requirements and expectations regarding nationalisation and diversity in some jurisdictions. Ongoing talent shortages in key markets and capabilities, particularly where those with the scarce capabilities are globally mobile, add to the complexity of our supply challenge.

Our continued success and implementation of our growth strategy depend in part on the retention of key members of our management team and wider employee base, the availability of skilled management in each of our global businesses and global functions, and the ability to continue to attract, train, motivate and retain highly qualified professionals, each of which may depend on factors beyond our control, including economic, market and regulatory conditions.

If global businesses or global functions fail to staff their operations appropriately or lose one or more of their key senior executives and fail to successfully replace them in a satisfactory and timely manner, or fail to implement successfully the organisational changes required to support the Group's strategy, our business, financial condition, results of operations and prospects, including control and operational risks, could be materially adversely affected.

We have significant exposure to counterparty risk

We are exposed to counterparties that are involved in virtually all major industries, and we routinely execute transactions with counterparties in financial services, including brokers and dealers, central clearing counterparties, commercial banks, investment banks, mutual and hedge funds, and other institutional clients.

Many of these transactions expose us to credit risk in the event of default by our counterparty or client. Our ability to engage in routine transactions to fund our operations and manage our risks could be materially adversely affected by the actions and commercial soundness of other financial services institutions. Financial institutions are necessarily interdependent because of trading, clearing, counterparty or other relationships. As a consequence, a default by, or decline in market confidence in, individual institutions, or anxiety about the financial services industry generally, can lead to further individual and/or systemic difficulties, defaults and losses.

Mandatory central clearing of OTC derivatives, including under Dodd-Frank and the EU's European Market Infrastructure Regulation, poses risks to the Group. As a clearing member, we are required to underwrite losses incurred at a central counterparty by the default of other clearing members and their clients. Increased moves towards central clearing brings with it a further element of interconnectedness between clearing members and clients that we believe may increase rather than reduce our exposure to systemic risk. At the same time, our ability to manage such risk ourselves will be reduced because control has been largely outsourced to central counterparties, and it is unclear at present how, at a time of stress, regulators and resolution authorities will intervene.

Where bilateral counterparty risk has been mitigated by taking collateral, our credit risk may remain high if the collateral we hold cannot be realised or has to be liquidated at prices that are insufficient to recover the full amount of our loan or derivative exposure. There is a risk that collateral cannot be realised, including situations where this arises by change of law that may influence our ability to foreclose on collateral or otherwise enforce contractual rights.

The Group also has credit exposure arising from mitigants, such as credit default swaps, and other credit derivatives, each of which is carried at fair value. The risk of default by counterparties to credit default swaps and other credit derivatives used as mitigants affects the fair value of these instruments depending on the valuation and the perceived credit risk of the underlying instrument against which protection has been purchased. Any such adjustments or fair value changes could have a material adverse effect on our business, financial condition, results of operations and prospects.

Any reduction in the credit rating assigned to HSBC Holdings, any subsidiaries of HSBC Holdings or any of their respective debt securities could increase the cost or decrease the availability of our funding and adversely affect our liquidity position and net interest margin

Credit ratings affect the cost and other terms upon which we are able to obtain market funding. Rating agencies regularly evaluate HSBC Holdings and certain of its subsidiaries, as well as their respective debt securities. Their ratings are based on a number of factors, including their assessment of the relative financial strength of the Group or of the relevant subsidiary, as well as conditions affecting the financial services industry generally. There can be no assurance that the rating agencies will maintain HSBC Holdings' or the relevant subsidiary's current ratings or outlook, particularly given the rating agencies' current review of their bank rating methodologies and the potential impact on HSBC Holdings' or its subsidiaries' ratings.

At the date hereof, HSBC Holdings' long-term debt was rated 'A+' by Fitch, 'A' by Standard and Poor's ('S&P') and 'A2' by Moody's.

The ratings outlook by Fitch was stable and the ratings outlooks by both S&P and Moody's were negative. Any reductions in these ratings and outlook could increase the cost of our funding, limit access to capital markets and require additional collateral to be placed and, consequently, materially adversely affect our interest margins and our liquidity position.

Under the terms of our current collateral obligations under derivative contracts, we could be required to post additional collateral as a result of a downgrade in HSBC Holdings' credit rating.

Risks concerning borrower credit quality are inherent in our businesses

Risks arising from changes in credit quality and the recoverability of loans and amounts due from borrowers and counterparties (e.g. reinsurers and counterparties in derivative transactions) are inherent in a wide range of our businesses. Adverse changes in the credit quality of our borrowers and counterparties arising from a general deterioration in economic conditions or systemic risks in the financial systems could reduce the recoverability and value of our assets, and require an increase in our ECLs.

We estimate and recognise ECLs in our credit exposure. This process, which is critical to our results and financial condition, requires difficult, subjective and complex judgements, including forecasts of how the economic conditions might impair the ability of our borrowers to repay their loans and the ability of other counterparties to meet their obligations. This assessment considers multiple alternative forward-looking economic conditions and incorporates this into the ECL estimates to meet the measurement objective of IFRS 9. As is the case with any such assessments, we may fail to estimate accurately the effect of factors that we identify or fail to identify relevant factors. Further, the information we use to assess the creditworthiness of our counterparties may be inaccurate or incorrect. Any failure by us to accurately estimate the ability of our counterparties to meet their obligations could have a material adverse effect on our business, financial condition, results of operations and prospects.

Our insurance businesses are subject to risks relating to insurance claim rates and changes in insurance customer behaviour

We provide various insurance products for customers with whom we have a banking relationship, including several types of life insurance products. The cost of claims and benefits can be influenced by many factors, including mortality and morbidity rates, lapse and surrender rates and, if the policy has a savings element, the performance of assets to support the liabilities. Adverse developments in any of these factors could materially adversely affect our business, financial condition, results of operations and prospects.

HSBC Holdings is a holding company and, as a result, is dependent on loan payments and dividends from its subsidiaries to meet its obligations, including obligations with respect to its debt securities, and to provide profits for payment of future dividends to shareholders

HSBC Holdings is a non-operating holding company and, as such, its principal source of income is from operating subsidiaries that hold the principal assets of the Group. As a separate legal entity, HSBC Holdings relies on remittance of its subsidiaries' loan interest payments and dividends in order to be able to pay obligations to debt holders as they fall due, and to pay dividends to its shareholders. The ability of HSBC Holdings' subsidiaries and affiliates to pay remittances and dividends to HSBC Holdings could be restricted by changes in regulation, exchange controls and other requirements.

We may be required to make substantial contributions to our pension plans

We operate a number of pension plans throughout the world for our personnel, including defined benefit plans. Pension scheme obligations fluctuate with changes in long-term interest rates, inflation, salary levels and the longevity of scheme members. They can also be affected by operational and legal risks. The level of contributions we make to our pension plans has a direct effect on our cash flow. To the extent plan assets are insufficient to cover existing liabilities, higher levels of contributions may be required. As a result, deficits in those pension plans could have a material adverse effect on our business, financial condition, operations and prospects.

Risk related to our financial statements and accounts

Our financial statements are based in part on judgements, estimates and assumptions that are subject to uncertainty

The preparation of financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts of assets, liabilities, income and expenses. Due to the inherent uncertainty in making estimates, particularly those involving the use of complex models, actual results reported in future periods may be based upon amounts that differ from those estimates. Estimates, judgements, assumptions and models are continually evaluated, and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Revisions to accounting estimates are recognised in the period in which the estimate is revised and in any future periods affected. The accounting policies deemed critical to our results and financial position, based upon materiality and significant judgements and estimates, include impairment of loans and advances, goodwill, valuation of financial instruments, deferred tax assets, provisions and impairment of interests in associates, which are discussed in detail in 'Critical accounting estimates and judgements' on page 47.

The measurement of impairment of loans and advances measured at amortised cost requires the use of complex models, significant assumptions about credit behaviour, and judgement to incorporate relevant information about past events, current conditions and forecasts of economic conditions, and in identifying significant increases in credit risk. The assessment of whether goodwill is impaired, and the measurement of any impairment, involves the application of judgement in determining key assumptions, including discount rates, estimated cash flows, and projecting nominal growth rates beyond initial cash flow projections. The recognition and measurement of deferred tax assets involves significant judgement in estimating future profitability required to absorb tax losses carried forward. The recognition and measurement of provisions involve significant judgements about the point at which a liability is recognised, and the estimation of the amount of any such liability. The valuation of financial instruments measured at fair value can be subjective, in particular where models are used that include unobservable inputs. The assessment of interests in associates for impairment involves significant judgements in determining the value in use, in particular estimating the present values of cash flows expected to arise from continuing to hold the investment, based on a number of management assumptions. At 31 December 2019, we performed an impairment review of our investment in BoCom and concluded it was not impaired based on our value in use calculation. Given the uncertainty and subjectivity associated with the above critical accounting judgements and estimates, future outcomes may differ materially from those assumed using information available at the reporting date. The effect of these changes on the future results of operations and the future financial position of the Group may be material, and could have a material adverse effect on our business, financial condition, results of operations and prospects. For further details, see 'Critical accounting estimates and judgements' on page 47.

Changes in accounting standards may have a material impact on how we report our financial results and financial condition

We prepare our consolidated financial statements in accordance with International Financial Reporting Standards ('IFRSs') as issued by the International Accounting Standards Board ('IASB'), including interpretations ('IFRICS') issued by the IFRS Interpretations Committee, and as endorsed by the EU. From time to time, the IASB or the IFRS Interpretations Committee may issue new accounting standards or interpretations that could materially impact how we use models to calculate, report and disclose our financial results and financial condition as well as affect the calculation of our capital ratios, including the CET1 ratio. We could also be required to apply new or revised standards retrospectively, resulting in our restating prior period financial statements in material amounts.

Areas of special interest

During 2019, a number of areas were identified and considered as part of our top and emerging risks because of the effect they may have on the Group. While considered under the themes captured under top and emerging risks, in this section we have placed a particular focus on the UK withdrawal from the EU, Ibor transition and the risks to our operations and portfolios in Asia-Pacific.

UK withdrawal from the European Union

The UK left the EU on 31 January 2020 and entered a transition period until 31 December 2020, during which negotiations will take place on the future relationship between the UK and the EU. At this stage it remains unclear what that relationship will look like, potentially leaving firms with little time to adapt to changes, which may enter into force on 1 January 2021. Our programme to manage the impact of the UK leaving the EU has now been largely completed. It is based on the assumption of a scenario whereby the UK exits the transition period without the existing passporting or regulatory equivalence framework that supports cross-border business. Our focus has been on four main components: legal entity restructuring; product offering; customer migrations; and employees.

Legal entity restructuring

Our branches in seven European Economic Area ('EEA') countries (Belgium, the Netherlands, Luxembourg, Spain, Italy, Ireland and Czech Republic) relied on passporting out of the UK. We had worked on the assumption that passporting will no longer be possible following the UK's departure from the EU and therefore transferred our branch business to newly established branches of HSBC France, our primary banking entity authorised in the EU. This was completed in the first quarter of 2019.

Product offering

To accommodate for customer migrations and new business after the UK's departure from the EU, we expanded and enhanced our existing product offering in France, the Netherlands and Ireland. We also opened a new branch in Stockholm to service our customers in the Nordic region.

Customer migrations

The UK's departure from the EU is likely to have an impact on our clients' operating models, including their working capital requirements, investment decisions and financial markets infrastructure access. Our priority is to provide continuity of service, and while our intention is to minimise the level of change for our customers, we are required to migrate some EEA-incorporated clients from the UK to HSBC France, or another EEA entity. We have now migrated most clients who we expect can no longer be serviced out of the UK. We are working in close collaboration with any remaining clients to make the transition as smooth as possible.

Employees

The migration of EEA-incorporated clients will require us to strengthen our local teams in the EU, and France in particular.

Given the scale and capabilities of our existing business in France, we are well prepared to take on additional roles and activities. Looking beyond the transfer of roles to the EU, we are also providing support to our employees who are UK citizens resident in EEA countries, and employees who are citizens of an EU member state resident in the UK (e.g. on settlement applications).

At December 2019, HSBC employed approximately 40,000 people in the UK.

Across the programme, we have made good progress in terms of ensuring we are prepared for the UK leaving the EU under the terms described above. However, there remain execution risks, many of them linked to the uncertain outcome of negotiations.

We have carried out detailed reviews of our credit portfolios to determine those sectors and customers most vulnerable to the UK's exit from the EU. For further details, see 'Impact of alternative/additional scenarios' on page 131.

Ibor transition

The Financial Stability Board has observed that the decline in interbank short-term unsecured funding poses structural risks for interest rate benchmarks that reference these markets. In response, regulators and central banks in various jurisdictions have convened national working groups to identify replacement rates (risk-free rates or RFRs) for these Ibors and, where appropriate, to facilitate an orderly transition to these rates.

Following the announcement by the UK's FCA in July 2017 that it will no longer persuade or require banks to submit rates for Libor after 2021, the national working groups for the affected currencies were tasked with facilitating an orderly transition of the relevant Libors to their chosen replacement rates. The euro working group is also responsible for facilitating an orderly transition of the Euro Overnight Index Average ('Eonia') to the euro short-term rate ('€STER') as a result of Eonia not being made compliant with the EU Benchmark Regulation.

Although national working groups in other jurisdictions have identified replacements for their respective Ibors, there is no intention for these benchmark rates to be discontinued.

Given the current lack of alternatives, HSBC has an increasing portfolio of contracts referencing Libor and Eonia with maturities beyond 2021. HSBC established the Ibor transition programme with the objective of facilitating an orderly transition from Libor and Eonia for HSBC and its clients. This global programme oversees the transition effected by each of the global businesses and is led by the Group Chief Risk Officer.

The programme's strategic objectives can be broadly grouped into two streams of work: develop RFR product capabilities; and transition legacy contracts.

Develop RFR product capabilities

Our global businesses are currently developing their capabilities to offer RFR-based products and the supporting processes and systems. We already have several capabilities live – including SOFR bonds and Sonia bonds, SOFR futures and Sonia swaps – and we are planning further launches in 2020, with the initial focus being on the UK, the US, Hong Kong and France.

The sale of Libor and Eonia contracts with maturities beyond 2021 is likely to continue until RFR-based products become widely available and accepted by customers.

Transition legacy contracts

In addition to enabling the offering of new RFR-based products, the new RFR product capabilities will also help enable the transition of outstanding Libor and Eonia products onto the RFR equivalents. To help enable the repapering of a significant number of Libor and Eonia contracts, the programme is also developing the capability to transition outstanding Libor and Eonia contracts at scale. Critical to the successful transition of Libor-linked contracts is the active engagement of other market participants and HSBC's clients.

Although we have notional amounts of around $5tn of Libor and Eonia derivative contracts outstanding that mature beyond 2021, we expect that ISDA's efforts in guiding the transition of derivative contracts to reduce the risk of a non-orderly transition of the derivative market with an estimated notional size in excess of $200tn. The process of implementing ISDA's proposed protocol and transitioning outstanding contracts is nonetheless a material undertaking for the industry as a whole and may expose HSBC to the risk of financial losses.

The Group intends to engage actively in the process to achieve an orderly transition of HSBC's Libor and Eonia bond issuance, HSBC's holdings of Libor and Eonia bonds, and of those bonds where HSBC is the payment agent. We continue to formulate detailed plans to enable us to transition these exposures, although the execution of these transition plans will, to a certain extent, also depend on the participation and engagement of third-party market participants in the transition process.

Although we have plans to transition approximately $100bn drawn amounts of post-2021 contractually Ibor-referenced commercial loans onto replacement rates, our ability to transition this portfolio by the end of 2021 is materially dependent on the availability of products that reference the replacement rates and on our customers being ready and able to adapt their own processes and systems to accommodate the replacement products. This gives rise to an elevated level of conduct-related risk. HSBC is engaging with impacted clients to help ensure that customers are aware of the risks associated with the ongoing purchase of Libor- and Eonia-referencing contracts as well as the need to transition legacy contracts prior to the end of 2021.

In addition to the conduct and execution risk previously highlighted, the process of adopting new reference rates may expose the Group to an increased level of operational and financial risks, such as potential earnings volatility resulting from contract modifications and a large volume of product and associated process changes. Furthermore, the transition to alternative reference rates could have a range of adverse impacts on our business, including legal proceedings or other actions regarding the interpretation and enforceability of provisions in Ibor-based contracts and regulatory investigations or reviews in respect of our preparation and readiness for the replacement of Ibor with alternative reference rates. We continue to engage with industry participants, the official sector and our clients to support an orderly transition and the mitigation of the risks resulting from the transition. The FCA's and PRA's recent letter to senior managers of institutions, including HSBC, that fall within their remit, should increase the level and depth of engagement as well as accelerating transition in the sterling Libor markets.

Risks to our operations and portfolios in Asia-Pacific

In 2019, the Chinese economy grew at the slowest pace in nearly three decades in the context of rising domestic leverage. The authorities are expected to enact modest stimulus measures to boost growth. Along with the 'phase one' US-China trade deal and plentiful global liquidity, these measures should help emerging-market growth to make a partial recovery. Nevertheless, downside idiosyncratic risks will abound.

Intensified US-China competition and occasional confrontation continued to feature prominently in 2019. The two countries now compete across multiple dimensions: economic power; diplomatic influence; innovation and advanced technology leadership; and military dominance in Asia. In 2019, we saw heightened levels of risk in Hong Kong.

The downside risk is further increased given the coronavirus outbreak, which could further impact the local economy and dampen investor and business sentiment in many sectors where the Group has a material presence. The increasing headwinds will be challenging and we will continue to monitor our portfolios to thoughtfully manage our risk exposures. We have reviewed and enhanced our business continuity plans to help ensure minimal disruption to our clients and continued safe operation of our branches and employees. The new coronavirus outbreak is being actively monitored. It will have an immediate impact on the economic scenarios used for ECL, as key inputs for calculating ECL such as GDP for Hong Kong and mainland China are weakening, and the probability of a particularly adverse economic scenario for the short term is higher. The economic scenarios for Hong Kong used for ECL at 31 December 2019 are set out on pages 131 to 133. In addition, should the virus continue to cause disruption to economic activity in Hong Kong and mainland China through 2020, there could be adverse impacts on income due to lower lending and transaction volumes, and insurance manufacturing revenue. Further expected credit losses could arise from other parts of our business impacted by the disruption to supply chains. In Hong Kong, we have initiated a number of measures to support customers during the coronavirus outbreak. The uptake of these measures to date was immaterial.

We have invoked our business continuity plans to help ensure the safety and well-being of our staff while enhancing our ability to support our customers and maintain our business operations.

We regularly conduct stress tests to assess the resilience of our balance sheet and our capital adequacy. We conduct this across the Group and in key sites such as Hong Kong. The stress tests are used to consider our risk appetite and to provide insights into our financial stability. In the case of Hong Kong, our balance sheet and capital adequacy remain resilient based on regulatory and internal stress test outcomes.

Our central scenario for Hong Kong, used as a key input for calculating expected credit losses in Hong Kong, has kept pace with expectations of economic growth. The economy entered a technical recession in the second half of 2019 and is expected to record negative annual GDP growth for the first time since 2009. This is a result of both tensions over trade and tariffs between the US and China and domestic social unrest. The economy is expected to gradually recover in 2020. We have also developed a number of additional scenarios to capture more extreme downside risks, and have used these in impairment testing and measuring and to assess our capital resilience. While our economic scenarios used to calculate credit loss capture a range of outcomes, the potential economic impact of the coronavirus was not explicitly considered at the year end due to the limited information and emergent nature of the outbreak in December 2019.

For further details of all scenarios used in impairment measurements, see 'Measurement uncertainty and sensitivity analysis of ECL estimates' on page 128.

Our material banking risks

The material risk types associated with our banking and insurance manufacturing operations are described in the following tables:

Description of risks – banking operations

Risks	Arising from	Measurement, monitoring and management of risk
Credit risk (see page 120)		
Credit risk is the risk of financial loss if a customer or counterparty fails to meet an obligation under a contract.	Credit risk arises principally from direct lending, trade finance and leasing business, but also from other products such as guarantees and derivatives.	Credit risk is: • measured as the amount that could be lost if a customer or counterparty fails to make repayments; • monitored using various internal risk management measures and within limits approved by individuals within a framework of delegated authorities; and • managed through a robust risk control framework, which outlines clear and consistent policies, principles and guidance for risk managers.
Capital and liquidity risk (see page 166)		
Capital and liquidity risk is the risk of having insufficient capital, liquidity or funding resources to meet financial obligations and satisfy regulatory requirements, including pension risk.	Capital and liquidity risk arises from changes to the respective resources and risk profiles driven by customer behaviour, management decisions or the external environment.	Capital and liquidity risk is: • measured through appetites set as target and minimum ratios; • monitored and projected against appetites and by using stress and scenario testing; and • managed through control of capital and liquidity resources in conjunction with risk profiles and cash flows.
Market risk (see page 171)		
Market risk is the risk that movements in market factors, such as foreign exchange rates, interest rates, credit spreads, equity prices and commodity prices, will reduce our income or the value of our portfolios.	Exposure to market risk is separated into two portfolios: trading portfolios and non-trading portfolios. Market risk exposures arising from our insurance operations are discussed on page 185.	Market risk is: • measured using sensitivities, value at risk and stress testing, giving a detailed picture of potential gains and losses for a range of market movements and scenarios, as well as tail risks over specified time horizons; • monitored using value at risk, stress testing and other measures, including the sensitivity of net interest income and the sensitivity of structural foreign exchange; and • managed using risk limits approved by the RMM and the risk management meeting in various global businesses.
Resilience risk (see page 179)		
Resilience risk is the risk that we are unable to provide critical services to our customers, affiliates and counterparties as a result of sustained and significant operational disruption.	Resilience risk arises from failures or inadequacies in processes, people, systems or external events.	Resilience risk is: • measured using a range of metrics with defined maximum acceptable impact tolerances, and against our agreed risk appetite; • monitored through oversight of enterprise processes, risks, controls and strategic change programmes; and • managed by continual monitoring and thematic reviews.
Regulatory compliance risk (see page 180)		
Regulatory compliance risk is the risk that we fail to observe the letter and spirit of all relevant laws, codes, rules, regulations and standards of good market practice, which as a consequence incur fines and penalties and suffer damage to our business.	Regulatory compliance risk arises from the risks associated with breaching our duty to our customers and other counterparties, inappropriate market conduct and breaching other regulatory requirements.	Regulatory compliance risk is: • measured by reference to identified metrics, incident assessments, regulatory feedback and the judgement and assessment of our regulatory compliance teams; • monitored against the first line of defence risk and control assessments, the results of the monitoring and control assurance activities of the second line of defence functions, and the results of internal and external audits and regulatory inspections; and • managed by establishing and communicating appropriate policies and procedures, training employees in them and monitoring activity to help ensure their observance. Proactive risk control and/or remediation work is undertaken where required.
Financial crime and fraud risk (see page 181)		
Financial crime and fraud risk is the risk that we knowingly or unknowingly help parties to commit or to further potentially illegal activity, including both internal and external fraud.	Financial crime and fraud risk arises from day-to-day banking operations.	Financial crime and fraud risk is: • measured by reference to identified metrics, incident assessments, regulatory feedback and the judgement and assessment of our financial crime risk teams; • monitored against our financial crime risk appetite statements and metrics, the results of the monitoring and control activities of the second line of defence functions, and the results of internal and external audits and regulatory inspections; and • managed by establishing and communicating appropriate policies and procedures, training employees in them and monitoring activity to help ensure their observance. Proactive risk control and/or remediation work is undertaken where required.
Model risk (see page 182)		
Model risk is the potential for adverse consequences from business decisions informed by models, which can be exacerbated by errors in methodology, design or the way they are used.	Model risk arises in both financial and non-financial contexts whenever business decision making includes reliance on models.	Model risk is: • measured by reference to model performance tracking and the output of detailed technical reviews, with key metrics including model review statuses and findings; • monitored against model risk appetite statements, insight from the independent review function, feedback from internal and external audits, and regulatory reviews; and • managed by creating and communicating appropriate policies, procedures and guidance, training colleagues in their application, and supervising their adoption to ensure operational effectiveness.

Our insurance manufacturing subsidiaries are regulated separately from our banking operations. Risks in our insurance entities are managed using methodologies and processes that are subject to Group oversight. Our insurance operations are also subject to some of the same risks as our banking operations, which are covered by the Group's risk management processes.

Description of risks – insurance manufacturing operations

Risks	Arising from	Measurement, monitoring and management of risk
Financial risk (see page 185) Our ability to effectively match liabilities arising under insurance contracts with the asset portfolios that back them is contingent on the management of financial risks and the extent to which these are borne by policyholders.	Exposure to financial risk arises from: • market risk affecting the fair values of financial assets or their future cash flows; • credit risk; and • liquidity risk of entities being unable to make payments to policyholders as they fall due.	Financial risk is: • measured (i) for credit risk, in terms of economic capital and the amount that could be lost if a counterparty fails to make repayments; (ii) for market risk, in terms of economic capital, internal metrics and fluctuations in key financial variables; and (iii) for liquidity risk, in terms of internal metrics including stressed operational cash flow projections; • monitored through a framework of approved limits and delegated authorities; and • managed through a robust risk control framework, which outlines clear and consistent policies, principles and guidance. This includes using product design, asset liability matching and bonus rates.
Insurance risk (see page 187) Insurance risk is the risk that, over time, the cost of insurance policies written, including claims and benefits, may exceed the total amount of premiums and investment income received.	The cost of claims and benefits can be influenced by many factors, including mortality and morbidity experience, as well as lapse and surrender rates.	Insurance risk is: • measured in terms of life insurance liabilities and economic capital allocated to insurance underwriting risk; • monitored through a framework of approved limits and delegated authorities; and • managed through a robust risk control framework, which outlines clear and consistent policies, principles and guidance. This includes using product design, underwriting, reinsurance and claims-handling procedures.

Credit risk

Overview

Credit risk is the risk of financial loss if a customer or counterparty fails to meet an obligation under a contract. Credit risk arises principally from direct lending, trade finance and leasing business, but also from other products such as guarantees and credit derivatives.

Credit risk management

Key developments in 2019

There were no material changes to the policies and practices for the management of credit risk in 2019. We continued to apply the requirements of IFRS 9 'Financial Instruments' within Credit Risk.

Governance and structure

We have established Group-wide credit risk management and related IFRS 9 processes. We continue to assess actively the impact of economic developments in key markets on specific customers, customer segments or portfolios. As credit conditions change, we take mitigating action, including the revision of risk appetites or limits and tenors, as appropriate. In addition, we continue to evaluate the terms under which we provide credit facilities within the context of individual customer requirements, the quality of the relationship, local regulatory requirements, market practices and our local market position.

Credit risk sub-function

(Audited)

Credit approval authorities are delegated by the Board to the Group Chief Executive together with the authority to sub-delegate them. The Credit Risk sub-function in Global Risk is responsible for the key policies and processes for managing credit risk, which include formulating Group credit policies and risk rating frameworks, guiding the Group's appetite for credit risk exposures, undertaking independent reviews and objective assessment of credit risk, and monitoring performance and management of portfolios.

The principal objectives of our credit risk management are:

- to maintain across HSBC a strong culture of responsible lending, and robust risk policies and control frameworks;
- to both partner and challenge our businesses in defining, implementing and continually re-evaluating our risk appetite under actual and scenario conditions; and
- to ensure there is independent, expert scrutiny of credit risks, their costs and their mitigation.

Key risk management processes

IFRS 9 'Financial Instruments' process

The IFRS 9 process comprises three main areas: modelling and data; implementation; and governance.

Modelling and data

We have established IFRS 9 modelling and data processes in various geographies, which are subject to internal model risk governance including independent review of significant model developments.

Implementation

A centralised impairment engine performs the expected credit loss ('ECL') calculation using data, which is subject to a number of validation checks and enhancements, from a variety of client, finance and risk systems. Where possible, these checks and processes are performed in a globally consistent and centralised manner.

Governance

Regional management review forums are established in key sites and regions in order to review and approve the impairment results. Regional management review forums have representatives from Credit Risk and Finance. The key site and regional approvals are reported up to the global business impairment committee for final approval of the Group's ECL for the period. Required members of the committee are the global heads of Wholesale Credit, Market Risk, and Retail Banking and Wealth Management Risk, as well as the global business chief financial officers and the Group Chief Accounting Officer.

Concentration of exposure

(Audited)

Concentrations of credit risk arise when a number of counterparties or exposures have comparable economic characteristics, or such counterparties are engaged in similar activities or operate in the same geographical areas or industry sectors so that their collective ability to meet contractual obligations is uniformly affected by changes in economic, political or other conditions. We use a number of controls and measures to minimise undue concentration of exposure in our portfolios across industries, countries and global businesses. These include portfolio and counterparty limits, approval and review controls, and stress testing.

Credit quality of financial instruments

(Audited)

Our risk rating system facilitates the internal ratings-based approach under the Basel framework adopted by the Group to support the calculation of our minimum credit regulatory capital requirement. The five credit quality classifications each encompass a range of granular internal credit rating grades assigned to wholesale and retail lending businesses, and the external ratings attributed by external agencies to debt securities.

For debt securities and certain other financial instruments, external ratings have been aligned to the five quality classifications based upon the mapping of related customer risk rating ('CRR') to external credit rating.

Wholesale lending

The CRR 10-grade scale summarises a more granular underlying 23-grade scale of obligor probability of default ('PD'). All corporate customers are rated using the 10- or 23-grade scale, depending on the degree of sophistication of the Basel approach adopted for the exposure.

Each CRR band is associated with an external rating grade by reference to long-run default rates for that grade, represented by the average of issuer-weighted historical default rates. This mapping between internal and external ratings is indicative and may vary over time.

Retail lending

Retail lending credit quality is based on a 12-month point-in-time probability-weighted PD.

Credit quality classification

		Sovereign debt securities and bills	Other debt securities and bills	Wholesale lending and derivatives		Retail lending	
	Footnotes	External credit rating	External credit rating	Internal credit rating	12-month Basel probability of default %	Internal credit rating	12 month probability-weighted PD %
Quality classification	1, 2						
Strong		BBB and above	A- and above	CRR 1 to CRR 2	0 – 0.169	Band 1 and 2	0.000 – 0.500
Good		BBB- to BB	BBB+ to BBB-	CRR 3	0.170 – 0.740	Band 3	0.501 – 1.500
Satisfactory		BB- to B and unrated	BB+ to B and unrated	CRR 4 to CRR 5	0.741 – 4.914	Band 4 and 5	1.501 – 20.000
Sub-standard		B- to C	B- to C	CRR 6 to CRR 8	4.915 – 99.999	Band 6	20.001 – 99.999
Credit impaired		Default	Default	CRR 9 to CRR 10	100	Band 7	100

1 *Customer risk rating ('CRR').*
2 *12-month point-in-time probability-weighted probability of default ('PD').*

Quality classification definitions

- 'Strong' exposures demonstrate a strong capacity to meet financial commitments, with negligible or low probability of default and/or low levels of expected loss.
- 'Good' exposures require closer monitoring and demonstrate a good capacity to meet financial commitments, with low default risk.
- 'Satisfactory' exposures require closer monitoring and demonstrate an average-to-fair capacity to meet financial commitments, with moderate default risk.
- 'Sub-standard' exposures require varying degrees of special attention and default risk is of greater concern.
- 'Credit-impaired' exposures have been assessed as described on Note 1.2(i) on the financial statements.

Renegotiated loans and forbearance

(Audited)

'Forbearance' describes concessions made on the contractual terms of a loan in response to an obligor's financial difficulties.

A loan is classed as 'renegotiated' when we modify the contractual payment terms on concessionary terms because we have significant concerns about the borrowers' ability to meet contractual payments when due. Non-payment-related concessions (e.g. covenant waivers), while potential indicators of impairment, do not trigger identification as renegotiated loans.

Loans that have been identified as renegotiated retain this designation until maturity or derecognition.

For details of our policy on derecognised renegotiated loans, see Note 1.2(i) on the financial statements.

Credit quality of renegotiated loans

On execution of a renegotiation, the loan will also be classified as credit impaired if it is not already so classified. In wholesale lending, all facilities with a customer, including loans that have not been modified, are considered credit impaired following the identification of a renegotiated loan.

Wholesale renegotiated loans are classified as credit impaired until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows, observed over a minimum one-year period, and there are no other indicators of impairment. Personal renegotiated loans generally remain credit impaired until repayment, write-off or derecognition.

Renegotiated loans and recognition of expected credit losses

(Audited)

For retail lending, unsecured renegotiated loans are generally segmented from other parts of the loan portfolio. Renegotiated expected credit loss assessments reflect the higher rates of losses typically encountered with renegotiated loans. For wholesale lending, renegotiated loans are typically assessed individually. Credit risk ratings are intrinsic to the impairment assessments. The individual impairment assessment takes into account the higher risk of the future non-payment inherent in renegotiated loans.

Impairment assessment

(Audited)

For details of our impairment policies on loans and advances and financial investments, see Note 1.2(i) on the financial statements.

Write-off of loans and advances

(Audited)

For details of our policy on the write-off of loans and advances, see Note 1.2(i) on the financial statements.

Unsecured personal facilities, including credit cards, are generally written off at between 150 and 210 days past due. The standard period runs until the end of the month in which the account becomes 180 days contractually delinquent. Write-off periods may be extended, generally to no more than 360 days past due. However, in exceptional circumstances, they may be extended further.

For secured facilities, write-off should occur upon repossession of collateral, receipt of proceeds via settlement, or determination that recovery of the collateral will not be pursued.

Any secured assets maintained on the balance sheet beyond 60 months of consecutive delinquency-driven default require additional monitoring and review to assess the prospect of recovery.

There are exceptions in a few countries and territories where local regulation or legislation constrains earlier write-off, or where the realisation of collateral for secured real estate lending takes more time. In the event of bankruptcy or analogous proceedings, write-off may occur earlier than the maximum periods stated above. Collection procedures may continue after write-off.

Credit risk in 2019

Gross loans and advances to customers of $1,045bn at 31 December 2019 increased from $990bn at 31 December 2018. This increase included favourable foreign exchange movements of $13bn. Loans and advances to banks of $69bn at 31 December 2019 decreased from $72bn at 31 December 2018. This included adverse foreign exchange movements of $0.1bn. Wholesale and personal lending movements are disclosed on pages 140 to 160. The change in expected credit losses and other credit impairment charges, as it appears in the income statement, for the period was $2.8bn compared with $1.8bn in 2018.

Income statement movements are analysed further on page 50.

Our maximum exposure to credit risk is presented on page 127 and credit quality on page 136. While credit risk arises across most of our balance sheet, ECL have typically been recognised on loans and advances to customers and banks and securitisation exposures and other structured products. As a result, our disclosures focus primarily on these two areas.

Re-presentation of UK gross carrying/nominal amounts staging

The wholesale lending gross carrying/nominal amounts in stages 1 and 2, which were disclosed at 31 December 2018, have been re-presented to reflect the UK economic uncertainty adjustment, which was not previously reflected in the stage allocation. The 31 December 2018 amounts reflected the probability-weighted view of stage allocation for the consensus scenarios only. In comparison, the allowance for ECL did reflect the UK economic uncertainty adjustment. As a result of the re-presentation, there has been an increase in stage 2 amounts, with a corresponding decrease in stage 1. The financial instruments and disclosures impacted are as follows:

- Loans and advances to customers: A change of $6,795m comprised $6,562m for corporate and commercial and $233m for non-bank financial institutions, which can be seen on pages 125, 135, 139, 142, 144, 146 and 163.
- Loans and other credit-related commitments: A change of $2,018m was attributable to $1,891m for corporate and commercial and $127m for non-bank financial institutions, which can be seen on pages 125, 135, 139, 142, 144, 146 and 163.
- Financial guarantees: A change of $50m comprised $48m for corporate and commercial and $2m for non-bank financial institutions, which can be seen on pages 125, 135, 139, 142, 144, 146 and 163.
- Commercial real estate lending: There was a change of $819m, which can be seen on page 147.
- Wholesale lending – commercial real estate loans and advances including loan commitments by level of collateral: There was a change of $1,236m, which can be seen on page 150.
- Wholesale lending – other corporate, commercial and financial (non-bank) loans and advances including loan commitments by level of collateral: There was a change of $7,641m, which can be seen on page 154.

The 'Reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers, including loan commitments and financial guarantees' disclosure for 31 December 2018 reflects this re-presentation in other movements of $8,935m, and for foreign exchange there was a $72m adverse movement. There is no impact upon total gross carrying values/nominal amounts, personal lending amounts or allowance for ECL.

Summary of credit risk

The following disclosure presents the gross carrying/nominal amount of financial instruments to which the impairment requirements in IFRS 9 are applied and the associated allowance for ECL.

The allowance for ECL increased from $9.2bn at 31 December 2018 to $9.4bn at 31 December 2019. This increase included adverse foreign exchange movements of $0.1bn.

The allowance for ECL at 31 December 2019 comprised $8.9bn in respect of assets held at amortised cost, $0.4bn in respect of loan commitments and financial guarantees, and $0.2bn in respect of debt instruments measured at fair value through other comprehensive income ('FVOCI').

Summary of financial instruments to which the impairment requirements in IFRS 9 are applied

(Audited)

	Footnotes	31 Dec 2019		At 31 Dec 2018	
		Gross carrying/ nominal amount	**Allowance for ECL[1]**	Gross carrying/ nominal amount	Allowance for ECL[1]
		$m	**$m**	$m	$m
Loans and advances to customers at amortised cost		**1,045,475**	**(8,732)**	990,321	(8,625)
– personal		**434,271**	**(3,134)**	394,337	(2,947)
– corporate and commercial		**540,499**	**(5,438)**	534,577	(5,552)
– non-bank financial institutions		**70,705**	**(160)**	61,407	(126)
Loans and advances to banks at amortised cost		**69,219**	**(16)**	72,180	(13)
Other financial assets measured at amortised cost		**615,179**	**(118)**	582,917	(55)
– cash and balances at central banks		**154,101**	**(2)**	162,845	(2)
– items in the course of collection from other banks		**4,956**	**—**	5,787	—
– Hong Kong Government certificates of indebtedness		**38,380**	**—**	35,859	—
– reverse repurchase agreements – non-trading		**240,862**	**—**	242,804	—
– financial investments		**85,788**	**(53)**	62,684	(18)
– prepayments, accrued income and other assets	2	**91,092**	**(63)**	72,938	(35)
Total gross carrying amount on-balance sheet		**1,729,873**	**(8,866)**	1,645,418	(8,693)
Loans and other credit-related commitments		**600,029**	**(329)**	592,008	(325)
– personal		**223,314**	**(15)**	207,351	(13)
– corporate and commercial		**278,524**	**(307)**	271,022	(305)
– non-bank financial institutions		**98,191**	**(7)**	113,635	(7)
Financial guarantees		**20,214**	**(48)**	23,518	(93)
– personal		**804**	**(1)**	927	(1)
– corporate and commercial		**14,804**	**(44)**	17,355	(85)
– non-bank financial institutions		**4,606**	**(3)**	5,236	(7)
Total nominal amount off-balance sheet	3	**620,243**	**(377)**	615,526	(418)
		2,350,116	**(9,243)**	2,260,944	(9,111)

	Fair value	**Memorandum allowance for ECL[4]**	Fair value	Memorandum allowance for ECL[4]
	$m	**$m**	$m	$m
Debt instruments measured at fair value through other comprehensive income ('FVOCI')	**355,664**	**(166)**	343,110	(84)

1 *The total ECL is recognised in the loss allowance for the financial asset unless the total ECL exceeds the gross carrying amount of the financial asset, in which case the ECL is recognised as a provision.*
2 *Includes only those financial instruments that are subject to the impairment requirements of IFRS 9. 'Prepayments, accrued income and other assets', as presented within the consolidated balance sheet on page 262, includes both financial and non-financial assets.*
3 *Represents the maximum amount at risk should the contracts be fully drawn upon and clients default.*
4 *Debt instruments measured at FVOCI continue to be measured at fair value with the allowance for ECL as a memorandum item. Change in ECL is recognised in 'Change in expected credit losses and other credit impairment charges' in the income statement.*

The following table provides an overview of the Group's credit risk by stage and industry, and the associated ECL coverage. The financial assets recorded in each stage have the following characteristics:

- Stage 1: These financial assets are unimpaired and without significant increase in credit risk on which a 12-month allowance for ECL is recognised.
- Stage 2: A significant increase in credit risk has been experienced on these financial assets since initial recognition for which a lifetime ECL is recognised.
- Stage 3: There is objective evidence of impairment and the financial assets are therefore considered to be in default or otherwise credit impaired on which a lifetime ECL is recognised.
- POCI: Financial assets that are purchased or originated at a deep discount are seen to reflect the incurred credit losses on which a lifetime ECL is recognised.

Summary of credit risk (excluding debt instruments measured at FVOCI) by stage distribution and ECL coverage by industry sector at 31 December 2019

(Audited)

	Gross carrying/nominal amount[1]					Allowance for ECL					ECL coverage %				
	Stage 1	Stage 2	Stage 3	POCI[2]	Total	Stage 1	Stage 2	Stage 3	POCI[2]	Total	Stage 1	Stage 2	Stage 3	POCI[2]	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	%	%	%	%
Loans and advances to customers at amortised cost	951,583	80,182	13,378	332	1,045,475	(1,297)	(2,284)	(5,052)	(99)	(8,732)	0.1	2.8	37.8	29.8	0.8
– personal	413,669	15,751	4,851	–	434,271	(583)	(1,336)	(1,215)	–	(3,134)	0.1	8.5	25.0	–	0.7
– corporate and commercial	472,253	59,599	8,315	332	540,499	(672)	(920)	(3,747)	(99)	(5,438)	0.1	1.5	45.1	29.8	1.0
– non-bank financial institutions	65,661	4,832	212	–	70,705	(42)	(28)	(90)	–	(160)	0.1	0.6	42.5	–	0.2
Loans and advances to banks at amortised cost	67,769	1,450	–	–	69,219	(14)	(2)	–	–	(16)	–	0.1	–	–	–
Other financial assets measured at amortised cost	613,200	1,827	151	1	615,179	(38)	(38)	(42)	–	(118)	–	2.1	27.8	–	–
Loan and other credit-related commitments	577,631	21,618	771	9	600,029	(137)	(133)	(59)	–	(329)	–	0.6	7.7	–	0.1
– personal	221,490	1,630	194	–	223,314	(13)	(2)	–	–	(15)	–	0.1	–	–	–
– corporate and commercial	259,138	18,804	573	9	278,524	(118)	(130)	(59)	–	(307)	–	0.7	10.3	–	0.1
– financial	97,003	1,184	4	–	98,191	(6)	(1)	–	–	(7)	–	0.1	–	–	–
Financial guarantees	17,684	2,340	186	4	20,214	(16)	(22)	(10)	–	(48)	0.1	0.9	5.4	–	0.2
– personal	802	1	1	–	804	(1)	–	–	–	(1)	0.1	–	–	–	0.1
– corporate and commercial	12,540	2,076	184	4	14,804	(14)	(21)	(9)	–	(44)	0.1	1.0	4.9	–	0.3
– financial	4,342	263	1	–	4,606	(1)	(1)	(1)	–	(3)	–	0.4	100.0	–	0.1
At 31 Dec 2019	**2,227,867**	**107,417**	**14,486**	**346**	**2,350,116**	**(1,502)**	**(2,479)**	**(5,163)**	**(99)**	**(9,243)**	**0.1**	**2.3**	**35.6**	**28.6**	**0.4**

1 *Represents the maximum amount at risk should the contracts be fully drawn upon and clients default.*
2 *Purchased or originated credit-impaired ('POCI').*

Unless identified at an earlier stage, all financial assets are deemed to have suffered a significant increase in credit risk when they are 30 days past due ('DPD') and are transferred from stage 1 to stage 2. The following disclosure presents the ageing of stage 2 financial assets by those less than 30 days and greater than 30 DPD and therefore presents those financial assets classified as stage 2 due to ageing (30 DPD) and those identified at an earlier stage (less than 30 DPD).

Stage 2 days past due analysis at 31 December 2019

(Audited)

	Gross carrying amount			Allowance for ECL			ECL coverage %		
		Of which:	*Of which:*		*Of which:*	*Of which:*		*Of which:*	*Of which:*
	Stage 2	*1 to 29 DPD[1]*	*30 and > DPD[1]*	Stage 2	*1 to 29 DPD[1]*	*30 and > DPD[1]*	Stage 2	*1 to 29 DPD[1]*	*30 and > DPD[1]*
	$m	$m	$m	$m	$m	$m	%	%	%
Loans and advances to customers at amortised cost	80,182	*2,471*	*1,676*	(2,284)	*(208)*	*(247)*	2.8	*8.4*	*14.7*
– personal	15,751	*1,804*	*1,289*	(1,336)	*(178)*	*(217)*	8.5	*9.9*	*16.8*
– corporate and commercial	59,599	*657*	*385*	(920)	*(30)*	*(30)*	1.5	*4.6*	*7.8*
– non-bank financial institutions	4,832	*10*	*2*	(28)	–	–	0.6	–	–
Loans and advances to banks at amortised cost	1,450	–	–	(2)	–	–	0.1	–	–
Other financial assets measured at amortised cost	1,827	*14*	*30*	(38)	–	–	2.1	–	–

1 *Days past due ('DPD'). Up to date accounts in stage 2 are not shown in amounts.*

Summary of credit risk (excluding debt instruments measured at FVOCI) by stage distribution and ECL coverage by industry sector at 31 December 2018[3] (continued)

(Audited)

	Gross carrying/nominal amount[1]					Allowance for ECL					ECL coverage %				
	Stage 1	Stage 2	Stage 3	POCI[2]	Total	Stage 1	Stage 2	Stage 3	POCI[2]	Total	Stage 1	Stage 2	Stage 3	POCI[2]	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	%	%	%	%
Loans and advances to customers at amortised cost	908,393	68,581	13,023	324	990,321	(1,276)	(2,108)	(5,047)	(194)	(8,625)	0.1	3.1	38.8	59.9	0.9
– personal	374,681	15,075	4,581	—	394,337	(534)	(1,265)	(1,148)	—	(2,947)	0.1	8.4	25.1	—	0.7
– corporate and commercial	474,700	51,341	8,212	324	534,577	(698)	(812)	(3,848)	(194)	(5,552)	0.1	1.6	46.9	59.9	1.0
– non-bank financial institutions	59,012	2,165	230	—	61,407	(44)	(31)	(51)	—	(126)	0.1	1.4	22.2	—	0.2
Loans and advances to banks at amortised cost	71,873	307	—	—	72,180	(11)	(2)	—	—	(13)	—	0.7	—	—	—
Other financial assets measured at amortised cost	581,118	1,673	126	—	582,917	(27)	(6)	(22)	—	(55)	—	0.4	17.5	—	—
Loan and other credit-related commitments	567,232	23,857	912	7	592,008	(143)	(139)	(43)	—	(325)	—	0.6	4.7	—	0.1
– personal	205,183	1,760	408	—	207,351	(12)	(1)	—	—	(13)	—	0.1	—	—	—
– corporate and commercial	249,587	20,925	503	7	271,022	(126)	(136)	(43)	—	(305)	0.1	0.6	8.5	—	0.1
– financial	112,462	1,172	1	—	113,635	(5)	(2)	—	—	(7)	—	0.2	—	—	—
Financial guarantees	20,834	2,384	297	3	23,518	(19)	(29)	(45)	—	(93)	0.1	1.2	15.2	—	0.4
– personal	920	3	4	—	927	(1)	—	—	—	(1)	0.1	—	—	—	0.1
– corporate and commercial	14,963	2,101	288	3	17,355	(16)	(25)	(44)	—	(85)	0.1	1.2	15.3	—	0.5
– financial	4,951	280	5	—	5,236	(2)	(4)	(1)	—	(7)	—	1.4	20.0	—	0.1
At 31 Dec 2018	2,149,450	96,802	14,358	334	2,260,944	(1,476)	(2,284)	(5,157)	(194)	(9,111)	0.1	2.4	35.9	58.1	0.4

1 *Represents the maximum amount at risk should the contracts be fully drawn upon and clients default.*
2 *Purchased or originated credit-impaired ('POCI').*
3 *During the period, the Group has re-presented the UK wholesale lending stage 1 and stage 2 amount. For further details, see page 122.*

Stage 2 days past due analysis at 31 December 2018[2]

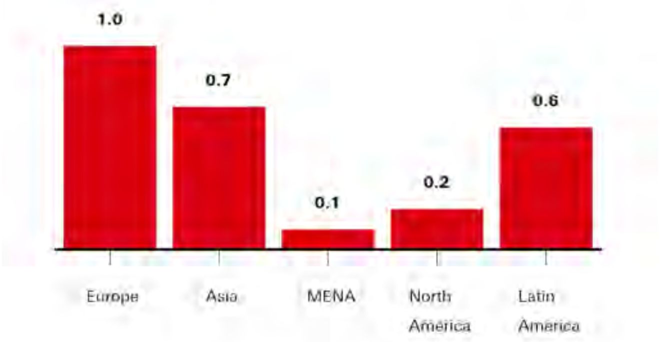
(Audited)

	Gross carrying amount			Allowance for ECL			ECL coverage %		
		Of which:	*Of which:*		*Of which:*	*Of which:*		*Of which:*	*Of which:*
	Stage 2	*1 to 29 DPD[1]*	*30 and > DPD[1]*	Stage 2	*1 to 29 DPD[1]*	*30 and > DPD[1]*	Stage 2	*1 to 29 DPD[1]*	*30 and > DPD[1]*
	$m	$m	$m	$m	$m	$m	%	%	%
Loans and advances to customers at amortised cost	68,581	*2,561*	*1,914*	(2,108)	*(204)*	*(254)*	3.1	*8.0*	*13.3*
– personal	15,075	*1,807*	*1,383*	(1,265)	*(165)*	*(220)*	8.4	*9.1*	*15.9*
– corporate and commercial	51,341	*744*	*485*	(812)	*(39)*	*(34)*	1.6	*5.2*	*7.0*
– non-bank financial institutions	2,165	*10*	*46*	(31)	—	—	1.4	—	—
Loans and advances to banks at amortised cost	307	—	—	(2)	—	—	0.7	—	—
Other financial assets measured at amortised cost	1,673	*10*	*26*	(6)	—	—	0.4	—	—

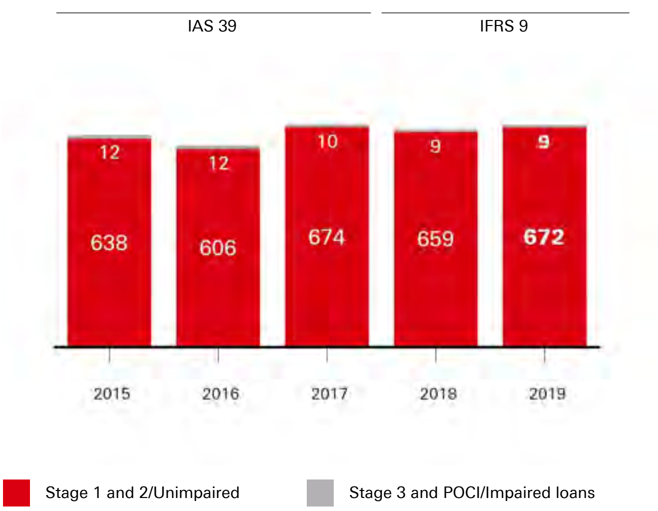
1 *Days past due ('DPD'). Up to date accounts in stage 2 are not shown in amounts.*
2 *During the period, the Group has re-presented the UK wholesale lending stage 1 and stage 2 amount. For further details, see page 122.*

Personal gross loans to customers over five years ($bn)

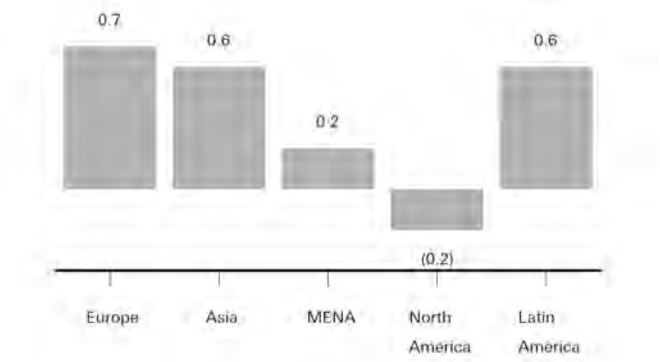
Loans and advances change in ECL by geographical region in 2019 ($bn)



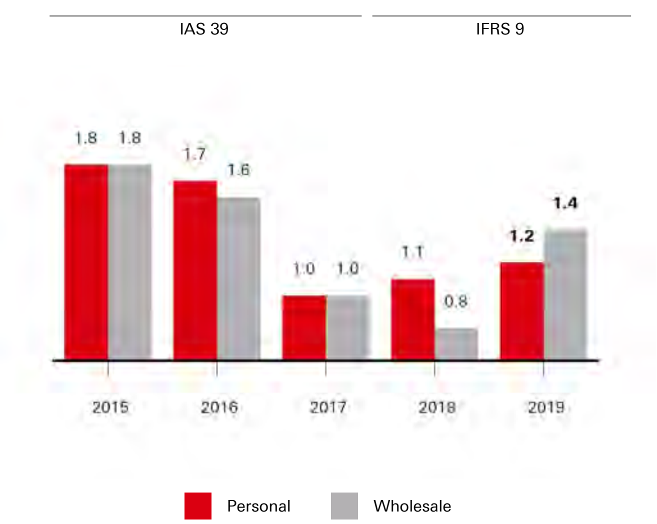
Wholesale gross loans to customers and banks over five years ($bn)



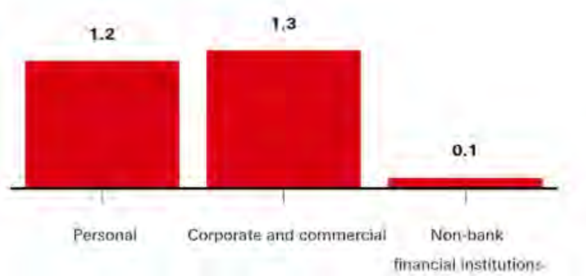
Loan and advances change in ECL by geographical region in 2018 ($bn)



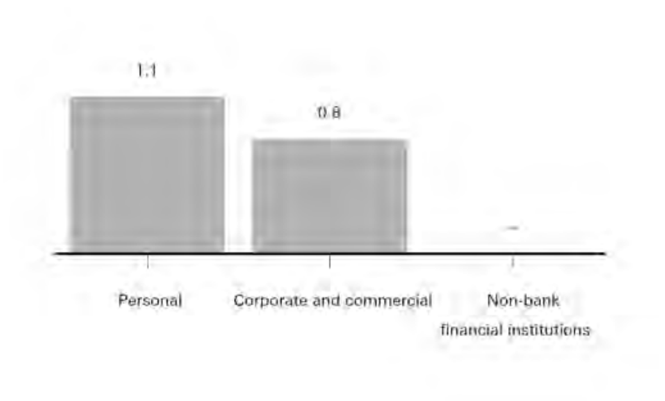
Loans and advances change in ECL/loan impairment charge ($bn)



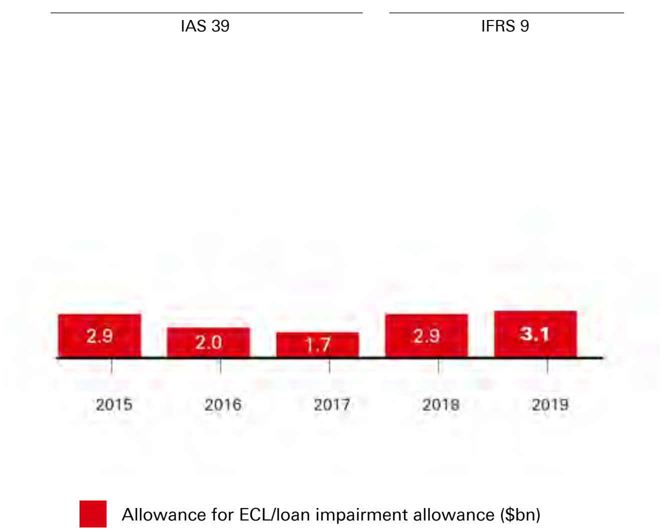
Loans and advances to customers change in ECL in 2019 ($bn)



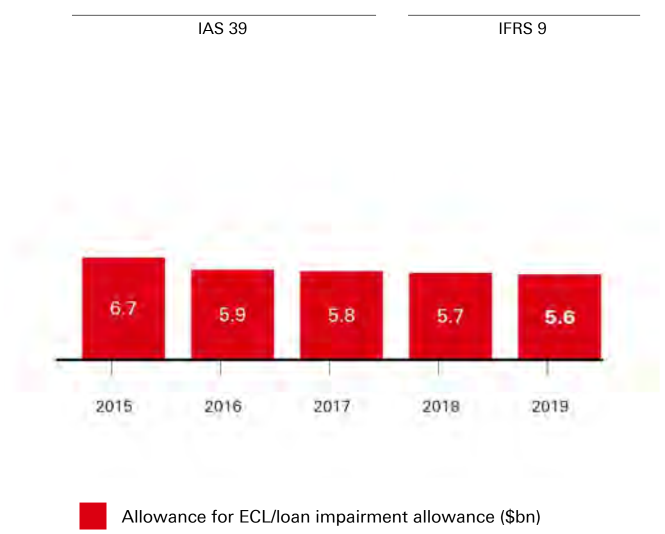
Loans and advances to customers loan impairment charges by industry in 2018 ($bn)



Personal loans and advances allowance for ECL/loan impairment allowance over five years ($bn)



Wholesale loans and advances allowance for ECL/loan impairment allowance over five years ($bn)



Credit exposure

Maximum exposure to credit risk

(Audited)

This section provides information on balance sheet items and their offsets as well as loan and other credit-related commitments. Commentary on consolidated balance sheet movements in 2019 is provided on page 54.

The offset on derivatives remains in line with the movements in maximum exposure amounts.

'Maximum exposure to credit risk' table

The following table presents our maximum exposure before taking account of any collateral held or other credit enhancements (unless such enhancements meet accounting offsetting requirements). The table excludes financial instruments whose carrying amount best represents the net exposure to credit risk, and it excludes equity securities as they are not subject to credit risk. For the financial assets recognised on the balance sheet, the maximum exposure to credit risk equals their carrying amount; for financial guarantees and other guarantees granted, it is the maximum amount that we would have to pay if the guarantees were called upon. For loan commitments and other credit-related commitments, it is generally the full amount of the committed facilities.

The offset in the table relates to amounts where there is a legally enforceable right of offset in the event of counterparty default and where, as a result, there is a net exposure for credit risk purposes. However, as there is no intention to settle these balances on a net basis under normal circumstances, they do not qualify for net presentation for accounting purposes. No offset has been applied to off-balance sheet collateral. In the case of derivatives, the offset column also includes collateral received in cash and other financial assets.

Other credit risk mitigants

While not disclosed as an offset in the following 'Maximum exposure to credit risk' table, other arrangements are in place that reduce our maximum exposure to credit risk. These include a charge over collateral on borrowers' specific assets, such as residential properties, collateral held in the form of financial instruments that are not held on the balance sheet and short positions in securities. In addition, for financial assets held as part of linked insurance/investment contracts the risk is predominantly borne by the policyholder. See page 276 and Note 30 on the financial statements for further details of collateral in respect of certain loans and advances and derivatives.

Collateral available to mitigate credit risk is disclosed in the 'Collateral' section on page 148.

Maximum exposure to credit risk

(Audited)

	2019			2018		
	Maximum exposure	**Offset**	**Net**	Maximum exposure	Offset	Net
	$m	**$m**	**$m**	$m	$m	$m
Loans and advances to customers held at amortised cost	**1,036,743**	**(28,524)**	**1,008,219**	981,696	(29,534)	952,162
– personal	**431,137**	**(4,640)**	**426,497**	391,390	(3,679)	387,711
– corporate and commercial	**535,061**	**(21,745)**	**513,316**	529,025	(23,421)	505,604
– non-bank financial institutions	**70,545**	**(2,139)**	**68,406**	61,281	(2,434)	58,847
Loans and advances to banks at amortised cost	**69,203**	**—**	**69,203**	72,167	—	72,167
Other financial assets held at amortised cost	**616,648**	**(28,826)**	**587,822**	585,600	(21,788)	563,812
– cash and balances at central banks	**154,099**	**—**	**154,099**	162,843	—	162,843
– items in the course of collection from other banks	**4,956**	**—**	**4,956**	5,787	—	5,787
– Hong Kong Government certificates of indebtedness	**38,380**	**—**	**38,380**	35,859	—	35,859
– reverse repurchase agreements – non-trading	**240,862**	**(28,826)**	**212,036**	242,804	(21,788)	221,016
– financial investments	**85,735**	**—**	**85,735**	62,666	—	62,666
– prepayments, accrued income and other assets	**92,616**	**—**	**92,616**	75,641	—	75,641
Derivatives	**242,995**	**(232,908)**	**10,087**	207,825	(194,306)	13,519
Total on-balance sheet exposure to credit risk	**1,965,589**	**(290,258)**	**1,675,331**	1,847,288	(245,628)	1,601,660
Total off-balance sheet	**893,246**	**—**	**893,246**	874,751	—	874,751
– financial and other guarantees	**95,967**	**—**	**95,967**	94,810	—	94,810
– loan and other credit-related commitments	**797,279**	**—**	**797,279**	779,941	—	779,941
At 31 Dec	**2,858,835**	**(290,258)**	**2,568,577**	2,722,039	(245,628)	2,476,411

Concentration of exposure

We have a number of global businesses with a broad range of products. We operate in a number of geographical markets with the majority of our exposures in Asia and Europe.

For an analysis of:

- financial investments, see Note 16 on the financial statements;
- trading assets, see Note 11 on the financial statements;
- derivatives, see page 155 and Note 15 on the financial statements; and
- loans and advances by industry sector and by the location of the principal operations of the lending subsidiary (or, in the case of the operations of The Hongkong and Shanghai Banking Corporation, HSBC Bank plc, HSBC Bank Middle East Limited and HSBC Bank USA, by the location of the lending branch), see page 140 for wholesale lending and page 155 for personal lending.

Credit deterioration of financial instruments

(Audited)

A summary of our current policies and practices regarding the identification, treatment and measurement of stage 1, stage 2, stage 3 (credit impaired) and POCI financial instruments can be found in Note 1.2 on the financial statements.

Measurement uncertainty and sensitivity analysis of ECL estimates

(Audited)

The recognition and measurement of ECL involves the use of significant judgement and estimation. We form multiple economic scenarios based on economic forecasts, apply these assumptions to credit risk models to estimate future credit losses, and probability-weight the results to determine an unbiased ECL estimate.

Methodology

We use multiple economic scenarios to reflect assumptions about future economic conditions, starting with three economic scenarios based on consensus forecast distributions, supplemented by alternative or additional economic scenarios and/or management adjustments where, in management's judgement, the consensus forecast distribution does not adequately capture the relevant risks.

The three economic scenarios represent the 'most likely' outcome and two less likely outcomes referred to as the Upside and Downside scenarios. Each outer scenario is consistent with a probability of 10%, while the Central scenario is assigned the remaining 80%, according to the decision of HSBC's senior management. This weighting scheme is deemed appropriate for the unbiased estimation of ECL in most circumstances.

Economic assumptions in the Central consensus economic scenario are set using the average of forecasts of external economists. Reliance on external forecasts helps ensure that the Central scenario is unbiased and maximises the use of independent information. The Upside and Downside scenarios are selected with reference to externally available forecast distributions and are designed to be cyclical, in that GDP growth, inflation and unemployment usually revert back to the Central scenario after the first three years for major economies. We determine the maximum divergence of GDP growth from the Central scenario using the 10th and the 90th percentile of the entire distribution of forecast outcomes for major economies. While key economic variables are set with reference to external distributional forecasts, we also align the overall narrative of the scenarios to the macroeconomic risks described in HSBC's 'Top and emerging risks' on page 103. This ensures that scenarios remain consistent with the more qualitative assessment of these risks. We project additional variable paths using an external provider's global macro model.

The Upside and Downside scenarios are generated once a year, reviewed at each reporting date to ensure that they are an appropriate reflection of management's view and updated if economic conditions change significantly. The Central scenario is generated every quarter. For quarters without updates to outer scenarios, we use the updated Central scenario to approximate the impact of the most recent outer scenarios on wholesale and retail credit risk exposures.

Additional scenarios are created, as required, to address those forward-looking risks that management considers are not adequately captured by the consensus. At the reporting date, we deployed additional scenarios to address economic uncertainty in the UK, the impact of deteriorating trade relations between China and the US on key Asian economies and to address the possibility of a further weakening in economic growth in Hong Kong.

Description of consensus economic scenarios

The economic assumptions presented in this section have been formed by HSBC with reference to external forecasts specifically for the purpose of calculating ECL.

The consensus Central scenario

Our Central scenario is one of moderate growth over the forecast 2020–2024 period, which reflects an overall trend of deterioration observed over the course of 2019. Global GDP growth is expected to be 2.8% on average over the period, which is marginally lower than the average growth rate over the 2014–2018 period. Across the key markets, we note:

- Expected average rates of GDP growth over the 2020–2024 period are lower than average growth rates achieved over the 2014–2018 period in all of our key markets. For the UK, this reflects expectations that the long-term impact of current economic uncertainty will be moderately adverse, while for China, it is consistent with the theme of ongoing rebalancing from an export-oriented economy to deeper domestic consumption. Short-term expectations of economic growth in Hong Kong weakened in the second half of 2019.
- The unemployment rate is expected to rise over the forecast horizon in most of our major markets.
- Inflation is expected to be stable and will remain close to central bank targets in our core markets over the forecast period.
- Major central banks lowered their main policy interest rates in 2019 and are expected to continue to maintain a low interest rate environment over the projection horizon. The FRB has resumed asset purchases to provide liquidity and the ECB has restarted its asset purchase programmes.
- The West Texas Intermediate oil price is forecast to average $59 per barrel over the projection period.

The following table describes key macroeconomic variables and the probabilities assigned in the consensus Central scenario.

Central scenario (average 2020–2024)

	UK	France	Hong Kong	Mainland China	UAE	US	Canada	Mexico
	%	%	%	%	%	%	%	%
GDP growth rate[1]	1.6	1.3	1.9	5.6	2.8	1.9	1.8	2.1
Inflation	2.0	1.6	2.2	2.4	2.0	2.0	2.0	3.5
Unemployment	4.4	7.8	3.1	4.0	2.7	4.1	6.0	3.6
Short-term interest rate	0.6	(0.6)	1.1	3.8	1.8	1.4	1.6	6.7
10-year Treasury bond yields	1.7	1.0	2.4	N/A	N/A	2.4	2.2	7.4
House price growth	3.0	2.9	3.8	4.6	(2.4)	3.4	2.6	5.4
Equity price growth	2.8	3.4	5.1	7.9	N/A	6.4	3.8	5.6
Probability	55.0	80.0	50.0	80.0	80.0	80.0	80.0	80.0

Note: N/A – not required in credit models.

1 Comparative GDP growth rates for 2019–2023 period were: UK (1.7%), France (1.5%), Hong Kong (2.6%), mainland China (5.9%) and US (2.0%).

The consensus Upside scenario

The economic forecast distribution of risks (as captured by consensus probability distributions of GDP growth) has shown a decrease in upside risks across our main markets over the course of 2019. In the first two years of the Upside scenario, global real GDP growth rises before converging to the Central scenario.

Increased confidence, de-escalation of trade tensions, removal of trade barriers, expansionary fiscal policy, positive resolution of economic uncertainty in the UK, stronger oil prices and a calming of geopolitical tensions are the risk themes that support the Upside scenario.

The following table describes key macroeconomic variables and the probabilities assigned in the consensus Upside scenario.

Upside scenario (average 2020–2024)

	UK	France	Hong Kong	Mainland China	UAE	US	Canada	Mexico
	%	%	%	%	%	%	%	%
GDP growth rate[1]	2.1	1.7	2.2	5.9	3.5	2.6	1.9	2.9
Inflation	2.4	2.0	2.5	2.7	2.3	2.4	2.2	4.1
Unemployment	4.0	7.4	2.9	3.9	2.5	3.7	5.7	3.3
Short-term interest rate	0.6	(0.5)	1.2	3.9	1.9	1.5	1.6	6.8
10-year Treasury bond yields	1.7	1.0	2.5	N/A	N/A	2.5	2.2	7.6
House price growth	4.4	3.7	5.0	5.8	0.6	4.5	5.7	6.1
Equity price growth	4.4	7.3	6.9	10.7	N/A	10.0	6.7	9.6
Probability	10	10	10	10	10	10	10	10

1 Comparative GDP growth rates for 2019–2023 period were: UK (2.2%), France (1.9%), Hong Kong (2.9%), mainland China (6.1%) and US (2.7%).

The consensus Downside scenario

The distribution of risks (as captured by consensus probability distributions of GDP growth) has shown a marginal increase in downside risks over the course of 2019 for the US, Hong Kong, the eurozone and the UK. In the Downside scenario, global real GDP growth declines for two years before recovering towards its long-run trend. House price growth either stalls or contracts and equity markets correct abruptly in our major markets in this scenario. The potential slowdown in global demand would drive commodity prices lower and result in an accompanying fall in inflation. Central banks would be expected to enact loose monetary policy, which in some markets would result in a reduction in the key policy interest rate. The scenario is consistent with our top and emerging risks, which include an intensification of global protectionism and trade barriers, a worsening of economic uncertainty in the UK, a slowdown in China, further risks to economic growth in Hong Kong and weaker commodity prices.

The following table describes key macroeconomic variables and the probabilities assigned in the consensus Downside scenario.

Downside scenario (average 2020–2024)

	UK	France	Hong Kong	Mainland China	UAE	US	Canada	Mexico
	%	%	%	%	%	%	%	%
GDP growth rate[1]	1.0	1.0	1.4	5.6	2.1	1.2	1.5	1.5
Inflation	1.7	1.3	1.9	2.1	1.7	1.7	1.8	3.1
Unemployment	4.8	8.2	3.3	4.0	2.9	4.5	6.4	4.0
Short-term interest rate	0.1	(0.9)	(0.1)	3.6	0.4	0.3	0.8	5.7
10-year Treasury bond yields	0.8	0.2	1.2	N/A	N/A	1.2	1.4	6.6
House price growth	1.6	1.9	2.3	3.9	(5.2)	2.2	(0.8)	4.9
Equity price growth	(1.1)	(2.3)	(0.7)	1.1	N/A	1.2	0.6	(1.6)
Probability	0	10	10	0	10	10	10	10

1 *Comparative GDP growth rates for 2019–2023 period were: UK (1.1%), France (1.1%), Hong Kong (2.2%), mainland China (5.8%) and US (1.2%).*

Alternative Downside scenarios

Alternative Downside scenarios have been created to reflect management's view of risk in some of our key markets.

UK alternative Downside scenarios

Three alternative Downside scenarios were maintained in 2019 for the UK, reflecting management's view of the distribution of economic risks. These scenarios reflect management's judgement that the consensus distribution does not adequately reflect the risks that stem from the UK's departure from the EU on 31 January 2020. Management evaluated events over the course of 2019 and assigned probabilities to these scenarios that take into consideration all relevant economic and political events. The three scenarios and associated probabilities are described below.

- UK alternative Downside scenario 1: Economic uncertainty could have a large impact on the UK economy resulting in a long-lasting recession with a weak recovery. This scenario reflects the consequences of such a recession with an initial risk-premium shock and weaker long-run productivity growth. This scenario has been used with a 25% weighting.
- UK alternative Downside scenario 2: This scenario reflects the possibility that economic uncertainty could result in a deep cyclical shock triggering a steep depreciation in sterling, a sharp increase in inflation and an associated monetary policy response. This represents a tail risk and has been assigned a 5% weighting.
- UK alternative Downside scenario 3: This scenario reflects the possibility that the adverse impact associated with economic uncertainty currently in the UK could manifest over a far longer period of time with the worst effects occurring later than in the above two scenarios. This scenario is also considered a tail risk and has been assigned a 5% weighting.

The table below describes key macroeconomic variables and the probabilities for each of the alternative Downside scenarios:

Average 2020–2024

	Alternative Downside scenario 1	Alternative Downside scenario 2	Alternative Downside scenario 3
	%	%	%
GDP growth rate	0.3	(0.3)	(0.8)
Inflation	2.3	2.5	2.7
Unemployment	6.5	8.0	7.7
Short-term interest rate	0.4	2.5	2.5
10-year Treasury bond yields	1.8	4.0	4.0
House price growth	(1.7)	(3.7)	(4.8)
Equity price growth	(3.3)	(4.6)	(9.6)
Probability	25	5	5

Asia-Pacific alternative Downside scenarios

Two alternative Downside scenarios have been created for key Asia-Pacific markets to represent management's view of economic uncertainty arising from trade and tariff tensions between China and the US and the current economic situation in Hong Kong. These scenarios and their associated probabilities are described as follows.

Asia-Pacific alternative Downside scenario

A continuation of trade- and tariff-related tensions throughout 2019 resulted in management modelling an alternative Downside scenario for eight of our key Asia-Pacific markets. This scenario models the effects of a significant escalation in global tensions, stemming from trade disputes but going beyond increases in tariffs to affect non-tariff barriers, cross-border investment flows and threats to the international trade architecture. This scenario assumes actions that lie beyond currently enacted tariffs and proposed tariffs and has been modelled as an addition to the three consensus-driven scenarios for these economies. In management's judgement, the impact on the US and other countries is largely captured by the consensus Downside scenario.

Key macroeconomic variables are shown in the table below:

Average 2020–2024

	Hong Kong	Mainland China
	%	%
GDP growth rate	0.8	5.2
Inflation	1.6	2.0
Unemployment	5.1	4.3
Short-term interest rate	0.7	2.9
10-year Treasury bond yields	1.6	N/A
House price growth	(3.7)	2.6
Equity price growth	(3.3)	(1.6)
Probability	20	10

Hong Kong alternative Downside scenario

A deep cyclical recessionary scenario has been modelled to reflect Hong Kong-specific risks and the possibility of a further weakening in the economic environment. This scenario has been applied to Hong Kong only and has been assigned a 10% probability.

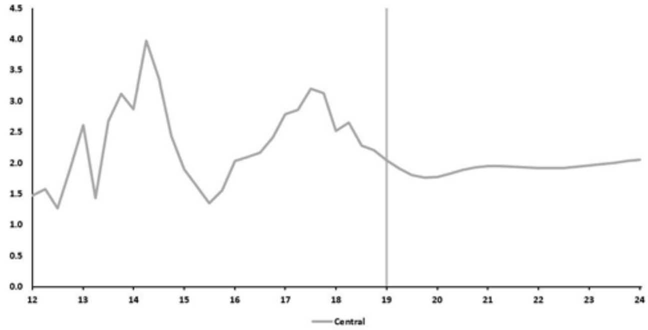
Average 2020–2024

	Hong Kong
	%
GDP growth rate	(0.1)
Inflation	1.3
Unemployment	5.1
Short-term interest rate	0.4
10-year Treasury bond yields	1.4
House price growth	(3.7)
Equity price growth	(8.4)
Probability	10

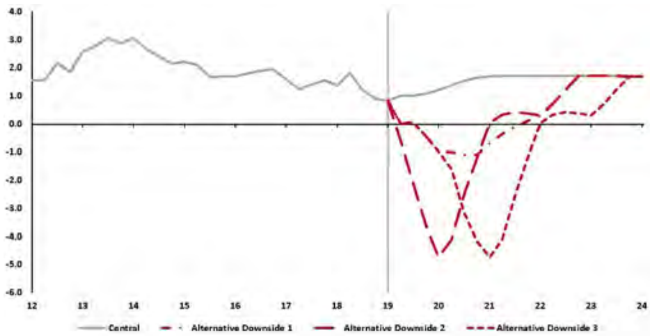
The conditions that resulted in departure from the consensus economic forecasts will be reviewed regularly as economic conditions change in future to determine whether these adjustments continue to be necessary.

The previous tables show the five-year average of GDP growth rate. The following graphs show the historical and forecasted GDP growth rate for the various economic scenarios in our four largest markets.

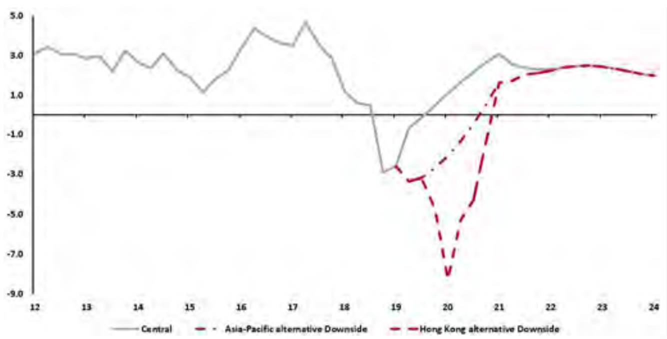
US



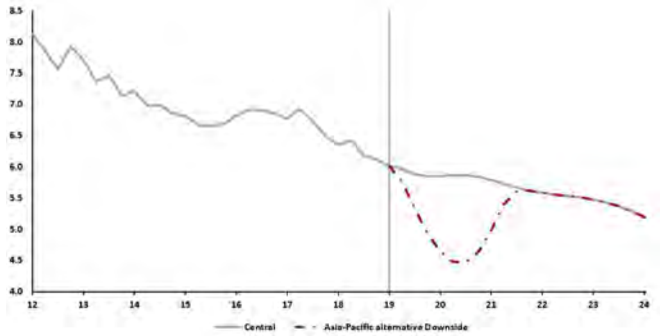
UK



Hong Kong



Mainland China



How economic scenarios are reflected in the wholesale calculation of ECL

We have developed a globally consistent methodology for the application of forward economic guidance into the calculation of ECL by incorporating forward economic guidance into the estimation of the term structure of probability of default ('PD') and loss given default ('LGD'). For PDs, we consider the correlation of forward economic guidance to default rates for a particular industry in a country. For LGD calculations, we consider the correlation of forward economic guidance to collateral values and realisation rates for a particular country and industry. PDs and LGDs are estimated for the entire term structure of each instrument.

For impaired loans, LGD estimates take into account independent recovery valuations provided by external consultants where available or internal forecasts corresponding to anticipated economic conditions and individual company conditions. In estimating the ECL on impaired loans that are individually considered not to be significant, we incorporate forward economic guidance proportionate to the probability-weighted outcome and the Central scenario outcome for non-stage 3 populations.

How economic scenarios are reflected in the retail calculation of ECL

We have developed and implemented a globally consistent methodology for incorporating forecasts of economic conditions into ECL estimates. The impact of economic scenarios on PD is modelled at a portfolio level. Historical relationships between observed default rates and macroeconomic variables are integrated into IFRS 9 ECL estimates by using economic response models. The impact of these scenarios on PD is modelled over a period equal to the remaining maturity of underlying asset or assets. The impact on LGD is modelled for mortgage portfolios by forecasting future loan-to-value ('LTV') profiles for the remaining maturity of the asset by using national level forecasts of the house price index and applying the corresponding LGD expectation.

Impact of alternative/additional scenarios

At 31 December 2019, the impact of using additional scenarios to the consensus distribution to address economic uncertainty in the UK was $311m (2018: $410m), consisting of $166m (2018: $160m) in the retail portfolio and $145m (2018: $250m) in the wholesale portfolio. The impact of deteriorating trade relations between China and the US on key Asian economies, and the possibility of a further weakening in economic growth in Hong Kong resulted in an additional ECL of $180m (2018: $40m), consisting of $60m (2018: $10m) in the retail portfolio and $120m (2018: $30m) in the wholesale portfolio, compared with consensus forecasts. We also considered developments after the balance sheet date and concluded that they did not necessitate any adjustment to the approach or judgements taken on 31 December 2019.

Economic scenarios sensitivity analysis of ECL estimates

Management considered the sensitivity of the ECL outcome against the economic forecasts as part of the ECL governance process by recalculating the ECL under each scenario described above for selected portfolios, applying a 100% weighting to each scenario in turn. The weighting is reflected in both the determination of a significant increase in credit risk and the measurement of the resulting ECL.

The ECL calculated for the Upside and Downside scenarios should not be taken to represent the upper and lower limits of possible actual ECL outcomes. The impact of defaults that might occur in future under different economic scenarios is captured by recalculating ECL for loans in stages 1 and 2 at the balance sheet date. The population of stage 3 loans (in default) at the balance sheet date is unchanged in these sensitivity calculations. Stage 3 ECL would only be sensitive to changes in forecasts of future economic conditions if the LGD of a particular portfolio was sensitive to these changes.

There is a particularly high degree of estimation uncertainty in numbers representing tail risk scenarios when assigned a 100% weighting, and an indicative range is provided for the UK tail risk sensitivity analysis.

For wholesale credit risk exposures, the sensitivity analysis excludes ECL and financial instruments related to defaulted obligors because the measurement of ECL is relatively more sensitive to credit factors specific to the obligor than future economic scenarios, and it is impracticable to separate the effect of macroeconomic factors in individual assessments.

For retail credit risk exposures, the sensitivity analysis includes ECL for loans and advances to customers related to defaulted obligors. This is because the retail ECL for secured mortgage portfolios including loans in all stages is sensitive to macroeconomic variables.

Wholesale analysis

IFRS 9 ECL sensitivity to future economic conditions[1]

ECL coverage of financial instruments subject to significant measurement uncertainty at 31 December 2019[2]	UK $m	US $m	Hong Kong $m	Mainland China $m	Canada $m	Mexico $m	UAE $m	France $m
Reported ECL	**725**	**148**	**328**	**124**	**80**	**69**	**97**	**55**
Consensus scenarios								
Central scenario	**536**	**149**	**243**	**118**	**79**	**68**	**97**	**53**
Upside scenario	**480**	**132**	**241**	**95**	**63**	**48**	**89**	**50**
Downside scenario	**635**	**161**	**244**	**106**	**108**	**99**	**108**	**79**
Alternative scenarios								
UK alternative Downside scenario 1	**1,050**							
Tail risk scenarios (UK alternative Downside scenarios 2 and 3)	**1,900–2,100**							
Asia-Pacific alternative Downside scenario			**550**	**150**				
Hong Kong alternative Downside scenario			**700**					
Gross carrying amount/nominal amount[3]	**346,035**	**203,610**	**418,102**	**104,004**	**74,620**	**32,632**	**42,304**	**124,618**

IFRS 9 ECL sensitivity to future economic conditions[1]

ECL coverage of financial instruments subject to significant measurement uncertainty at 31 December 2018[2]	UK $m	US $m	Hong Kong $m	Mainland China $m	Canada $m	Mexico $m	UAE $m	France $m
Reported ECL	906	163	162	83	81	76	74	46
Consensus scenarios								
Central scenario	649	156	162	82	81	74	74	44
Upside scenario	595	142	156	78	75	58	69	43
Downside scenario	745	177	170	88	88	93	80	58
Alternative scenarios								
UK alternative Downside scenario 1	1,000							
Tail risk scenarios (UK alternative Downside scenarios 2 and 3)	1,700–1,900							
Trade Downside scenario			500	150				
Gross carrying value/nominal amount[3]	360,637	211,318	407,402	99,379	72,759	31,798	37,546	105,416

1 *Excludes ECL and financial instruments relating to defaulted obligors because the measurement of ECL is relatively more sensitive to credit factors specific to the obligor than future economic scenarios.*
2 *Includes off-balance sheet financial instruments that are subject to significant measurement uncertainty.*
3 *Includes low credit-risk financial instruments such as debt instruments at FVOCI, which have high carrying amounts but low ECL under all the above scenarios.*

At 31 December 2019, the UK and Hong Kong portfolios were most sensitive to changes in macroeconomic forecasts. The possible impact of Downside scenarios increased over 2019, primarily due to downward revisions in consensus forecasts and their resultant impact on the additional Downside scenarios.

The reported ECL in Hong Kong increased due to the impact of worsening consensus forecasts and the use of additional Downside scenarios. The sensitivity in Hong Kong was reflected in the use of a deep cyclical recessionary scenario to consider the possibility of a further weakening in the economic environment.

The underlying movement in the reported ECL in the UK was driven by changes in the probability weights of the underlying scenarios together with a shift in the portfolio mix of underlying assets. Furthermore, the impact of the additional Downside scenarios, particularly alternative Downside scenario 2 and alternative Downside scenario 3, were relatively more severe than 2018 given marginally weaker than forecast economic performance in 2019.

Retail analysis

The geographies below were selected based on an 85% contribution to overall ECL within our retail lending business.

IFRS 9 ECL sensitivity to future economic conditions[1]

ECL of loans and advances to customers at 31 December 2019[2]	**UK** $m	**Mexico** $m	**Hong Kong** $m	**UAE** $m	**France** $m	**US** $m	**Malaysia** $m	**Singapore** $m	**Australia** $m	**Canada** $m
Reported ECL	**936**	**584**	**349**	**174**	**133**	**90**	**94**	**60**	**38**	**39**
Consensus scenarios										
Central scenario	**773**	**583**	**296**	**173**	**133**	**90**	**94**	**58**	**37**	**39**
Upside scenario	**686**	**526**	**282**	**158**	**132**	**84**	**85**	**57**	**32**	**36**
Downside scenario	**918**	**652**	**306**	**193**	**133**	**98**	**106**	**58**	**45**	**41**
Alternative scenarios										
UK alternative Downside scenario 1	**1,200**									
Tail risk scenarios (UK alternative Downside scenarios 2 and 3)	**1,500–1,700**									
Asia-Pacific alternative Downside scenario			**530**				**110**	**80**	**50**	
Hong Kong alternative Downside scenario			**540**							
Gross carrying amount	**149,576**	**7,681**	**101,689**	**3,391**	**23,017**	**15,470**	**5,839**	**8,164**	**17,258**	**22,344**

IFRS 9 ECL sensitivity to future economic conditions[1]

ECL of loans and advances to customers at 31 December 2018[2]	UK $m	Mexico $m	Hong Kong $m	UAE $m	France $m	US $m	Malaysia $m	Singapore $m	Australia $m	Canada $m
Reported ECL	705	520	341	204	150	102	93	68	58	29
Consensus scenarios										
Central scenario	540	517	338	204	150	101	92	66	57	29
Upside scenario	480	475	322	195	149	94	82	61	54	28
Downside scenario	641	564	344	209	150	115	104	67	63	31
Alternative scenarios										
UK alternative Downside scenario 1	900									
Tail risk scenarios (UK alternative Downside scenarios 2 and 3)	1,100-1,300									
Asia-Pacific alternative Downside scenario[3]			400				110	70	70	
Gross carrying amount	138,026	6,098	92,356	3,453	21,622	15,262	5,906	7,378	14,156	19,992

1 *ECL sensitivities exclude portfolios utilising less complex modelling approaches.*
2 *ECL sensitivity includes only on-balance sheet financial instruments to which IFRS 9 impairment requirements are applied.*
3 *In 2018, this scenario was previously described as the 'trade Downside scenario'.*

At 31 December 2019, the most significant level of ECL sensitivity in the retail portfolio was observed in the UK, Mexico and Hong Kong due to the interaction between economic forecasts, the quantum of exposures and credit characteristics of the underlying portfolios.

In France, following management's review of the calculated ECL, results were adjusted to more accurately reflect views of ECL sensitivity under an Upside and Downside scenario by adjusting for factors including the economic forecast skew and forecast reversion approach, consistent with 2018. In Hong Kong, an additional alternative Downside scenario was introduced during 2019.

The changes in sensitivity from 31 December 2018 was reflective of changes in lending volumes, credit quality and movements in foreign exchange with key countries discussed below:

- UK: An increase in stage 3 ECL was due to a pause in write-offs and changes in credit quality.
- Mexico: An increase in sensitivity was due to changes in credit quality.
- Hong Kong: An increase in severity of the Asia-Pacific alternative Downside scenario was partly offset by changes in credit quality.

For all the above sensitivity analyses, changes to ECL sensitivity would occur should there be changes to the corresponding level of uncertainty, economic forecasts, historical economic variable correlations or credit quality.

Post-model adjustments

In the context of IFRS 9, post-model adjustments are short-term increases or decreases to the ECL at either a customer or portfolio level to account for late breaking events, model deficiencies and expert credit judgement applied following management review and challenge. We have internal governance in place to regularly monitor post-model adjustments and where possible to reduce the reliance on these through model recalibration or redevelopment, as appropriate.

Post-model adjustments included an adjustment relating to Argentina sovereign bonds given the uncertainty around the sovereign debt repayment. However, the impact of the UK economic uncertainty, global trade- and tariff-related tensions in Asia-Pacific, and the economic situation around Hong Kong were excluded as these were captured within the existing methodology and governance process for the impact of multiple economic scenarios on ECL.

Post-model adjustments at 31 December 2019 were $75m (2018: $161m) for the wholesale business and $131m (2018: $117m) for the retail business.

Reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees

The following disclosure provides a reconciliation by stage of the Group's gross carrying/nominal amount and allowances for loans and advances to banks and customers, including loan commitments and financial guarantees. Movements are calculated on a quarterly basis and therefore fully capture stage movements between quarters. If movements were calculated on a year-to-date basis they would only reflect the opening and closing position of the financial instrument.

The transfers of financial instruments represents the impact of stage transfers upon the gross carrying/nominal amount and associated allowance for ECL.

The net remeasurement of ECL arising from stage transfers represents the increase or decrease due to these transfers, for example, moving from a 12-month (stage 1) to a lifetime (stage 2) ECL measurement basis. Net remeasurement excludes the underlying customer risk rating ('CRR')/probability of default ('PD') movements of the financial instruments transferring stage. This is captured, along with other credit quality movements in the 'changes in risk parameters – credit quality' line item.

Changes in 'New financial assets originated or purchased', 'assets derecognised (including final repayments)' and 'changes to risk parameters – further lending/repayment' represent the impact from volume movements within the Group's lending portfolio.

Reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees

(Audited)

	Non-credit impaired				Credit impaired					
	Stage 1		Stage 2		Stage 3		POCI		Total	
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2019	1,502,976	(1,449)	95,104	(2,278)	14,232	(5,135)	334	(194)	1,612,646	(9,056)
Transfers of financial instruments:	(36,244)	(543)	31,063	1,134	5,181	(591)	–	–	–	–
– transfers from stage 1 to stage 2	(108,434)	487	108,434	(487)	–	–	–	–	–	–
– transfers from stage 2 to stage 1	73,086	(1,044)	(73,086)	1,044	–	–	–	–	–	–
– transfers to stage 3	(1,284)	59	(5,022)	665	6,306	(724)	–	–	–	–
– transfers from stage 3	388	(45)	737	(88)	(1,125)	133	–	–	–	–
Net remeasurement of ECL arising from transfer of stage	–	669	–	(676)	–	(114)	–	–	–	(121)
New financial assets originated or purchased	504,064	(534)	–	–	–	–	135	(21)	504,199	(555)
Assets derecognised (including final repayments)	(352,961)	112	(19,909)	553	(2,712)	656	(26)	8	(375,608)	1,329
Changes to risk parameters – further lending/repayment	(72,239)	291	(2,560)	67	402	(6)	28	12	(74,369)	364
Changes to risk parameters – credit quality	–	2	–	(1,208)	–	(2,704)	–	(51)	–	(3,961)
Changes to models used for ECL calculation	–	(6)	–	4	–	14	–	–	–	12
Assets written off	–	–	–	–	(2,657)	2,657	(140)	140	(2,797)	2,797
Credit-related modifications that resulted in derecognition	–	–	–	–	(268)	125	–	–	(268)	125
Foreign exchange	16,838	(9)	1,201	(40)	160	(31)	1	1	18,200	(79)
Others	(821)	3	652	3	(3)	8	13	6	(159)	20
At 31 Dec 2019	1,561,613	(1,464)	105,551	(2,441)	14,335	(5,121)	345	(99)	1,681,844	(9,125)
ECL income statement change for the period		534		(1,260)		(2,154)		(52)		(2,932)
Recoveries										361
Others										(20)
Total ECL income statement change for the period										(2,591)

	At 31 Dec 2019		12 months ended 31 Dec 2019
	Gross carrying/nominal amount	Allowance for ECL	ECL charge
	$m	$m	$m
As above	1,681,844	(9,125)	(2,591)
Other financial assets measured at amortised cost	615,179	(118)	(26)
Non-trading reverse purchase agreement commitments	53,093	–	–
Performance and other guarantees not considered for IFRS 9	–	–	(34)
Summary of financial instruments to which the impairment requirements in IFRS 9 are applied/Summary consolidated income statement	2,350,116	(9,243)	(2,651)
Debt instruments measured at FVOCI	355,664	(166)	(105)
Total allowance for ECL/total income statement ECL change for the period	n/a	(9,409)	(2,756)

As shown in the previous table, the allowance for ECL for loans and advances to customers and banks and relevant loan commitments and financial guarantees increased $69m during the period from $9,056m at 31 December 2018 to $9,125m at 31 December 2019.

This increase was primarily driven by:

- $3,961m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stages;
- $121m relating to the net remeasurement impact of stage transfers; and
- foreign exchange and other movements of $59m.

These decreases were partly offset by:

- $2,797m of assets written off;
- $1,138m relating to volume movements, which included the ECL allowance associated with new originations, assets derecognised and further lending/repayment;
- $125m credit-related modifications that resulted in derecognitions; and
- $12m changes to models used for ECL calculation.

The ECL charge for the period of $2,932m presented in the previous table consisted of $3,961m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stage and $121m relating to the net remeasurement impact of stage transfers. This was partly offset by $1,138m relating to underlying net book volume movements and $12m in changes to models used for ECL calculation.

Summary views of the movement in wholesale and personal lending are presented on pages 143 and 156.

Reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees[1,2]

(Audited)

	Non-credit impaired				Credit impaired					
	Stage 1		Stage 2		Stage 3		POCI		Total	
	Gross exposure	Allowance/ provision for ECL	Gross exposure	Allowance/ provision for ECL	Gross exposure	Allowance/ provision for ECL	Gross exposure	Allowance/ provision for ECL	Gross exposure	Allowance/ provision for ECL
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2018	1,446,857	(1,469)	102,032	(2,406)	15,083	(5,722)	1,042	(242)	1,565,014	(9,839)
Transfers of financial instruments:	(8,747)	(685)	3,582	1,185	5,165	(500)	–	–	–	–
– transfers from stage 1 to stage 2	(84,181)	319	84,181	(319)	–	–	–	–	–	–
– transfers from stage 2 to stage 1	77,325	(999)	(77,325)	999	–	–	–	–	–	–
– transfers to stage 3	(2,250)	35	(4,439)	607	6,689	(642)	–	–	–	–
– transfers from stage 3	359	(40)	1,165	(102)	(1,524)	142	–	–	–	–
Net remeasurement of ECL arising from transfer of stage	–	620	–	(605)	–	(103)	–	–	–	(88)
Net new lending and further lending/payments	126,868	(512)	(16,162)	564	(2,902)	733	(587)	42	107,217	827
Changes to risk parameters – credit quality	–	423	–	(1,087)	–	(2,238)	–	(51)	–	(2,953)
Changes to models used for ECL calculation	–	–	–	–	–	–	–	–	–	–
Assets written off	–	–	–	–	(2,568)	2,552	(1)	1	(2,569)	2,553
Foreign exchange	(52,911)	76	(2,935)	99	(636)	232	(26)	6	(56,508)	413
Other	(9,091)	98	8,587	(28)	90	(89)	(94)	50	(508)	31
At 31 Dec 2018	1,502,976	(1,449)	95,104	(2,278)	14,232	(5,135)	334	(194)	1,612,646	(9,056)
ECL income statement change for the period		531		(1,128)		(1,608)		(9)		(2,214)
Recoveries										408
Others										(62)
Total ECL income statement change for the period										(1,868)

	At 31 Dec 2018		12 months ended 31 Dec 2018
	Gross carrying/ nominal amount	Allowance for ECL	ECL charge
	$m	$m	$m
As above	1,612,646	(9,056)	(1,868)
Other financial assets measured at amortised cost	582,917	(55)	21
Non-trading reverse purchase agreement commitments	65,381	–	–
Performance and other guarantees not considered for IFRS 9	–	–	(25)
Summary of financial instruments to which the impairment requirements in IFRS 9 are applied/ Summary consolidated income statement	2,260,944	(9,111)	(1,872)
Debt instruments measured at FVOCI	343,110	(84)	105
Total allowance for ECL/total income statement ECL change for the period	n/a	(9,195)	(1,767)

1 *The 31 December 2018 comparative 'Reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers' disclosure presents 'New financial assets originated or purchased', 'Assets derecognised (including final repayments)' and 'Changes to risk parameters – further lending/repayments' under 'Net new lending and further lending/repayments'. To provide greater granularity, these amounts have been separately presented in the 31 December 2019 disclosure.*

2 *During the period, the Group has re-presented the UK wholesale lending stage 1 and stage 2 amount for 31 December 2018 only. For further details, see page 122.*

Credit quality

Credit quality of financial instruments

(Audited)

We assess the credit quality of all financial instruments that are subject to credit risk. The credit quality of financial instruments is a point-in-time assessment of PD, whereas stages 1 and 2 are determined based on relative deterioration of credit quality since initial recognition. Accordingly, for non-credit-impaired financial instruments, there is no direct relationship between the credit quality assessment and stages 1 and 2, although typically the lower credit quality bands exhibit a higher proportion in stage 2.

The five credit quality classifications each encompass a range of granular internal credit rating grades assigned to wholesale and personal lending businesses and the external ratings attributed by external agencies to debt securities, as shown in the table on page 121.

Distribution of financial instruments by credit quality at 31 December 2019

(Audited)

	Gross carrying/notional amount						Allowance for ECL/other credit provisions	
	Strong	Good	Satisfactory	Sub-standard	Credit impaired	Total		Net
	$m	$m	$m	$m	$m	$m	$m	$m
In-scope for IFRS 9								
Loans and advances to customers held at amortised cost	524,889	258,402	228,485	20,007	13,692	1,045,475	(8,732)	1,036,743
– personal	354,461	45,037	27,636	2,286	4,851	434,271	(3,134)	431,137
– corporate and commercial	138,126	190,470	186,383	16,891	8,629	540,499	(5,438)	535,061
– non-bank financial institutions	32,302	22,895	14,466	830	212	70,705	(160)	70,545
Loans and advances to banks held at amortised cost	60,636	5,329	1,859	1,395	–	69,219	(16)	69,203
Cash and balances at central banks	151,788	1,398	915	–	–	154,101	(2)	154,099
Items in the course of collection from other banks	4,935	18	3	–	–	4,956	–	4,956
Hong Kong Government certificates of indebtedness	38,380	–	–	–	–	38,380	–	38,380
Reverse repurchase agreements – non-trading	193,157	37,947	9,621	137	–	240,862	–	240,862
Financial investments	78,318	6,503	906	61	–	85,788	(53)	85,735
Prepayments, accrued income and other assets	70,675	8,638	11,321	306	152	91,092	(63)	91,029
– endorsements and acceptances	1,133	4,651	4,196	230	4	10,214	(16)	10,198
– accrued income and other	69,542	3,987	7,125	76	148	80,878	(47)	80,831
Debt instruments measured at fair value through other comprehensive income[1]	333,158	10,966	7,222	544	1	351,891	(166)	351,725
Out-of-scope for IFRS 9								
Trading assets	135,059	15,240	22,964	2,181	–	175,444	–	175,444
Other financial assets designated and otherwise mandatorily measured at fair value through profit or loss	4,655	1,391	5,584	139	–	11,769	–	11,769
Derivatives	187,636	42,642	11,894	821	2	242,995	–	242,995
Total gross carrying amount on balance sheet	1,783,286	388,474	300,774	25,591	13,847	2,511,972	(9,032)	2,502,940
Percentage of total credit quality	70.9%	15.5%	12.0%	1.0%	0.6%	100%		
Loan and other credit-related commitments	369,424	146,988	77,499	5,338	780	600,029	(329)	599,700
Financial guarantees	7,441	6,033	5,539	1,011	190	20,214	(48)	20,166
In-scope: Irrevocable loan commitments and financial guarantees	376,865	153,021	83,038	6,349	970	620,243	(377)	619,866
Loan and other credit-related commitments[2]	66,148	69,890	58,754	2,605	182	197,579	–	197,579
Performance and other guarantees	30,099	23,335	20,062	2,057	380	75,933	(132)	75,801
Out-of-scope: Revocable loan commitments and non-financial guarantees	96,247	93,225	78,816	4,662	562	273,512	(132)	273,380

Distribution of financial instruments by credit quality at 31 December 2018 (continued)

(Audited)

	Gross carrying/notional amount						Allowance for ECL/other credit provisions	Net
	Strong	Good	Satisfactory	Sub-standard	Credit impaired	Total		
	$m	$m	$m	$m	$m	$m	$m	$m
In-scope for IFRS 9								
Loans and advances to customers held at amortised cost	485,451	244,199	230,357	16,993	13,321	990,321	(8,625)	981,696
– personal	316,616	43,764	27,194	2,182	4,581	394,337	(2,947)	391,390
– corporate and commercial	140,387	181,984	189,357	14,339	8,510	534,577	(5,552)	529,025
– non-bank financial institutions	28,448	18,451	13,806	472	230	61,407	(126)	61,281
Loans and advances to banks held at amortised cost	60,249	7,371	4,549	11	—	72,180	(13)	72,167
Cash and balances at central banks	160,995	1,508	324	18	—	162,845	(2)	162,843
Items in the course of collection from other banks	5,765	21	1	—	—	5,787	—	5,787
Hong Kong Government certificates of indebtedness	35,859	—	—	—	—	35,859	—	35,859
Reverse repurchase agreements – non-trading	200,774	29,423	12,607	—	—	242,804	—	242,804
Financial investments	56,031	5,703	949	1	—	62,684	(18)	62,666
Prepayments, accrued income and other assets	55,424	8,069	9,138	181	126	72,938	(35)	72,903
– endorsements and acceptances	1,514	4,358	3,604	155	3	9,634	(11)	9,623
– accrued income and other	53,910	3,711	5,534	26	123	63,304	(24)	63,280
Debt instruments measured at fair value through other comprehensive income[1]	319,632	12,454	7,210	2,558	12	341,866	(84)	341,782
Out-of-scope for IFRS 9								
Trading assets	139,484	18,888	16,991	1,871	—	177,234	—	177,234
Other financial assets designated and otherwise mandatorily measured at fair value through profit or loss	6,079	2,163	6,683	9	—	14,934	—	14,934
Derivatives	169,121	31,225	6,813	625	41	207,825	—	207,825
Total gross carrying amount on balance sheet	1,694,864	361,024	295,622	22,267	13,500	2,387,277	(8,777)	2,378,500
Percentage of total credit quality	71%	15.1%	12.4%	0.9%	0.6%	100%		
Loan and other credit-related commitments	373,302	137,076	75,478	5,233	919	592,008	(325)	591,683
Financial guarantees	9,716	7,400	5,505	597	300	23,518	(93)	23,425
In-scope: Irrevocable loan commitments and financial guarantees	383,018	144,476	80,983	5,830	1,219	615,526	(418)	615,108
Loan and other credit-related commitments[2]	188,258	—	—	—	—	188,258	—	188,258
Performance and other guarantees	26,679	25,743	16,790	1,869	403	71,484	(99)	71,385
Out-of-scope: Revocable loan commitments and non-financial guarantees	214,937	25,743	16,790	1,869	403	259,742	(99)	259,643

1 *For the purposes of this disclosure, gross carrying value is defined as the amortised cost of a financial asset before adjusting for any loss allowance. As such, the gross carrying value of debt instruments at FVOCI as presented above will not reconcile to the balance sheet as it excludes fair value gains and losses.*

2 *In 2018, revocable loan and other commitments, which are out of scope of IFRS 9, are presented within the 'Strong' classification.*

Distribution of financial instruments to which the impairment requirements in IFRS 9 are applied, by credit quality and stage allocation

(Audited)

		Gross carrying/notional amount							
		Strong	Good	Satisfactory	Sub-standard	Credit impaired	Total	Allowance for ECL	Net
	Footnotes	$m	$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers at amortised cost		524,889	258,402	228,485	20,007	13,692	1,045,475	(8,732)	1,036,743
– stage 1		523,092	242,631	181,056	4,804	–	951,583	(1,297)	950,286
– stage 2		1,797	15,771	47,429	15,185	–	80,182	(2,284)	77,898
– stage 3		–	–	–	–	13,378	13,378	(5,052)	8,326
– POCI		–	–	–	18	314	332	(99)	233
Loans and advances to banks at amortised cost		60,636	5,329	1,859	1,395	–	69,219	(16)	69,203
– stage 1		60,548	5,312	1,797	112	–	67,769	(14)	67,755
– stage 2		88	17	62	1,283	–	1,450	(2)	1,448
– stage 3		–	–	–	–	–	–	–	–
– POCI		–	–	–	–	–	–	–	–
Other financial assets measured at amortised cost		537,253	54,505	22,766	503	152	615,179	(118)	615,061
– stage 1		536,942	54,058	21,921	279	–	613,200	(38)	613,162
– stage 2		311	447	845	224	–	1,827	(38)	1,789
– stage 3		–	–	–	–	151	151	(42)	109
– POCI		–	–	–	–	1	1	–	1
Loan and other credit-related commitments		369,424	146,988	77,499	5,338	780	600,029	(329)	599,700
– stage 1		368,711	141,322	66,283	1,315	–	577,631	(137)	577,494
– stage 2		713	5,666	11,216	4,023	–	21,618	(133)	21,485
– stage 3		–	–	–	–	771	771	(59)	712
– POCI		–	–	–	–	9	9	–	9
Financial guarantees		7,441	6,033	5,539	1,011	190	20,214	(48)	20,166
– stage 1		7,400	5,746	4,200	338	–	17,684	(16)	17,668
– stage 2		41	287	1,339	673	–	2,340	(22)	2,318
– stage 3		–	–	–	–	186	186	(10)	176
– POCI		–	–	–	–	4	4	–	4
At 31 Dec 2019		**1,499,643**	**471,257**	**336,148**	**28,254**	**14,814**	**2,350,116**	**(9,243)**	**2,340,873**
Debt instruments at FVOCI	1								
– stage 1		333,072	10,941	6,902	–	–	350,915	(39)	350,876
– stage 2		86	25	320	544	–	975	(127)	848
– stage 3		–	–	–	–	–	–	–	–
– POCI		–	–	–	–	1	1	–	1
At 31 Dec 2019		**333,158**	**10,966**	**7,222**	**544**	**1**	**351,891**	**(166)**	**351,725**

1 *For the purposes of this disclosure, gross carrying value is defined as the amortised cost of a financial asset before adjusting for any loss allowance. As such, the gross carrying value of debt instruments at FVOCI as presented above will not reconcile to the balance sheet as it excludes fair value gains and losses.*

Distribution of financial instruments to which the impairment requirements in IFRS 9 are applied, by credit quality and stage allocation[2] (continued)

(Audited)

		Gross carrying/notional amount							
		Strong	Good	Satisfactory	Sub-standard	Credit impaired	Total	Allowance for ECL	Net
	Footnotes	$m	$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers at amortised cost		485,451	244,199	230,357	16,993	13,321	990,321	(8,625)	981,696
– stage 1		483,170	232,004	187,773	5,446	—	908,393	(1,276)	907,117
– stage 2		2,281	12,195	42,584	11,521	—	68,581	(2,108)	66,473
– stage 3		—	—	—	—	13,023	13,023	(5,047)	7,976
– POCI		—	—	—	26	298	324	(194)	130
Loans and advances to banks at amortised cost		60,249	7,371	4,549	11	—	72,180	(13)	72,167
– stage 1		60,199	7,250	4,413	11	—	71,873	(11)	71,862
– stage 2		50	121	136	—	—	307	(2)	305
– stage 3		—	—	—	—	—	—	—	—
– POCI		—	—	—	—	—	—	—	—
Other financial assets measured at amortised cost		514,848	44,724	23,019	200	126	582,917	(55)	582,862
– stage 1		514,525	44,339	22,184	70	—	581,118	(27)	581,091
– stage 2		323	385	835	130	—	1,673	(6)	1,667
– stage 3		—	—	—	—	126	126	(22)	104
– POCI		—	—	—	—	—	—	—	—
Loan and other credit-related commitments		373,302	137,076	75,478	5,233	919	592,008	(325)	591,683
– stage 1		372,529	131,278	62,452	973	—	567,232	(143)	567,089
– stage 2		773	5,798	13,026	4,260	—	23,857	(139)	23,718
– stage 3		—	—	—	—	912	912	(43)	869
– POCI		—	—	—	—	7	7	—	7
Financial guarantees		9,716	7,400	5,505	597	300	23,518	(93)	23,425
– stage 1		9,582	6,863	4,231	158	—	20,834	(19)	20,815
– stage 2		134	537	1,274	439	—	2,384	(29)	2,355
– stage 3		—	—	—	—	297	297	(45)	252
– POCI		—	—	—	—	3	3	—	3
At 31 Dec 2018		1,443,566	440,770	338,908	23,034	14,666	2,260,944	(9,111)	2,251,833
Debt instruments at FVOCI	1	—							
– stage 1		319,623	12,358	6,856	2,218	—	341,055	(33)	341,022
– stage 2		9	96	354	340	—	799	(50)	749
– stage 3		—	—	—	—	8	8	(1)	7
– POCI		—	—	—	—	4	4	—	4
At 31 Dec 2018		319,632	12,454	7,210	2,558	12	341,866	(84)	341,782

1 *For the purposes of this disclosure, gross carrying value is defined as the amortised cost of a financial asset before adjusting for any loss allowance. As such, the gross carrying value of debt instruments at FVOCI as presented above will not reconcile to the balance sheet as it excludes fair value gains and losses.*

2 *During the period, the Group has re-presented the UK wholesale lending stage 1 and stage 2 amount. For further details, see page 122.*

Credit-impaired loans

(Audited)

We determine that a financial instrument is credit impaired and in stage 3 by considering relevant objective evidence, primarily whether:

- contractual payments of either principal or interest are past due for more than 90 days;
- there are other indications that the borrower is unlikely to pay, such as when a concession has been granted to the borrower for economic or legal reasons relating to the borrower's financial condition; and
- the loan is otherwise considered to be in default. If such unlikeliness to pay is not identified at an earlier stage, it is deemed to occur when an exposure is 90 days past due, even where regulatory rules permit default to be defined based on 180 days past due. Therefore, the definitions of credit impaired and default are aligned as far as possible so that stage 3 represents all loans that are considered defaulted or otherwise credit impaired.

Renegotiated loans and forbearance

The following table shows the gross carrying amounts of the Group's holdings of renegotiated loans and advances to customers by industry sector and by stages.

A summary of our current policies and practices for renegotiated loans and forbearance is set out in 'Credit risk management' on page 120.

Renegotiated loans and advances to customers at amortised cost by stage allocation

	Stage 1 $m	Stage 2 $m	Stage 3 $m	POCI $m	Total $m
Gross carrying amount					
Personal	**—**	**—**	**2,207**	**—**	**2,207**
– first lien residential mortgages	**—**	**—**	**1,558**	**—**	**1,558**
– other personal lending	**—**	**—**	**649**	**—**	**649**
Wholesale	**1,168**	**1,179**	**3,353**	**310**	**6,010**
– corporate and commercial	**1,168**	**1,179**	**3,290**	**310**	**5,947**
– non-bank financial institutions	**—**	**—**	**63**	**—**	**63**
At 31 Dec 2019	**1,168**	**1,179**	**5,560**	**310**	**8,217**
Allowance for ECL					
Personal	**—**	**—**	**(397)**	**—**	**(397)**
– first lien residential mortgages	**—**	**—**	**(181)**	**—**	**(181)**
– other personal lending	**—**	**—**	**(216)**	**—**	**(216)**
Wholesale	**(13)**	**(55)**	**(1,349)**	**(86)**	**(1,503)**
– corporate and commercial	**(13)**	**(55)**	**(1,316)**	**(86)**	**(1,470)**
– non-bank financial institutions	**—**	**—**	**(33)**	**—**	**(33)**
At 31 Dec 2019	**(13)**	**(55)**	**(1,746)**	**(86)**	**(1,900)**
Gross carrying amount					
Personal	—	—	2,248	—	2,248
– first lien residential mortgages	—	—	1,641	—	1,641
– other personal lending	—	—	607	—	607
Wholesale	1,532	1,193	3,845	270	6,840
– corporate and commercial	1,517	1,193	3,789	270	6,769
– non-bank financial institutions	15	—	56	—	71
At 31 Dec 2018	1,532	1,193	6,093	270	9,088
Allowance for ECL					
Personal	—	—	(381)	—	(381)
– first lien residential mortgages	—	—	(186)	—	(186)
– other personal lending	—	—	(195)	—	(195)
Wholesale	(29)	(49)	(1,461)	(146)	(1,685)
– corporate and commercial	(29)	(49)	(1,438)	(146)	(1,662)
– non-bank financial institutions	—	—	(23)	—	(23)
At 31 Dec 2018	(29)	(49)	(1,842)	(146)	(2,066)

Renegotiated loans and advances to customers by geographical region

							Of which:	
	Europe $m	Asia $m	MENA $m	North America $m	Latin America $m	Total $m	*UK $m*	*Hong Kong $m*
At 31 Dec 2019	**4,182**	**838**	**1,805**	**1,185**	**207**	**8,217**	***3,438***	***277***
At 31 Dec 2018	4,533	864	1,973	1,352	366	9,088	*3,609*	*305*

Wholesale lending

This section provides further details on the regions, countries, territories and products comprising wholesale loans and advances to customers and banks. Product granularity is also provided by stage with geographical data presented for loans and advances to customers, banks, other credit commitments, financial guarantees and similar contracts. Additionally, this section provides a reconciliation of the opening 1 January 2019 to 31 December 2019 closing gross carrying/nominal amounts and the associated allowance for ECL.

At 31 December 2019, wholesale lending for loans and advances to banks and customers of $680bn increased by $12.3bn since 31 December 2018. This included favourable foreign exchange movements of $6.1bn.

Excluding foreign exchange movements, the total wholesale lending growth was driven by an $8.7bn increase in balances from non-bank financial institutions and $0.3bn in corporate and commercial balances. These were partly offset by a decrease in loans and advances to banks of $2.8bn. The primary drivers of the increase in balances from non-bank financial institutions were $3.4bn in Europe, notably $2.8bn in France, and $4.9bn in Asia. The allowance for ECL attributable to loans and advances to banks and customers of $5.6bn at 31 December 2019 decreased from $5.7bn at 31 December 2018.

Total wholesale lending for loans and advances to banks and customers by stage distribution

	Gross carrying amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Corporate and commercial	472,253	59,599	8,315	332	540,499	(672)	(920)	(3,747)	(99)	(5,438)
– agriculture, forestry and fishing	5,416	1,000	278	2	6,696	(13)	(29)	(139)	(1)	(182)
– mining and quarrying	9,923	4,189	311	12	14,435	(22)	(70)	(122)	(12)	(226)
– manufacturing	88,138	14,525	1,581	136	104,380	(143)	(211)	(806)	(50)	(1,210)
– electricity, gas, steam and air-conditioning supply	13,479	1,386	175	–	15,040	(14)	(41)	(25)	–	(80)
– water supply, sewerage, waste management and remediation	2,963	508	30	–	3,501	(6)	(4)	(18)	–	(28)
– construction	10,520	3,883	852	32	15,287	(16)	(49)	(467)	(32)	(564)
– wholesale and retail trade, repair of motor vehicles and motorcycles	83,151	9,897	1,625	8	94,681	(111)	(137)	(934)	(2)	(1,184)
– transportation and storage	22,604	2,359	588	29	25,580	(42)	(37)	(158)	–	(237)
– accommodation and food	20,109	4,284	262	1	24,656	(37)	(46)	(62)	(1)	(146)
– publishing, audiovisual and broadcasting	18,103	1,706	141	21	19,971	(30)	(23)	(33)	(1)	(87)
– real estate	122,972	6,450	1,329	1	130,752	(108)	(97)	(475)	–	(680)
– professional, scientific and technical activities	21,085	2,687	350	–	24,122	(31)	(33)	(145)	–	(209)
– administrative and support services	21,370	3,817	438	89	25,714	(33)	(58)	(179)	–	(270)
– public administration and defence, compulsory social security	1,889	488	–	–	2,377	(1)	(7)	–	–	(8)
– education	1,700	184	16	–	1,900	(7)	(5)	(6)	–	(18)
– health and care	3,543	811	111	–	4,465	(9)	(20)	(28)	–	(57)
– arts, entertainment and recreation	2,537	257	30	–	2,824	(6)	(8)	(11)	–	(25)
– other services	13,143	941	191	1	14,276	(35)	(31)	(133)	–	(199)
– activities of households	725	66	–	–	791	–	–	–	–	–
– extra-territorial organisations and bodies activities	2	–	–	–	2	–	–	–	–	–
– government	8,159	147	7	–	8,313	(6)	(2)	(6)	–	(14)
– asset-backed securities	722	14	–	–	736	(2)	(12)	–	–	(14)
Non-bank financial institutions	65,661	4,832	212	–	70,705	(42)	(28)	(90)	–	(160)
Loans and advances to banks	67,769	1,450	–	–	69,219	(14)	(2)	–	–	(16)
At 31 Dec 2019	**605,683**	**65,881**	**8,527**	**332**	**680,423**	**(728)**	**(950)**	**(3,837)**	**(99)**	**(5,614)**
By geography										
Europe	190,528	20,276	4,671	129	215,604	(318)	(458)	(1,578)	(45)	(2,399)
– of which: UK	*131,007*	*16,253*	*3,343*	*79*	*150,682*	*(252)*	*(385)*	*(989)*	*(32)*	*(1,658)*
Asia	308,305	32,287	1,419	148	342,159	(228)	(253)	(986)	(38)	(1,505)
– of which: Hong Kong	*182,501*	*23,735*	*673*	*48*	*206,957*	*(118)*	*(172)*	*(475)*	*(28)*	*(793)*
MENA	25,470	3,314	1,686	18	30,488	(55)	(85)	(946)	(12)	(1,098)
North America	64,501	7,495	458	–	72,454	(45)	(96)	(141)	–	(282)
Latin America	16,879	2,509	293	37	19,718	(82)	(58)	(186)	(4)	(330)
At 31 Dec 2019	**605,683**	**65,881**	**8,527**	**332**	**680,423**	**(728)**	**(950)**	**(3,837)**	**(99)**	**(5,614)**

Total wholesale lending for loans and other credit-related commitments and financial guarantees by stage distribution[1]

	Nominal amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Corporate and commercial	271,678	20,880	757	13	293,328	(132)	(151)	(68)	–	(351)
Financial	101,345	1,447	5	–	102,797	(7)	(2)	(1)	–	(10)
At 31 Dec 2019	**373,023**	**22,327**	**762**	**13**	**396,125**	**(139)**	**(153)**	**(69)**	**–**	**(361)**
By geography										
Europe	190,604	7,852	645	13	199,114	(60)	(43)	(56)	–	(159)
– of which: UK	*76,013*	*4,193*	*494*	*9*	*80,709*	*(48)*	*(32)*	*(31)*	*–*	*(111)*
Asia	60,759	3,762	8	–	64,529	(43)	(33)	(4)	–	(80)
– of which: Hong Kong	*27,047*	*2,114*	*5*	*–*	*29,166*	*(14)*	*(23)*	*(2)*	*–*	*(39)*
MENA	5,690	621	31	–	6,342	(12)	(13)	(4)	–	(29)
North America	112,812	9,933	77	–	122,822	(22)	(62)	(5)	–	(89)
Latin America	3,158	159	1	–	3,318	(2)	(2)	–	–	(4)
At 31 Dec 2019	**373,023**	**22,327**	**762**	**13**	**396,125**	**(139)**	**(153)**	**(69)**	**–**	**(361)**

1 *Included in loans and other credit-related commitments and financial guarantees is $53bn relating to unsettled reverse repurchase agreements, which once drawn are classified as 'Reverse repurchase agreements – non-trading'.*

Total wholesale lending for loans and advances to banks and customers by stage distribution[1]

	Gross carrying amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Corporate and commercial	474,700	51,341	8,212	324	534,577	(698)	(812)	(3,848)	(194)	(5,552)
– agriculture, forestry and fishing	4,791	1,672	236	2	6,701	(15)	(34)	(117)	(1)	(167)
– mining and quarrying	11,892	1,919	359	2	14,172	(29)	(51)	(94)	(2)	(176)
– manufacturing	92,193	11,817	1,569	125	105,704	(132)	(156)	(791)	(83)	(1,162)
– electricity, gas, steam and air-conditioning supply	14,431	1,513	40	60	16,044	(18)	(60)	(15)	(54)	(147)
– water supply, sewerage, waste management and remediation	3,212	287	24	—	3,523	(5)	(2)	(17)	—	(24)
– construction	12,577	1,458	1,168	51	15,254	(27)	(41)	(524)	(44)	(636)
– wholesale and retail trade, repair of motor vehicles and motorcycles	83,192	12,784	1,652	37	97,665	(115)	(128)	(968)	(7)	(1,218)
– transportation and storage	23,195	1,957	351	38	25,541	(37)	(46)	(82)	(1)	(166)
– accommodation and food	18,370	2,904	270	3	21,547	(43)	(41)	(83)	(1)	(168)
– publishing, audiovisual and broadcasting	19,529	1,453	189	1	21,172	(42)	(16)	(84)	—	(142)
– real estate	115,615	6,502	1,115	1	123,233	(97)	(80)	(594)	—	(771)
– professional, scientific and technical activities	19,567	2,656	350	—	22,573	(29)	(29)	(113)	—	(171)
– administrative and support services	22,553	2,110	437	3	25,103	(41)	(48)	(166)	(1)	(256)
– public administration and defence, compulsory social security	1,425	30	8	—	1,463	(1)	(3)	(5)	—	(9)
– education	1,585	230	14	—	1,829	(11)	(7)	(6)	—	(24)
– health and care	3,558	609	141	—	4,308	(10)	(16)	(33)	—	(59)
– arts, entertainment and recreation	4,244	758	39	—	5,041	(9)	(9)	(15)	—	(33)
– other services	13,234	436	242	1	13,913	(31)	(31)	(140)	—	(202)
– activities of households	770	59	1	—	830	—	—	—	—	—
– extra-territorial organisations and bodies activities	49	3	7	—	59	—	—	(1)	—	(1)
– government	7,905	168	—	—	8,073	(6)	(1)	—	—	(7)
– asset-backed securities	813	16	—	—	829	—	(13)	—	—	(13)
Non-bank financial institutions	59,012	2,165	230	—	61,407	(44)	(31)	(51)	—	(126)
Loans and advances to banks	71,873	307	—	—	72,180	(11)	(2)	—	—	(13)
At 31 Dec 2018	605,585	53,813	8,442	324	668,164	(753)	(845)	(3,899)	(194)	(5,691)
By geography										
Europe	183,592	25,868	4,233	150	213,843	(366)	(529)	(1,598)	(102)	(2,595)
– of which: UK	*126,209*	*22,165*	*2,928*	*8*	*151,310*	*(313)*	*(471)*	*(998)*	—	*(1,782)*
Asia	314,591	17,729	1,736	92	334,148	(179)	(121)	(1,040)	(36)	(1,376)
– of which: Hong Kong	*194,186*	*8,425*	*729*	*69*	*203,409*	*(99)*	*(54)*	*(413)*	*(35)*	*(601)*
MENA	25,684	2,974	1,769	53	30,480	(73)	(77)	(974)	(46)	(1,170)
North America	62,631	6,928	314	—	69,873	(37)	(107)	(101)	—	(245)
Latin America	19,087	314	390	29	19,820	(98)	(11)	(186)	(10)	(305)
At 31 Dec 2018	605,585	53,813	8,442	324	668,164	(753)	(845)	(3,899)	(194)	(5,691)

1 *During the period, the Group has re-presented the UK wholesale lending stage 1 and stage 2 amount. For further details, see page 122.*

Total wholesale lending for loans and other credit-related commitments and financial guarantees by stage distribution[1,2]

	Nominal amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Corporate and commercial	264,550	23,026	791	10	288,377	(142)	(161)	(87)	—	(390)
Financial	117,413	1,452	6	—	118,871	(7)	(6)	(1)	—	(14)
At 31 Dec 2018	381,963	24,478	797	10	407,248	(149)	(167)	(88)	—	(404)
By geography	—	—	—	—	—	—	—	—	—	—
Europe	201,024	11,794	614	10	213,442	(82)	(66)	(53)	—	(201)
– of which: UK	*80,504*	*8,446*	*442*	—	*89,392*	*(69)*	*(57)*	*(39)*	—	*(165)*
Asia	61,206	3,076	102	—	64,384	(39)	(16)	(28)	—	(83)
– of which: Hong Kong	*27,022*	*1,115*	*89*	—	*28,226*	*(12)*	*(2)*	*(27)*	—	*(41)*
MENA	5,304	732	18	—	6,054	(8)	(10)	(2)	—	(20)
North America	111,494	8,850	62	—	120,406	(17)	(75)	(4)	—	(96)
Latin America	2,935	26	1	—	2,962	(3)	—	(1)	—	(4)
At 31 Dec 2018	381,963	24,478	797	10	407,248	(149)	(167)	(88)	—	(404)

1 *Included in loans and other credit-related commitments and financial guarantees is $65bn relating to unsettled reverse repurchase agreements, which once drawn are classified as 'Reverse repurchase agreements – non-trading'.*
2 *During the period, the Group has re-presented the UK wholesale lending stage 1 and stage 2 amount. For further details, see page 122.*

Wholesale lending – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees

(Audited)

	Non-credit impaired				Credit impaired				Total	
	Stage 1		Stage 2		Stage 3		POCI			
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2019	922,192	(902)	78,266	(1,012)	9,239	(3,987)	334	(194)	1,010,031	(6,095)
Transfers of financial instruments	(31,493)	(169)	28,418	276	3,075	(107)	–	–	–	–
Net remeasurement of ECL arising from transfer of stage	–	223	–	(268)	–	(38)	–	–	–	(83)
Net new and further lending/ repayments	27,918	(134)	(20,121)	167	(1,552)	369	137	(1)	6,382	401
Change in risk parameters – credit quality	–	102	–	(193)	–	(1,514)	–	(51)	–	(1,656)
Changes to models used for ECL calculation	–	–	–	(56)	–	–	–	–	–	(56)
Assets written off	–	–	–	–	(1,312)	1,312	(140)	140	(1,452)	1,452
Credit-related modifications that resulted in derecognition	–	–	–	–	(268)	125	–	–	(268)	125
Foreign exchange and other	7,035	13	1,606	(17)	107	(66)	14	7	8,762	(63)
At 31 Dec 2019	925,652	(867)	88,169	(1,103)	9,289	(3,906)	345	(99)	1,023,455	(5,975)
ECL income statement change for the period		191		(350)		(1,183)		(52)		(1,394)
Recoveries										47
Others										(24)
Total ECL income statement change for the period										(1,371)

As shown in the above table, the allowance for ECL for loans and advances to customers and banks and relevant loan commitments and financial guarantees decreased $120m during the period from $6,095m at 31 December 2018 to $5,975m at 31 December 2019.

This decrease was primarily driven by:

- $1,452m of assets written off;
- $401m relating to volume movements, which included the ECL allowance associated with new originations, assets derecognised and further lending/repayments; and
- $125m of credit-related modifications that resulted in derecognition.

These decreases were partly offset by increases of:

- $1,656m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stages;
- $83m relating to the net remeasurement impact of stage transfers;
- $56m changes to models used for ECL calculation; and
- foreign exchange and other movements of $63m.

The ECL charge for the period of $1,394m presented in the above table consisted of $1,656m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stage and $83m relating to the net remeasurement impact of stage transfers. This was partly offset by $401m relating to underlying net book volume movements and $56m in changes to models used for ECL calculation.

Wholesale lending – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees[1]

(Audited)

	Non-credit impaired				Credit impaired				Total	
	Stage 1		Stage 2		Stage 3		POCI			
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2018	897,529	(873)	84,354	(1,249)	10,209	(4,410)	1,042	(242)	993,134	(6,774)
Transfers of financial instruments	(4,477)	(274)	1,535	386	2,942	(112)	—	—	—	—
Net remeasurement of ECL arising from transfer of stage	—	262	—	(231)	—	(92)	—	—	—	(61)
Net new and further lending/ repayments	74,107	(271)	(13,709)	342	(2,414)	406	(587)	42	57,397	519
Changes to risk parameters – credit quality	—	157	—	(301)	—	(1,041)	—	(51)	—	(1,236)
Assets written off	—	—	—	—	(1,182)	1,172	(1)	1	(1,183)	1,173
Foreign exchange and other	(44,967)	97	6,086	41	(316)	90	(120)	56	(39,317)	284
At 31 Dec 2018	922,192	(902)	78,266	(1,012)	9,239	(3,987)	334	(194)	1,010,031	(6,095)
ECL income statement change for the period		148		(190)		(727)		(9)		(778)
Recoveries										118
Others										(69)
Total ECL income statement change for the period										(729)

1 *During the period, the Group has re-presented the UK wholesale lending stage 1 and stage 2 amount for 31 December 2018 only. For further details, see page 122.*

Wholesale lending – distribution of financial instruments to which the impairment requirements of IFRS 9 are applied by credit quality

	Gross carrying/nominal amount							
	Strong	Good	Satisfactory	Sub-standard	Credit impaired	Total	Allowance for ECL	Net
	$m	$m	$m	$m	$m	$m	$m	$m
By geography								
Europe	**57,340**	**69,427**	**74,143**	**9,895**	**4,799**	**215,604**	**(2,399)**	**213,205**
of which: UK	***35,838***	***53,046***	***51,355***	***7,023***	***3,420***	***150,682***	***(1,658)***	***149,024***
Asia	**145,450**	**106,313**	**86,685**	**2,158**	**1,553**	**342,159**	**(1,505)**	**340,654**
of which: Hong Kong	***82,053***	***67,541***	***55,379***	***1,263***	***721***	***206,957***	***(793)***	***206,164***
MENA	**12,036**	**6,003**	**9,307**	**1,439**	**1,703**	**30,488**	**(1,098)**	**29,390**
North America	**12,319**	**31,496**	**24,860**	**3,320**	**459**	**72,454**	**(282)**	**72,172**
Latin America	**3,919**	**5,455**	**7,713**	**2,304**	**327**	**19,718**	**(330)**	**19,388**
At 31 Dec 2019	**231,064**	**218,694**	**202,708**	**19,116**	**8,841**	**680,423**	**(5,614)**	**674,809**
Percentage of total credit quality	**34.0%**	**32.1%**	**29.8%**	**2.8%**	**1.3%**	**100.0%**		
By geography								
Europe	60,145	62,098	79,466	7,752	4,382	213,843	(2,595)	211,248
of which: UK	*39,840*	*46,396*	*56,974*	*5,164*	*2,936*	*151,310*	*(1,782)*	*149,528*
Asia	143,864	100,437	86,065	1,977	1,805	334,148	(1,376)	332,772
of which: Hong Kong	*82,854*	*63,564*	*55,357*	*837*	*797*	*203,409*	*(601)*	*202,808*
MENA	10,393	7,905	9,173	1,186	1,823	30,480	(1,170)	29,310
North America	10,952	31,278	24,708	2,621	314	69,873	(245)	69,628
Latin America	3,730	6,088	8,300	1,286	416	19,820	(305)	19,515
At 31 Dec 2018	229,084	207,806	207,712	14,822	8,740	668,164	(5,691)	662,473
Percentage of total credit quality	34.3%	31.1%	31.1%	2.2%	1.3%	100.0%		

Our risk rating system facilitates the internal ratings-based approach under the Basel framework adopted by the Group to support calculation of our minimum credit regulatory capital requirement. The credit quality classifications can be found on page 121.

Wholesale lending – credit risk profile by obligor grade for loans and advances at amortised cost

	Basel one-year PD range	Gross carrying amount					Allowance for ECL					ECL coverage	Mapped external rating
		Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total		
	%	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	
Corporate and commercial		472,253	59,599	8,315	332	540,499	(672)	(920)	(3,747)	(99)	(5,438)	1.0	
– CRR 1	0.000 to 0.053	44,234	18	—	—	44,252	(7)	—	—	—	(7)	—	AA- and above
– CRR 2	0.054 to 0.169	92,861	1,013	—	—	93,874	(20)	(10)	—	—	(30)	—	A+ to A-
– CRR 3	0.170 to 0.740	178,662	11,808	—	—	190,470	(164)	(91)	—	—	(255)	0.1	BBB+ to BBB-
– CRR 4	0.741 to 1.927	105,708	17,829	—	—	123,537	(244)	(151)	—	—	(395)	0.3	BB+ to BB-
– CRR 5	1.928 to 4.914	46,423	16,423	—	—	62,846	(190)	(218)	—	—	(408)	0.6	BB- to B
– CRR 6	4.915 to 8.860	3,323	7,592	—	15	10,930	(33)	(141)	—	—	(174)	1.6	B-
– CRR 7	8.861 to 15.000	795	3,067	—	3	3,865	(11)	(172)	—	—	(183)	4.7	CCC+
– CRR 8	15.001 to 99.999	247	1,849	—	—	2,096	(3)	(137)	—	—	(140)	6.7	CCC to C
– CRR 9/10	100.000	—	—	8,315	314	8,629	—	—	(3,747)	(99)	(3,846)	44.6	D
Non-bank financial institutions		65,661	4,832	212	—	70,705	(42)	(28)	(90)	—	(160)	0.2	
– CRR 1	0.000 to 0.053	16,616	—	—	—	16,616	(1)	—	—	—	(1)	—	AA- and above
– CRR 2	0.054 to 0.169	15,630	56	—	—	15,686	(4)	—	—	—	(4)	—	A+ to A-
– CRR 3	0.170 to 0.740	21,562	1,333	—	—	22,895	(12)	(4)	—	—	(16)	0.1	BBB+ to BBB-
– CRR 4	0.741 to 1.927	7,535	1,169	—	—	8,704	(12)	(7)	—	—	(19)	0.2	BB+ to BB-
– CRR 5	1.928 to 4.914	4,024	1,738	—	—	5,762	(12)	(11)	—	—	(23)	0.4	BB- to B
– CRR 6	4.915 to 8.860	280	517	—	—	797	(1)	(4)	—	—	(5)	0.6	B-
– CRR 7	8.861 to 15.000	12	7	—	—	19	—	—	—	—	—	—	CCC+
– CRR 8	15.001 to 99.999	2	12	—	—	14	—	(2)	—	—	(2)	14.3	CCC to C
– CRR 9/10	100.000	—	—	212	—	212	—	—	(90)	—	(90)	42.5	D
Banks		67,769	1,450	—	—	69,219	(14)	(2)	—	—	(16)	—	
– CRR 1	0.000 to 0.053	49,858	21	—	—	49,879	(2)	—	—	—	(2)	—	AA- and above
– CRR 2	0.054 to 0.169	10,689	68	—	—	10,757	(7)	—	—	—	(7)	0.1	A+ to A-
– CRR 3	0.170 to 0.740	5,312	17	—	—	5,329	(2)	—	—	—	(2)	—	BBB+ to BBB-
– CRR 4	0.741 to 1.927	1,725	31	—	—	1,756	(1)	(1)	—	—	(2)	0.1	BB+ to BB-
– CRR 5	1.928 to 4.914	71	32	—	—	103	—	—	—	—	—	—	BB- to B
– CRR 6	4.915 to 8.860	113	2	—	—	115	(2)	—	—	—	(2)	1.7	B-
– CRR 7	8.861 to 15.000	1	1	—	—	2	—	—	—	—	—	—	CCC+
– CRR 8	15.001 to 99.999	—	1,278	—	—	1,278	—	(1)	—	—	(1)	0.1	CCC to C
– CRR 9/10	100.000	—	—	—	—	—	—	—	—	—	—	—	D
At 31 Dec 2019		605,683	65,881	8,527	332	680,423	(728)	(950)	(3,837)	(99)	(5,614)	0.8	

Wholesale lending – credit risk profile by obligor grade for loans and advances at amortised cost[1] (continued)

	Basel one-year PD range	Gross carrying amount Stage 1	Stage 2	Stage 3	POCI	Total	Allowance for ECL Stage 1	Stage 2	Stage 3	POCI	Total	ECL coverage	Mapped external rating
	%	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	
Corporate and commercial		474,700	51,341	8,212	324	534,577	(698)	(812)	(3,848)	(194)	(5,552)	1.0	
– CRR 1	0.000 to 0.053	45,401	67	—	—	45,468	(4)	(2)	—	—	(6)	—	AA- and above
– CRR 2	0.054 to 0.169	93,266	1,653	—	—	94,919	(17)	(4)	—	—	(21)	—	A+ to A-
– CRR 3	0.170 to 0.740	172,496	9,487	—	—	181,983	(162)	(85)	—	—	(247)	0.1	BBB+ to BBB-
– CRR 4	0.741 to 1.927	111,949	14,352	—	—	126,301	(231)	(114)	—	—	(345)	0.3	BB+ to BB-
– CRR 5	1.928 to 4.914	46,396	16,661	—	—	63,057	(209)	(252)	—	—	(461)	0.7	BB- to B
– CRR 6	4.915 to 8.860	3,662	4,544	—	22	8,228	(41)	(103)	—	—	(144)	1.8	B-
– CRR 7	8.861 to 15.000	1,228	2,882	—	4	4,114	(22)	(147)	—	—	(169)	4.1	CCC+
– CRR 8	15.001 to 99.999	302	1,695	—	—	1,997	(12)	(105)	—	—	(117)	5.9	CCC to C
– CRR 9/10	100.000	—	—	8,212	298	8,510	—	—	(3,848)	(194)	(4,042)	47.5	D
Non-bank financial institutions		59,012	2,165	230	—	61,407	(44)	(31)	(51)	—	(126)	0.2	
– CRR 1	0.000 to 0.053	13,256	—	—	—	13,256	(1)	—	—	—	(1)	—	AA- and above
– CRR 2	0.054 to 0.169	15,172	20	—	—	15,192	(2)	—	—	—	(2)	—	A+ to A-
– CRR 3	0.170 to 0.740	17,950	501	—	—	18,451	(13)	(1)	—	—	(14)	0.1	BBB+ to BBB-
– CRR 4	0.741 to 1.927	7,521	798	—	—	8,319	(10)	(2)	—	—	(12)	0.1	BB+ to BB-
– CRR 5	1.928 to 4.914	4,882	606	—	—	5,488	(14)	(5)	—	—	(19)	0.3	BB- to B
– CRR 6	4.915 to 8.860	61	133	—	—	194	—	(2)	—	—	(2)	1.0	B-
– CRR 7	8.861 to 15.000	169	23	—	—	192	(4)	(1)	—	—	(5)	2.6	CCC+
– CRR 8	15.001 to 99.999	1	84	—	—	85	—	(20)	—	—	(20)	23.5	CCC to C
– CRR 9/10	100.000	—	—	230	—	230	—	—	(51)	—	(51)	22.2	D
Banks		71,873	307	—	—	72,180	(11)	(2)	—	—	(13)	—	
– CRR 1	0.000 to 0.053	47,680	32	—	—	47,712	(3)	—	—	—	(3)	—	AA- and above
– CRR 2	0.054 to 0.169	12,519	18	—	—	12,537	(2)	—	—	—	(2)	—	A+ to A-
– CRR 3	0.170 to 0.740	7,250	121	—	—	7,371	(3)	(1)	—	—	(4)	0.1	BBB+ to BBB-
– CRR 4	0.741 to 1.927	4,032	118	—	—	4,150	(3)	(1)	—	—	(4)	0.1	BB+ to BB-
– CRR 5	1.928 to 4.914	381	18	—	—	399	—	—	—	—	—	—	BB- to B
– CRR 6	4.915 to 8.860	8	—	—	—	8	—	—	—	—	—	—	B-
– CRR 7	8.861 to 15.000	1	—	—	—	1	—	—	—	—	—	—	CCC+
– CRR 8	15.001 to 99.999	2	—	—	—	2	—	—	—	—	—	—	CCC to C
– CRR 9/10	100.000	—	—	—	—	—	—	—	—	—	—	—	D
At 31 Dec 2018		605,585	53,813	8,442	324	668,164	(753)	(845)	(3,899)	(194)	(5,691)	0.9	

1 During the period, the Group has re-presented the UK wholesale lending stage 1 and stage 2 amount. For further details, see page 122.

Commercial real estate

Commercial real estate lending includes the financing of corporate, institutional and high net worth customers who are investing primarily in income-producing assets and, to a lesser extent, in their construction and development. The portfolio is globally diversified with larger concentrations in Hong Kong, the UK and the US.

Our global exposure is centred largely on cities with economic, political or cultural significance. In more developed markets, our exposure mainly comprises the financing of investment assets, the redevelopment of existing stock and the augmentation of both commercial and residential markets to support economic and population growth. In less-developed commercial real estate markets, our exposures comprise lending for development assets on relatively short tenors with a particular focus on supporting larger, better capitalised developers involved in residential construction or assets supporting economic expansion.

Commercial real estate lending grew $7.2bn, including foreign exchange movements, mainly in Hong Kong and, to a lesser extent, within Canada.

Commercial real estate lending

	Europe	Asia	MENA	North America	Latin America	Total	Of which: UK	Of which: Hong Kong
	$m	$m	$m	$m	$m	$m	*$m*	*$m*
Gross loans and advances								
Stage 1	**25,017**	**76,832**	**1,507**	**10,938**	**1,653**	**115,947**	***17,953***	***60,632***
Stage 2	**3,988**	**2,673**	**18**	**508**	**41**	**7,228**	***2,953***	***1,696***
Stage 3	**1,115**	**21**	**208**	**33**	**27**	**1,404**	***948***	***17***
POCI	**1**	**—**	**—**	**—**	**—**	**1**	***—***	***—***
At 31 Dec 2019	**30,121**	**79,526**	**1,733**	**11,479**	**1,721**	**124,580**	***21,854***	***62,345***
– *of which: renegotiated loans*	***788***	***—***	***195***	***—***	***—***	***983***	***782***	***—***
Allowance for ECL	**(372)**	**(78)**	**(170)**	**(17)**	**(7)**	**(644)**	***(305)***	***(40)***

Commercial real estate lending[1] (continued)

	Europe	Asia	MENA	North America	Latin America	Total	Of which: UK	Of which: Hong Kong
	$m	$m	$m	$m	$m	$m	*$m*	*$m*
Gross loans and advances								
Stage 1	26,265	70,769	1,607	9,129	1,796	109,566	*19,624*	*55,872*
Stage 2	2,406	3,176	120	677	13	6,392	*1,809*	*2,032*
Stage 3	1,022	16	209	43	118	1,408	*673*	*12*
POCI	—	—	—	—	14	14	*—*	*—*
At 31 Dec 2018	29,693	73,961	1,936	9,849	1,941	117,380	*22,106*	*57,916*
– *of which: renegotiated loans*	*944*	*1*	*186*	*1*	*—*	*1,132*	*816*	*—*
Allowance for ECL	(364)	(59)	(171)	(9)	(52)	(655)	*(282)*	*(33)*

1 During the period, the Group has re-presented the UK wholesale lending stage 1 and stage 2 amount. For further details, see page 122.

Refinance risk in commercial real estate

Commercial real estate lending tends to require the repayment of a significant proportion of the principal at maturity. Typically, a customer will arrange repayment through the acquisition of a new loan to settle the existing debt. Refinance risk is the risk that a customer, being unable to repay the debt on maturity, fails to refinance it at commercial rates. We monitor our commercial real estate portfolio closely, assessing indicators for signs of potential issues with refinancing.

Commercial real estate gross loans and advances maturity analysis

	Europe	Asia	MENA	North America	Latin America	Total	Of which: UK	Of which: Hong Kong
	$m	$m	$m	$m	$m	$m	*$m*	*$m*
On demand, overdrafts or revolving								
< 1 year	**13,808**	**21,625**	**816**	**5,905**	**135**	**42,289**	***11,775***	***16,937***
1–2 years	**6,197**	**17,638**	**142**	**1,548**	**107**	**25,632**	***5,274***	***13,776***
2–5 years	**7,797**	**35,557**	**509**	**3,511**	**1,332**	**48,706**	***4,347***	***27,860***
> 5 years	**2,319**	**4,706**	**266**	**515**	**147**	**7,953**	***458***	***3,772***
At 31 Dec 2019	**30,121**	**79,526**	**1,733**	**11,479**	**1,721**	**124,580**	***21,854***	***62,345***
On demand, overdrafts or revolving								
< 1 year	13,790	22,100	896	4,942	427	42,155	*11,305*	*18,094*
1–2 years	5,850	13,174	305	1,949	117	21,395	*5,153*	*9,120*
2–5 years	7,257	32,894	417	2,152	1,053	43,773	*5,232*	*26,061*
> 5 years	2,796	5,793	318	806	344	10,057	*416*	*4,641*
At 31 Dec 2018	29,693	73,961	1,936	9,849	1,941	117,380	*22,106*	*57,916*

Collateral and other credit enhancements

(Audited)

Although collateral can be an important mitigant of credit risk, it is the Group's practice to lend on the basis of the customer's ability to meet their obligations out of cash flow resources rather than placing primary reliance on collateral and other credit risk enhancements. Depending on the customer's standing and the type of product, facilities may be provided without any collateral or other credit enhancements. For other lending, a charge over collateral is obtained and considered in determining the credit decision and pricing. In the event of default, the Group may utilise the collateral as a source of repayment.

Depending on its form, collateral can have a significant financial effect in mitigating our exposure to credit risk. Where there is sufficient collateral, an expected credit loss is not recognised. This is the case for reverse repurchase agreements and for certain loans and advances to customers where the loan to value ('LTV') is very low.

Mitigants may include a charge on borrowers' specific assets, such as real estate or financial instruments. Other credit risk mitigants include short positions in securities and financial assets held as part of linked insurance/investment contracts where the risk is predominantly borne by the policyholder. Additionally, risk may be managed by employing other types of collateral and credit risk enhancements, such as second charges, other liens and unsupported guarantees. Guarantees are normally taken from corporates and export credit agencies. Corporates would normally provide guarantees as part of a parent/subsidiary relationship and span a number of credit grades. The export credit agencies will normally be investment grade.

Certain credit mitigants are used strategically in portfolio management activities. While single name concentrations arise in portfolios managed by Global Banking and Corporate Banking, it is only in Global Banking that their size requires the use of portfolio level credit mitigants. Across Global Banking, risk limits and utilisations, maturity profiles and risk quality are monitored and managed proactively. This process is key to the setting of risk appetite for these larger, more complex, geographically distributed customer groups. While the principal form of risk management continues to be at the point of exposure origination, through the lending decision-making process, Global Banking also utilises loan sales and credit default swap ('CDS') hedges to manage concentrations and reduce risk. These transactions are the responsibility of a dedicated Global Banking portfolio management team. Hedging activity is carried out within agreed credit parameters, and is subject to market risk limits and a robust governance structure. Where applicable, CDSs are entered into directly with a central clearing house counterparty. Otherwise our exposure to CDS protection providers is diversified among mainly banking counterparties with strong credit ratings.

CDS mitigants are held at portfolio level and are not included in the expected loss calculations. CDS mitigants are not reported in the following tables.

Collateral on loans and advances

Collateral held is analysed separately for commercial real estate and for other corporate, commercial and financial (non-bank) lending. The following tables include off-balance sheet loan commitments, primarily undrawn credit lines.

The collateral measured in the following tables consists of fixed first charges on real estate, and charges over cash and marketable financial instruments. The values in the tables represent the expected market value on an open market basis. No adjustment has been made to the collateral for any expected costs of recovery. Marketable securities are measured at their fair value.

Other types of collateral such as unsupported guarantees and floating charges over the assets of a customer's business are not measured in the following tables. While such mitigants have value, often providing rights in insolvency, their assignable value is not sufficiently certain and they are therefore assigned no value for disclosure purposes.

The LTV ratios presented are calculated by directly associating loans and advances with the collateral that individually and uniquely supports each facility. When collateral assets are shared by multiple loans and advances, whether specifically or, more generally, by way of an all monies charge, the collateral value is pro-rated across the loans and advances protected by the collateral.

For credit-impaired loans, the collateral values cannot be directly compared with impairment allowances recognised. The LTV figures use open market values with no adjustments. Impairment allowances are calculated on a different basis, by considering other cash flows and adjusting collateral values for costs of realising collateral as explained further on page 275.

Commercial real estate loans and advances

The value of commercial real estate collateral is determined by using a combination of external and internal valuations and physical inspections. For CRR 1–7, local valuation policies determine the frequency of review on the basis of local market conditions because of the complexity of valuing collateral for commercial real estate. For CRR 8–10, almost all collateral would have been revalued within the last three years.

In Hong Kong, market practice is typically for lending to major property companies to be either secured by guarantees or unsecured. In Europe, facilities of a working capital nature are generally not secured by a first fixed charge, and are therefore disclosed as not collateralised.

Wholesale lending – commercial real estate loans and advances including loan commitments by level of collateral for key countries/territories (by stage)

(Audited)

	Total		Of which: UK		Of which: Hong Kong		Of which: US	
	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage
	$m	%	$m	%	$m	%	$m	%
Stage 1								
Not collateralised	61,820	0.1	7,266	0.1	32,478	–	541	–
Fully collateralised	89,319	0.1	18,535	–	41,798	–	4,722	–
LTV ratio:								
– less than 50%	46,318	0.1	7,018	0.1	28,776	–	1,703	0.1
– 51% to 75%	32,583	0.1	9,349	–	10,815	0.1	2,854	–
– 76% to 90%	5,018	0.1	1,649	0.1	1,436	0.1	96	–
– 91% to 100%	5,400	0.2	519	–	771	–	69	–
Partially collateralised (A):	6,563	0.2	682	–	1,627	0.1	–	–
– *collateral value on A*	3,602		535		1,142		–	
Total	157,702	0.1	26,483	0.1	75,903	–	5,263	–
Stage 2								
Not collateralised	3,040	1.2	1,857	1.2	440	0.2	–	–
Fully collateralised	5,184	1.1	1,419	1.2	1,501	0.6	354	1.4
LTV ratio:								
– less than 50%	2,167	1.1	615	1.8	955	0.3	62	–
– 51% to 75%	1,986	0.9	712	0.6	497	1.0	292	1.4
– 76% to 90%	333	2.1	16	6.3	29	–	–	–
– 91% to 100%	698	1.1	76	1.3	20	–	–	–
Partially collateralised (B):	500	0.6	296	0.3	42	–	–	–
– *collateral value on B*	203		56		25		–	
Total	8,724	1.1	3,572	1.1	1,983	0.5	354	–
Stage 3								
Not collateralised	315	57.8	66	92.4	–	–	–	–
Fully collateralised	557	14.9	404	12.9	17	11.8	–	–
LTV ratio:								
– less than 50%	87	16.1	42	7.1	6	16.7	–	–
– 51% to 75%	90	7.8	69	4.3	10	–	–	–
– 76% to 90%	89	15.7	72	4.2	–	–	–	–
– 91% to 100%	291	16.5	221	19.5	1	–	–	–
Partially collateralised (C):	773	41.5	507	27.8	–	–	–	–
– *collateral value on C*	380		166		–		–	
Total	1,645	35.6	977	26.0	17	11.8	–	–
POCI								
Not collateralised	–	–	–	–	–	–	–	–
Fully collateralised	1	–	–	–	–	–	–	–
LTV ratio:								
– less than 50%	1	–	–	–	–	–	–	–
– 51% to 75%	–	–	–	–	–	–	–	–
– 76% to 90%	–	–	–	–	–	–	–	–
– 91% to 100%	–	–	–	–	–	–	–	–
Partially collateralised (D):	–	–	–	–	–	–	–	–
– *collateral value on D*	–		–		–		–	
Total	1	–	–	–	–	–	–	–
At 31 Dec 2019	168,072	0.5	31,032	1.0	77,903	0.1	5,617	0.1

Wholesale lending – commercial real estate loans and advances including loan commitments by level of collateral for key countries/territories (by stage)[1] (continued)

	Total		Of which: UK		Of which: Hong Kong		Of which: US	
	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage
	$m	%	$m	%	$m	%	$m	%
Stage 1								
Not collateralised	61,486	0.1	9,920	0.2	31,224	—	—	—
Fully collateralised	86,960	0.1	17,196	0.1	39,174	—	4,862	—
LTV ratio:								
– less than 50%	46,650	0.1	7,673	0.1	25,870	—	3,463	—
– 51% to 75%	29,384	0.1	7,937	0.1	10,452	0.1	787	—
– 76% to 90%	5,167	0.1	1,038	—	1,168	0.1	519	—
– 91% to 100%	5,759	0.2	548	0.2	1,684	0.1	93	—
Partially collateralised (A):	6,101	0.1	487	0.2	2,130	—	—	—
– *collateral value on A*	*3,735*		285		1,401		—	
Total	154,547	0.1	27,603	0.1	72,528	—	4,862	—
Stage 2								
Not collateralised	2,886	0.9	1,083	1.0	1,140	0.2	—	—
Fully collateralised	5,309	1.1	1,352	2.6	1,576	0.4	439	0.5
LTV ratio:								
– less than 50%	2,372	0.9	727	1.9	795	0.4	303	0.7
– 51% to 75%	1,667	0.7	567	0.7	505	0.4	7	—
– 76% to 90%	363	5.0	34	44.1	29	—	129	—
– 91% to 100%	907	1.0	24	8.3	247	—	—	—
Partially collateralised (B):	289	1.4	52	5.8	15	—	—	—
– *collateral value on B*	*156*		20		5		—	
Total	8,484	1.1	2,487	2.0	2,731	0.3	439	0.5
Stage 3								
Not collateralised	338	57.1	61	85.2	—	—	—	—
Fully collateralised	606	12.7	433	9.2	12	—	—	—
LTV ratio:								
– less than 50%	412	10.0	304	9.2	2	—	—	—
– 51% to 75%	88	27.3	58	6.9	10	—	—	—
– 76% to 90%	38	2.6	35	5.7	—	—	—	—
– 91% to 100%	68	16.2	36	16.7	—	—	—	—
Partially collateralised (C):	474	56.5	261	42.9	—	—	—	—
– *collateral value on C*	*321*		137		—		—	
Total	1,418	37.9	755	27.0	12	—	—	—
POCI								
Not collateralised	—	—	—	—	—	—	—	—
Fully collateralised	15	53.3	—	—	—	—	—	—
LTV ratio:								
– less than 50%	13	61.5	—	—	—	—	—	—
– 51% to 75%	2	—	—	—	—	—	—	—
– 76% to 90%	—	—	—	—	—	—	—	—
– 91% to 100%	—	—	—	—	—	—	—	—
Partially collateralised (D):	—	—	—	—	—	—	—	—
– *collateral value on D*	—		—		—		—	
Total	15	53.3	—	—	—	—	—	—
At 31 Dec 2018	164,464	0.5	30,845	0.9	75,271	—	5,301	0.1

1 *During the period, the Group has re-presented the UK wholesale lending stage 1 and stage 2 amount. For further details, see page 122.*

Wholesale lending – commercial real estate loans and advances including loan commitments by level of collateral for key countries/territories

(Audited)

	Total		Of which: UK		Of which: Hong Kong		Of which: US	
	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage
	$m	%	$m	%	$m	%	$m	%
Rated CRR/PD1 to 7								
Not collateralised	**64,850**	**0.1**	***9,119***	***0.3***	***32,918***	***—***	***541***	***—***
Fully collateralised	**94,299**	**0.1**	***19,833***	***0.1***	***43,299***	***0.1***	***5,021***	***0.1***
Partially collateralised (A):	**7,052**	**0.2**	***971***	***0.1***	***1,669***	***0.1***	***—***	***—***
– *collateral value on A*	***3,796***		***586***		***1,167***		***—***	
Total	**166,201**	**0.1**	***29,923***	***0.1***	***77,886***	***—***	***5,562***	***0.1***
Rated CRR/PD8								
Not collateralised	**10**	**50.0**	***4***	***100.0***	***—***	***—***	***—***	***—***
Fully collateralised	**204**	**4.9**	***121***	***5.0***	***—***	***—***	***55***	***3.6***
LTV ratio:								
– less than 50%	**47**	**8.5**	***27***	***14.8***	***—***	***—***	***13***	***—***
– 51% to 75%	**120**	**3.3**	***68***	***1.5***	***—***	***—***	***42***	***4.8***
– 76% to 90%	**25**	**4.0**	***15***	***6.7***	***—***	***—***	***—***	***—***
– 91% to 100%	**12**	**8.3**	***11***	***—***	***—***	***—***	***—***	***—***
Partially collateralised (B):	**11**	**—**	***7***	***—***	***—***	***—***	***—***	***—***
– *collateral value on B*	***9***		***5***		***—***		***—***	
Total	**225**	**6.7**	***132***	***7.6***	***—***	***—***	***55***	***3.6***
Rated CRR/PD9 to 10								
Not collateralised	**315**	**57.8**	***66***	***92.4***	***—***	***—***	***—***	***—***
Fully collateralised	**557**	**14.9**	***404***	***12.9***	***17***	***11.8***	***—***	***—***
LTV ratio:								
– less than 50%	**87**	**16.1**	***42***	***7.1***	***6***	***16.7***	***—***	***—***
– 51% to 75%	**90**	**7.8**	***69***	***4.3***	***10***	***—***	***—***	***—***
– 76% to 90%	**89**	**15.7**	***72***	***4.2***	***—***	***—***	***—***	***—***
– 91% to 100%	**291**	**16.5**	***221***	***19.5***	***1***	***100.0***	***—***	***—***
Partially collateralised (C):	**774**	**41.6**	***507***	***27.8***	***—***	***—***	***—***	***—***
– *collateral value on C*	***380***		***166***		***—***		***—***	
Total	**1,646**	**35.7**	***977***	***26.0***	***17***	***11.8***	***—***	***—***
At 31 Dec 2019	**168,072**	**0.5**	***31,032***	***1.0***	***77,903***	***0.1***	***5,617***	***0.1***
Rated CRR/PD1 to 7								
Not collateralised	64,324	0.1	*11,001*	*0.2*	*32,364*	*—*	*—*	*—*
Fully collateralised	91,791	0.1	*18,112*	*0.2*	*40,747*	*0.1*	*5,282*	*0.1*
Partially collateralised (A):	6,377	0.2	*532*	*0.6*	*2,145*	*—*	*—*	*—*
– *collateral value on A*	*3,879*		*299*		*1,406*		*—*	
Total	162,492	0.1	*29,645*	*0.3*	*75,256*	*—*	*5,282*	*0.1*
Rated CRR/PD8								
Not collateralised	49	2.0	*2*	*—*	*—*	*—*	*—*	*—*
Fully collateralised	477	1.5	*435*	*1.1*	*3*	*33.3*	*19*	*—*
LTV ratio:								
– less than 50%	178	1.7	*149*	*1.3*	*3*	*33.3*	*19*	*—*
– 51% to 75%	269	0.4	*265*	*0.4*	*—*	*—*	*—*	*—*
– 76% to 90%	13	7.7	*7*	*14.3*	*—*	*—*	*—*	*—*
– 91% to 100%	17	11.8	*14*	*14.3*	*—*	*—*	*—*	*—*
Partially collateralised (B):	13	7.7	*8*	*12.5*	*—*	*—*	*—*	*—*
– *collateral value on B*	*12*		*6*		*—*		*—*	
Total	539	1.7	*445*	*1.3*	*3*	*33.3*	*19*	*—*
Rated CRR/PD9 to 10								
Not collateralised	338	57.1	*61*	*85.2*	*—*	*—*	*—*	*—*
Fully collateralised	621	13.5	*433*	*9.2*	*12*	*—*	*—*	*—*
LTV ratio:								
– less than 50%	425	11.5	*304*	*9.2*	*2*	*—*	*—*	*—*
– 51% to 75%	90	26.7	*58*	*6.9*	*10*	*—*	*—*	*—*
– 76% to 90%	38	2.6	*35*	*5.7*	*—*	*—*	*—*	*—*
– 91% to 100%	68	16.2	*36*	*16.7*	*—*	*—*	*—*	*—*
Partially collateralised (C):	474	56.5	*261*	*42.9*	*—*	*—*	*—*	*—*
– *collateral value on C*	*321*		*137*		*—*		*—*	
Total	1,433	38.0	*755*	*27.0*	*12*	*—*	*—*	*—*
At 31 Dec 2018	164,464	0.5	*30,845*	*0.9*	*75,271*	*—*	*5,301*	*0.1*

Other corporate, commercial and financial (non-bank) loans and advances

Other corporate, commercial and financial (non-bank) loans are analysed separately in the following table, which focuses on the countries/territories containing the majority of our loans and advances balances. For financing activities in other corporate and commercial lending, collateral value is not strongly correlated to principal repayment performance.

Collateral values are generally refreshed when an obligor's general credit performance deteriorates and we have to assess the likely performance of secondary sources of repayment should it prove necessary to rely on them.

Accordingly, the following table reports values only for customers with CRR 8–10, recognising that these loans and advances generally have valuations that are comparatively recent.

Wholesale lending – other corporate, commercial and financial (non-bank) loans and advances including loan commitments by level of collateral for key countries/territories (by stage)

(Audited)

	Total		Of which:					
			UK		Hong Kong		US	
	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage	Gross carrying/ nominal amount	ECL coverage
	$m	%	$m	%	$m	%	$m	%
Stage 1								
Not collateralised	680,079	0.1	132,197	0.2	116,536	–	112,911	–
Fully collateralised	128,290	0.1	40,172	0.1	32,818	0.1	14,830	–
LTV ratio:								
– less than 50%	48,012	0.1	13,831	0.1	11,009	0.1	5,326	–
– 51% to 75%	37,891	0.1	11,903	0.2	12,783	0.1	3,717	0.1
– 76% to 90%	13,072	0.1	3,399	0.2	4,697	0.1	130	–
– 91% to 100%	29,315	–	11,039	–	4,329	0.1	5,657	–
Partially collateralised (A):	52,890	0.1	8,122	0.1	20,162	0.1	1,629	–
– *collateral value on A*	25,824		3,809		9,616		1,337	
Total	861,259	0.1	180,491	0.2	169,516	–	129,370	–
Stage 2								
Not collateralised	61,540	1.2	13,318	2.2	13,308	0.7	10,129	0.9
Fully collateralised	21,126	0.8	3,139	1.8	12,934	0.6	868	0.8
LTV ratio:								
– less than 50%	7,081	0.9	1,208	2.0	3,845	0.6	303	0.3
– 51% to 75%	8,482	0.9	1,111	1.8	5,580	0.7	465	1.1
– 76% to 90%	2,684	0.9	282	2.1	1,646	0.5	47	2.1
– 91% to 100%	2,879	0.6	538	1.3	1,863	0.2	53	–
Partially collateralised (B):	8,463	0.8	1,516	1.4	3,768	0.4	124	1.6
– *collateral value on B*	3,669		370		1,801		53	
Total	91,129	1.1	17,973	2.1	30,010	0.6	11,121	0.9
Stage 3								
Not collateralised	4,768	49.2	1,899	33.0	504	83.5	2	50.0
Fully collateralised	1,479	22.4	494	12.6	86	12.8	214	–
LTV ratio:								
– less than 50%	335	35.2	103	17.5	9	33.3	2	–
– 51% to 75%	352	24.4	198	8.6	21	4.8	–	–
– 76% to 90%	373	23.6	101	20.8	40	7.5	–	–
– 91% to 100%	419	9.1	92	7.6	16	25.0	212	–
Partially collateralised (C):	1,367	44.8	369	20.1	87	48.3	92	44.6
– *collateral value on C*	693		192		34		65	
Total	7,614	43.2	2,762	27.6	677	70.0	308	13.6
POCI								
Not collateralised	223	32.7	32	96.9	7	–	–	–
Fully collateralised	28	3.6	–	–	10	–	–	–
LTV ratio:								
– less than 50%	2	50.0	–	–	–	–	–	–
– 51% to 75%	26	–	–	–	10	–	–	–
– 76% to 90%	–	–	–	–	–	–	–	–
– 91% to 100%	–	–	–	–	–	–	–	–
Partially collateralised (D):	97	33.0	57	1.8	31	90.3	–	–
– *collateral value on D*	57		19		30		–	
Total	348	30.5	89	36.0	48	58.3	–	–
At 31 Dec 2019	960,350	0.5	201,315	0.7	200,251	0.4	140,799	0.1

Wholesale lending – other corporate, commercial and financial (non-bank) loans and advances including loan commitments by level of collateral for key countries/territories (by stage)[1,2] (continued)

(Audited)

	Total		Of which: UK		Of which: Hong Kong		Of which: US	
	Gross carrying/ nominal amount	ECL coverage	*Gross carrying/ nominal amount*	*ECL coverage*	*Gross carrying/ nominal amount*	*ECL coverage*	*Gross carrying/ nominal amount*	*ECL coverage*
	$m	%	*$m*	*%*	*$m*	*%*	*$m*	*%*
Stage 1								
Not collateralised	673,589	0.1	*137,269*	*0.2*	*122,259*	*—*	*116,001*	*—*
Fully collateralised	127,443	0.1	*30,492*	*0.1*	*36,730*	*0.1*	*11,229*	*0.1*
LTV ratio:								
– less than 50%	39,509	0.1	*8,519*	*0.2*	*12,032*	*0.1*	*4,686*	*—*
– 51% to 75%	49,518	0.1	*9,275*	*0.2*	*14,264*	*0.1*	*2,424*	*—*
– 76% to 90%	12,627	0.1	*3,201*	*0.2*	*4,567*	*0.1*	*318*	*—*
– 91% to 100%	25,789	0.1	*9,497*	*—*	*5,867*	*0.1*	*3,801*	*—*
Partially collateralised (A):	54,412	0.1	*6,668*	*0.2*	*21,942*	*—*	*1,875*	*—*
– *collateral value on A*	*23,857*		*3,250*		*10,263*		*912*	
Total	855,444	0.1	*174,429*	*0.2*	*180,931*	*—*	*129,105*	*—*
Stage 2								
Not collateralised	61,464	1.1	*21,035*	*1.7*	*6,212*	*0.4*	*10,085*	*1.2*
Fully collateralised	13,633	1.2	*5,645*	*1.5*	*3,378*	*0.5*	*1,131*	*9.3*
LTV ratio:								
– less than 50%	5,109	1.1	*2,047*	*1.7*	*1,421*	*0.4*	*342*	*0.6*
– 51% to 75%	4,950	1.3	*2,154*	*1.8*	*1,290*	*0.6*	*467*	*0.6*
– 76% to 90%	1,399	1.8	*496*	*1.2*	*391*	*0.5*	*85*	*1.2*
– 91% to 100%	2,175	0.8	*948*	*0.4*	*276*	*0.4*	*237*	*1.7*
Partially collateralised (B):	6,623	0.7	*1,793*	*1.2*	*2,287*	*0.3*	*63*	*1.6*
– *collateral value on B*	*2,324*		*339*		*971*		*16*	
Total	81,720	1.1	*28,473*	*1.6*	*11,877*	*0.4*	*11,279*	*1.1*
Stage 3								
Not collateralised	5,240	50.2	*1,882*	*38.8*	*478*	*81.2*	*1*	*100.0*
Fully collateralised	1,460	22.9	*517*	*6.2*	*146*	*—*	*130*	*13.8*
LTV ratio:								
– less than 50%	361	36.0	*133*	*10.5*	*11*	*—*	*4*	*—*
– 51% to 75%	328	9.8	*179*	*1.7*	*62*	*—*	*—*	*—*
– 76% to 90%	427	24.6	*131*	*13.7*	*32*	*—*	*—*	*—*
– 91% to 100%	344	19.8	*74*	*8.1*	*41*	*—*	*126*	*—*
Partially collateralised (C):	1,147	43.1	*228*	*21.1*	*158*	*15.2*	*71*	*31.0*
– *collateral value on C*	*580*		*132*		*38*		*55*	
Total	7,847	44.1	*2,627*	*31.2*	*782*	*52.7*	*202*	*10.9*
POCI								
Not collateralised	232	66.8	*—*	*—*	*25*	*20.0*	*—*	*—*
Fully collateralised	37	2.7	*—*	*—*	*9*	*—*	*—*	*—*
LTV ratio:								
– less than 50%	1	—	*—*	*—*	*—*	*—*	*—*	*—*
– 51% to 75%	—	—	*—*	*—*	*—*	*—*	*—*	*—*
– 76% to 90%	22	—	*—*	*—*	*—*	*—*	*—*	*—*
– 91% to 100%	14	—	*—*	*—*	*9*	*—*	*—*	*—*
Partially collateralised (D):	49	63.3	*8*	*—*	*35*	*85.7*	*—*	*—*
– *collateral value on D*	*38*		*3*		*34*		*—*	
Total	318	59.2	*8*	*—*	*69*	*50.7*	*—*	*—*
At 31 Dec 2018	945,329	0.6	*205,537*	*0.8*	*193,659*	*0.3*	*140,586*	*0.1*

1 *During the period, the Group has re-presented the UK wholesale lending stage 1 and stage 2 amount. For further details, see page 122.*

2 *The 2018 comparative amounts have been re-presented to reclassify amounts from fully collateralised to not collateralised and to include not collateralised amounts previously excluded. The impact of these re-presentations is to increase stage 1 not collateralised amounts by $130bn and decrease fully collateralised amounts by $105bn; increase stage 2 not collateralised amounts by $14bn and decrease fully collateralised amounts by $12bn; and to increase stage 3 not collateralised amounts by $0.3bn and decrease fully collateralised amounts by $0.1bn.*

Wholesale lending – other corporate, commercial and financial (non-bank) loans and advances including loan commitments by level of collateral for key countries/territories

(Audited)

	Total		*Of which:* UK		*Hong Kong*		*US*	
	Gross carrying/ nominal amount	ECL coverage	*Gross carrying/ nominal amount*	*ECL coverage*	*Gross carrying/ nominal amount*	*ECL coverage*	*Gross carrying/ nominal amount*	*ECL coverage*
	$m	%	*$m*	*%*	*$m*	*%*	*$m*	*%*
Rated CRR/PD8								
Not collateralised	2,499	5.8	285	13.0	10	70.0	1,645	3.3
Fully collateralised	694	3.3	382	2.6	–	–	166	1.2
LTV ratio:								
– less than 50%	246	2.8	120	1.7	–	–	85	1.2
– 51% to 75%	189	4.2	93	3.2	–	–	18	–
– 76% to 90%	97	2.1	42	2.4	–	–	45	2.2
– 91% to 100%	162	3.7	127	3.9	–	–	18	–
Partially collateralised (A):	279	4.7	53	5.7	73	2.7	66	3.0
– *collateral value on A*	152		34		6		39	
Total	3,472	5.2	720	6.9	83	12.0	1,877	3.0
Rated CRR/PD9 to 10								
Not collateralised	4,991	48.5	1,930	34.1	510	82.5	2	50.0
Fully collateralised	1,507	22.0	494	12.6	96	11.5	214	–
LTV ratio:								
– less than 50%	338	35.2	103	17.5	10	–	2	–
– 51% to 75%	377	22.8	198	8.6	30	3.3	–	–
– 76% to 90%	373	23.6	101	20.8	40	7.5	–	–
– 91% to 100%	419	9.1	92	7.6	16	–	212	–
Partially collateralised (B):	1,464	44.0	427	17.6	119	58.8	92	44.6
– *collateral value on B*	750		211		64		65	
Total	7,962	42.7	2,851	27.9	725	69.2	308	13.6
At 31 Dec 2019	11,434	31.3	3,571	23.7	808	63.4	2,185	4.5
Rated CRR/PD8								
Not collateralised	1,243	5.4	565	6.2	94	7.4	191	5.2
Fully collateralised	1,895	3.6	74	4.1	11	9.1	1,621	3.1
LTV ratio:								
– less than 50%	693	4.2	21	4.8	–	–	594	4.2
– 51% to 75%	292	2.7	49	2.0	11	9.1	169	2.4
– 76% to 90%	45	15.6	2	–	–	–	20	–
– 91% to 100%	865	2.8	2	–	–	–	838	–
Partially collateralised (A):	212	2.8	23	4.3	153	1.3	–	–
– *collateral value on A*	84		14		49		–	
Total	3,350	4.2	662	6	258	3.9	1,812	3.4
Rated CRR/PD9 to 10								
Not collateralised	5,199	53.2	1,775	42.1	503	78.1	6	16.7
Fully collateralised	1,719	24.8	513	6.2	155	–	188	9.6
LTV ratio:								
– less than 50%	608	36.0	181	7.7	11	–	77	22.1
– 51% to 75%	503	8.7	172	1.7	62	–	103	1.0
– 76% to 90%	405	24.2	86	10.5	32	–	–	–
– 91% to 100%	203	31.5	74	8.1	50	–	8	–
Partially collateralised (B):	974	46.1	187	21.9	193	28.0	5	60.0
– *collateral value on B*	466		116		73		2	
Total	7,892	46.1	2,475	33.2	851	52.6	199	11.1
At 31 Dec 2018	11,242	33.7	3,137	27.4	1,109	41.3	2,011	4.2

Other credit risk exposures

In addition to collateralised lending, other credit enhancements are employed and methods used to mitigate credit risk arising from financial assets. These are summarised below:

- Some securities issued by governments, banks and other financial institutions benefit from additional credit enhancements provided by government guarantees that cover the assets.
- Debt securities issued by banks and financial institutions include asset-backed securities ('ABSs') and similar instruments, which are supported by underlying pools of financial assets. Credit risk associated with ABSs is reduced through the purchase of credit default swap ('CDS') protection.
- Trading loans and advances mainly pledged against cash collateral are posted to satisfy margin requirements. There is limited credit risk on cash collateral posted since in the event of default of the counterparty this would be set off against the related liability. Reverse repos and stock borrowing are by their nature collateralised.

Collateral accepted as security that the Group is permitted to sell or repledge under these arrangements is described on page 313 of the financial statements.

- The Group's maximum exposure to credit risk includes financial guarantees and similar contracts granted, as well as loan and other credit-related commitments. Depending on the terms of the arrangement, we may use additional credit mitigation if a guarantee is called upon or a loan commitment is drawn and subsequently defaults.

For further information on these arrangements, see Note 32 on the financial statements.

Derivatives

We participate in transactions exposing us to counterparty credit risk. Counterparty credit risk is the risk of financial loss if the counterparty to a transaction defaults before satisfactorily settling it. It arises principally from over-the-counter ('OTC') derivatives and securities financing transactions and is calculated in both the trading and non-trading books. Transactions vary in value by reference to a market factor such as an interest rate, exchange rate or asset price.

The counterparty risk from derivative transactions is taken into account when reporting the fair value of derivative positions. The adjustment to the fair value is known as the credit valuation adjustment ('CVA').

For an analysis of CVAs, see Note 12 on the financial statements.

The following table reflects by risk type the fair values and gross notional contract amounts of derivatives cleared through an exchange, central counterparty or non-central counterparty.

Notional contract amounts and fair values of derivatives

	2019			2018		
	Notional	Fair value		Notional	Fair value	
	amount	Assets	Liabilities	amount	Assets	Liabilities
	$m	$m	$m	$m	$m	$m
Total OTC derivatives	**26,244,531**	**282,778**	**279,101**	31,982,343	255,190	251,001
– total OTC derivatives cleared by central counterparties	**12,563,343**	**45,140**	**46,351**	17,939,035	52,424	52,845
– total OTC derivatives not cleared by central counterparties	**13,681,188**	**237,638**	**232,750**	14,043,308	202,766	198,156
Total exchange traded derivatives	**1,583,590**	**1,956**	**2,135**	2,030,580	2,346	4,545
Gross	**27,828,121**	**284,734**	**281,236**	34,012,923	257,536	255,546
Offset		**(41,739)**	**(41,739)**		(49,711)	(49,711)
At 31 Dec		**242,995**	**239,497**		207,825	205,835

The purposes for which HSBC uses derivatives are described in Note 15 on the financial statements.

The International Swaps and Derivatives Association ('ISDA') master agreement is our preferred agreement for documenting derivatives activity. It is common, and our preferred practice, for the parties involved in a derivative transaction to execute a credit support annex ('CSA') in conjunction with the ISDA master agreement. Under a CSA, collateral is passed between the parties to mitigate the counterparty risk inherent in outstanding positions. The majority of our CSAs are with financial institutional clients.

We manage the counterparty exposure on our OTC derivative contracts by using collateral agreements with counterparties and netting agreements. Currently, we do not actively manage our general OTC derivative counterparty exposure in the credit markets, although we may manage individual exposures in certain circumstances.

We place strict policy restrictions on collateral types and as a consequence the types of collateral received and pledged are, by value, highly liquid and of a strong quality, being predominantly cash.

Where a collateral type is required to be approved outside the collateral policy, approval is required from a committee of senior representatives from Markets, Legal and Risk.

See page 335 and Note 30 on the financial statements for details regarding legally enforceable right of offset in the event of counterparty default and collateral received in respect of derivatives.

Personal lending

This section presents further disclosures related to personal lending. It provides details of the regions, countries and products that are driving the change observed in personal loans and advances to customers, with the impact of foreign exchange separately identified. Additionally, Hong Kong and UK mortgage book LTV data is provided.

This section also provides a reconciliation of the opening 1 January 2019 to 31 December 2019 closing gross carrying/nominal amounts and associated allowance for ECL.

Further product granularity is also provided by stage, with geographical data presented for loans and advances to customers, loan and other credit-related commitments and financial guarantees.

At 31 December 2019, total personal lending for loans and advances to customers of $434bn increased by $40bn compared with 31 December 2018. This increase included favourable exchange movements of $6bn. Excluding foreign exchange movements, there was growth of $34bn, primarily driven by $18bn in Asia and $14bn in Europe. The allowance for ECL attributable to personal lending, excluding off-balance sheet loan commitments and guarantees, and foreign exchange movements, increased $0.2bn.

Excluding foreign exchange movements, total personal lending was primarily driven by mortgage growth, which grew by $23bn. Mortgages grew in Asia by $12bn, notably $7bn in Hong Kong and $3bn in Australia. In Europe, mortgages grew by $10bn, notably $9bn in the UK, driven by stronger acquisition performance, including the expanded use of broker relationships.

The quality of both our Hong Kong and UK mortgage books remained high, with negligible defaults and impairment allowances. The average LTV ratio on new mortgage lending in Hong Kong was 49%, compared with an estimated 41% for the overall mortgage portfolio. The average LTV ratio on new lending in the UK was 67%, compared with an estimated 51% for the overall mortgage portfolio.

Excluding foreign exchange movements, other personal lending balances at 31 December 2019 increased by $11bn compared with 31 December 2018. The increase was attributable to loans and overdrafts, which grew by $4bn in Hong Kong and $4bn in Europe, notably $2bn in France and $1bn in the UK. Credit cards increased by $1bn in the US, China and to a lesser extent from Mexico.

Total personal lending for loans and advances to customers at amortised cost by stage distribution

	Gross carrying amount				Allowance for ECL			
	Stage 1	**Stage 2**	**Stage 3**	**Total**	**Stage 1**	**Stage 2**	**Stage 3**	**Total**
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**
By portfolio								
First lien residential mortgages	**312,031**	**7,077**	**3,070**	**322,178**	**(39)**	**(68)**	**(422)**	**(529)**
– *of which: interest only (including offset)*	***31,201***	***1,602***	***376***	***33,179***	***(6)***	***(15)***	***(91)***	***(112)***
– *affordability (including US adjustable rate mortgages)*	***14,222***	***796***	***514***	***15,532***	***(3)***	***(3)***	***(3)***	***(9)***
Other personal lending	**101,638**	**8,674**	**1,781**	**112,093**	**(544)**	**(1,268)**	**(793)**	**(2,605)**
– other	**77,031**	**4,575**	**1,193**	**82,799**	**(229)**	**(451)**	**(491)**	**(1,171)**
– credit cards	**22,285**	**3,959**	**524**	**26,768**	**(310)**	**(801)**	**(284)**	**(1,395)**
– second lien residential mortgages	**750**	**84**	**55**	**889**	**(1)**	**(6)**	**(10)**	**(17)**
– motor vehicle finance	**1,572**	**56**	**9**	**1,637**	**(4)**	**(10)**	**(8)**	**(22)**
At 31 Dec 2019	**413,669**	**15,751**	**4,851**	**434,271**	**(583)**	**(1,336)**	**(1,215)**	**(3,134)**
By geography								
Europe	**186,561**	**6,854**	**2,335**	**195,750**	**(112)**	**(538)**	**(578)**	**(1,228)**
– *of which: UK*	***153,313***	***5,455***	***1,612***	***160,380***	***(104)***	***(513)***	***(370)***	***(987)***
Asia	**173,523**	**5,855**	**717**	**180,095**	**(223)**	**(339)**	**(170)**	**(732)**
– *of which: Hong Kong*	***117,013***	***2,751***	***189***	***119,953***	***(90)***	***(220)***	***(44)***	***(354)***
MENA	**5,671**	**247**	**299**	**6,217**	**(50)**	**(58)**	**(189)**	**(297)**
North America	**41,148**	**1,930**	**1,238**	**44,316**	**(56)**	**(119)**	**(141)**	**(316)**
Latin America	**6,766**	**865**	**262**	**7,893**	**(142)**	**(282)**	**(137)**	**(561)**
At 31 Dec 2019	**413,669**	**15,751**	**4,851**	**434,271**	**(583)**	**(1,336)**	**(1,215)**	**(3,134)**

Total personal lending for loans and other credit-related commitments and financial guarantees by stage distribution

	Nominal amount				Allowance for ECL			
	Stage 1	**Stage 2**	**Stage 3**	**Total**	**Stage 1**	**Stage 2**	**Stage 3**	**Total**
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**
Europe	**51,575**	**604**	**110**	**52,289**	**(10)**	**(2)**	**–**	**(12)**
– *of which: UK*	***49,322***	***493***	***105***	***49,920***	***(8)***	***(1)***	**–**	***(9)***
Asia	**149,336**	**682**	**9**	**150,027**	**–**	**–**	**–**	**–**
– *of which: Hong Kong*	***115,025***	***27***	***3***	***115,055***	**–**	**–**	**–**	**–**
MENA	**3,150**	**46**	**53**	**3,249**	**–**	**–**	**–**	**–**
North America	**13,919**	**256**	**20**	**14,195**	**(1)**	**–**	**–**	**(1)**
Latin America	**4,312**	**43**	**3**	**4,358**	**(3)**	**–**	**–**	**(3)**
At 31 Dec 2019	**222,292**	**1,631**	**195**	**224,118**	**(14)**	**(2)**	**–**	**(16)**

Total personal lending for loans and advances to customers at amortised cost by stage distribution (continued)

	Gross carrying amount				Allowance for ECL			
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m	$m	$m	$m	$m
By portfolio								
First lien residential mortgages	284,103	6,286	2,944	293,333	(41)	(62)	(432)	(535)
– *of which: interest only (including offset)*	*31,874*	*1,324*	*338*	*33,536*	*(3)*	*(13)*	*(92)*	*(108)*
– *affordability (including US adjustable rate mortgages)*	*16,110*	*1,065*	*507*	*17,682*	*(3)*	*(4)*	*(5)*	*(12)*
Other personal lending	90,578	8,789	1,637	101,004	(493)	(1,203)	(716)	(2,412)
– other	67,196	4,400	1,121	72,717	(214)	(435)	(465)	(1,114)
– credit cards	20,932	4,259	453	25,644	(272)	(756)	(233)	(1,261)
– second lien residential mortgages	1,022	100	57	1,179	(2)	(9)	(13)	(24)
– motor vehicle finance	1,428	30	6	1,464	(5)	(3)	(5)	(13)
At 31 Dec 2018	374,681	15,075	4,581	394,337	(534)	(1,265)	(1,148)	(2,947)
By geography								
Europe	169,782	5,731	2,051	177,564	(105)	(453)	(450)	(1,008)
– *of which: UK*	*139,237*	*4,308*	*1,315*	*144,860*	*(93)*	*(421)*	*(219)*	*(733)*
Asia	155,661	5,413	693	161,767	(207)	(353)	(180)	(740)
– *of which: Hong Kong*	*104,909*	*2,715*	*169*	*107,793*	*(71)*	*(220)*	*(39)*	*(330)*
MENA	5,565	350	411	6,326	(61)	(70)	(263)	(394)
North America	38,283	2,552	1,186	42,021	(29)	(90)	(142)	(261)
Latin America	5,390	1,029	240	6,659	(132)	(299)	(113)	(544)
At 31 Dec 2018	374,681	15,075	4,581	394,337	(534)	(1,265)	(1,148)	(2,947)

Total personal lending for loans and other credit-related commitments and financial guarantees by stage distribution (continued)

	Nominal amount				Allowance for ECL			
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Europe	52,719	291	290	53,300	(7)	—	—	(7)
– *of which: UK*	*50,195*	*224*	*285*	*50,704*	*(5)*	—	—	*(5)*
Asia	131,333	1,034	1	132,368	—	—	—	—
– *of which: Hong Kong*	*102,156*	*366*	—	*102,522*	—	—	—	—
MENA	3,264	67	23	3,354	—	—	—	—
North America	14,469	312	94	14,875	(1)	(1)	—	(2)
Latin America	4,318	59	4	4,381	(5)	—	—	(5)
At 31 Dec 2018	206,103	1,763	412	208,278	(13)	(1)	—	(14)

Exposure to UK interest-only mortgage loans

The following information is presented for HSBC branded UK interest-only mortgage loans with balances of $14.6bn. This excludes offset mortgages in the first direct brand, Private Bank mortgages, endowment mortgages and other products.

At the end of 2019, the average LTV ratio in the portfolio was 42% and 99% of mortgages had an LTV ratio of 75% or less.

Of the interest-only mortgages that expired in 2017, 86% were repaid within 12 months of expiry with a total of 95% being repaid within 24 months of expiry. For interest-only mortgages expiring during 2018, 91% were fully repaid within 12 months of expiry.

The profile of maturing UK interest-only loans is as follows:

UK interest-only mortgage loans

	$m
Expired interest-only mortgage loans	**158**
Interest-only mortgage loans by maturity	
– 2020	**306**
– 2021	**435**
– 2022	**430**
– 2023	**556**
– 2024–2028	**3,101**
– Post 2028	**9,587**
At 31 Dec 2019	**14,573**

Personal lending – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to customers including loan commitments and financial guarantees

(Audited)

	Non-credit impaired				**Credit impaired**			
	Stage 1		**Stage 2**		**Stage 3**		**Total**	
	Gross carrying/ nominal amount	**Allowance for ECL**	**Gross carrying/ nominal amount**	**Allowance for ECL**	**Gross carrying/ nominal amount**	**Allowance for ECL**	**Gross carrying/ nominal amount**	**Allowance for ECL**
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**
At 1 Jan 2019	**580,784**	**(547)**	**16,838**	**(1,266)**	**4,993**	**(1,148)**	**602,615**	**(2,961)**
Transfers of financial instruments	**(4,751)**	**(374)**	**2,645**	**858**	**2,106**	**(484)**	**–**	**–**
Net remeasurement of ECL arising from transfer of stage	**–**	**446**	**–**	**(408)**	**–**	**(76)**	**–**	**(38)**
Net new and further lending/repayments	**50,946**	**3**	**(2,348)**	**453**	**(758)**	**281**	**47,840**	**737**
Change in risk parameters – credit quality	**–**	**(100)**	**–**	**(1,015)**	**–**	**(1,190)**	**–**	**(2,305)**
Changes to models used for ECL calculation	**–**	**(6)**	**–**	**60**	**–**	**14**	**–**	**68**
Assets written off	**–**	**–**	**–**	**–**	**(1,345)**	**1,345**	**(1,345)**	**1,345**
Foreign exchange and other	**8,982**	**(19)**	**247**	**(20)**	**50**	**43**	**9,279**	**4**
At 31 Dec 2019	**635,961**	**(597)**	**17,382**	**(1,338)**	**5,046**	**(1,215)**	**658,389**	**(3,150)**
ECL income statement change for the period		**343**		**(910)**		**(971)**		**(1,538)**
Recoveries								**314**
Other								**4**
Total ECL income statement change for the period								**(1,220)**

As shown in the above table, the allowance for ECL for loans and advances to customers and banks and relevant loan commitments and financial guarantees increased $189m during the period from $2,961m at 31 December 2018 to $3,150m at 31 December 2019.

This increase was primarily driven by:

- $737m relating to volume movements, which included the ECL allowance associated with new originations, assets derecognised and further lending/repayments;
- $68m due to changes to models used for ECL calculation;
- $1,345m of assets written off; and
- foreign exchange and other movements of $4m.

These were offset by:

- $2,305m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stages; and
- $38m relating to the net remeasurement impact of stage transfers.

The ECL charge for the period of $1,538m presented in the above table consisted of $2,305m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stage and $38m relating to the net remeasurement impact of stage transfers. This was partly offset by $737m relating to underlying net book volume movements and $68m in changes to models used for ECL calculation.

Personal lending – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to customers including loan commitments and financial guarantees

(Audited)

	Non-credit impaired				Credit impaired			
	Stage 1		Stage 2		Stage 3		Total	
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2018	549,328	(596)	17,678	(1,157)	4,874	(1,312)	571,880	(3,065)
Transfers of financial instruments	(4,270)	(411)	2,047	799	2,223	(388)	–	–
Net remeasurement of ECL arising from transfer of stage	–	358	–	(374)	–	(11)	–	(27)
Net new and further lending/repayments	52,761	(241)	(2,453)	222	(488)	327	49,820	308
Changes to risk parameters – credit quality	–	266	–	(786)	–	(1,197)	–	(1,717)
Assets written off	–	–	–	–	(1,386)	1,380	(1,386)	1,380
Foreign exchange and other	(17,035)	77	(434)	30	(230)	53	(17,699)	160
At 31 Dec 2018	580,784	(547)	16,838	(1,266)	4,993	(1,148)	602,615	(2,961)
ECL income statement change for the period		383		(938)		(881)		(1,436)
Recoveries								290
Others								(18)
Total ECL income statement change for the period								(1,164)

Personal lending – credit risk profile by internal PD band for loans and advances to customers at amortised cost

		Gross carrying amount				Allowance for ECL				
	PD range[1]	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total	ECL coverage
	%	$m	$m	$m	$m	$m	$m	$m	$m	%
First lien residential mortgages		**312,031**	**7,077**	**3,070**	**322,178**	**(39)**	**(68)**	**(422)**	**(529)**	**0.2**
– Band 1	**0.000 to 0.250**	**268,490**	**284**	**–**	**268,774**	**(16)**	**–**	**–**	**(16)**	**–**
– Band 2	**0.251 to 0.500**	**22,293**	**301**	**–**	**22,594**	**(4)**	**–**	**–**	**(4)**	**–**
– Band 3	**0.501 to 1.500**	**17,247**	**2,313**	**–**	**19,560**	**(13)**	**(3)**	**–**	**(16)**	**0.1**
– Band 4	**1.501 to 5.000**	**3,796**	**1,970**	**–**	**5,766**	**(5)**	**(7)**	**–**	**(12)**	**0.2**
– Band 5	**5.001 to 20.000**	**198**	**1,383**	**–**	**1,581**	**(1)**	**(23)**	**–**	**(24)**	**1.5**
– Band 6	**20.001 to 99.999**	**7**	**826**	**–**	**833**	**–**	**(35)**	**–**	**(35)**	**4.2**
– Band 7	**100.000**	**–**	**–**	**3,070**	**3,070**	**–**	**–**	**(422)**	**(422)**	**13.7**
Other personal lending		**101,638**	**8,674**	**1,781**	**112,093**	**(544)**	**(1,268)**	**(793)**	**(2,605)**	**2.3**
– Band 1	**0.000 to 0.250**	**46,533**	**60**	**–**	**46,593**	**(120)**	**–**	**–**	**(120)**	**0.3**
– Band 2	**0.251 to 0.500**	**16,435**	**65**	**–**	**16,500**	**(38)**	**(26)**	**–**	**(64)**	**0.4**
– Band 3	**0.501 to 1.500**	**25,160**	**317**	**–**	**25,477**	**(110)**	**(13)**	**–**	**(123)**	**0.5**
– Band 4	**1.501 to 5.000**	**10,951**	**3,483**	**–**	**14,434**	**(144)**	**(329)**	**–**	**(473)**	**3.3**
– Band 5	**5.001 to 20.000**	**2,421**	**3,434**	**–**	**5,855**	**(132)**	**(440)**	**–**	**(572)**	**9.8**
– Band 6	**20.001 to 99.999**	**138**	**1,315**	**–**	**1,453**	**–**	**(460)**	**–**	**(460)**	**31.7**
– Band 7	**100.000**	**–**	**–**	**1,781**	**1,781**	**–**	**–**	**(793)**	**(793)**	**44.5**
At 31 Dec 2019		**413,669**	**15,751**	**4,851**	**434,271**	**(583)**	**(1,336)**	**(1,215)**	**(3,134)**	**0.7**
First lien residential mortgages		284,103	6,286	2,944	293,333	(41)	(62)	(432)	(535)	0.2
– Band 1	0.000 to 0.250	247,046	308	–	247,354	(15)	–	–	(15)	–
– Band 2	0.251 to 0.500	15,458	78	–	15,536	(4)	–	–	(4)	–
– Band 3	0.501 to 1.500	17,987	1,881	–	19,868	(14)	(2)	–	(16)	0.1
– Band 4	1.501 to 5.000	3,295	1,575	–	4,870	(7)	(6)	–	(13)	0.3
– Band 5	5.001 to 20.000	301	1,445	–	1,746	(1)	(19)	–	(20)	1.1
– Band 6	20.001 to 99.999	16	999	–	1,015	–	(35)	–	(35)	3.4
– Band 7	100.000	–	–	2,944	2,944	–	–	(432)	(432)	14.7
Other personal lending		90,578	8,789	1,637	101,004	(493)	(1,203)	(716)	(2,412)	2.4
– Band 1	0.000 to 0.250	41,048	38	–	41,086	(95)	–	–	(95)	0.2
– Band 2	0.251 to 0.500	12,524	116	–	12,640	(34)	–	–	(34)	0.3
– Band 3	0.501 to 1.500	23,573	323	–	23,896	(122)	(26)	–	(148)	0.6
– Band 4	1.501 to 5.000	11,270	3,089	–	14,359	(131)	(285)	–	(416)	2.9
– Band 5	5.001 to 20.000	2,158	4,061	–	6,219	(111)	(465)	–	(576)	9.3
– Band 6	20.001 to 99.999	5	1,162	–	1,167	–	(427)	–	(427)	36.6
– Band 7	100.000	–	–	1,637	1,637	–	–	(716)	(716)	43.7
At 31 Dec 2018		374,681	15,075	4,581	394,337	(534)	(1,265)	(1,148)	(2,947)	0.7

1 12-month point in time adjusted for multiple economic scenarios.

Collateral on loans and advances

(Audited)

The following table provides a quantification of the value of fixed charges we hold over specific assets where we have a history of enforcing, and are able to enforce, collateral in satisfying a debt in the event of the borrower failing to meet its contractual obligations, and where the collateral is cash or can be realised by sale in an established market. The collateral valuation excludes any adjustments for obtaining and selling the collateral and, in particular, loans shown as not collateralised or partially collateralised may also benefit from other forms of credit mitigants.

Personal lending – residential mortgage loans including loan commitments by level of collateral for key countries/territories by stage

(Audited)

			Of which:					
	Total		***UK***		***Hong Kong***		***US***	
	Gross carrying/ nominal amount	**ECL coverage**	***Gross carrying/ nominal amount***	***ECL coverage***	***Gross carrying/ nominal amount***	***ECL coverage***	***Gross carrying/ nominal amount***	***ECL coverage***
	$m	**%**	***$m***	***%***	***$m***	***%***	***$m***	***%***
Stage 1								
Fully collateralised	**326,510**	**–**	***143,772***	***–***	***86,049***	***–***	***16,079***	***–***
LTV ratio:								
– less than 50%	**168,923**	**–**	***70,315***	***–***	***57,043***	***–***	***8,170***	***–***
– 51% to 60%	**55,287**	**–**	***21,898***	***–***	***13,169***	***–***	***3,330***	***–***
– 61% to 70%	**44,208**	**–**	***19,903***	***–***	***6,478***	***–***	***2,702***	***–***
– 71% to 80%	**33,049**	**–**	***17,649***	***–***	***3,195***	***–***	***1,610***	***–***
– 81% to 90%	**18,157**	**–**	***11,127***	***–***	***3,685***	***–***	***198***	***–***
– 91% to 100%	**6,886**	**–**	***2,880***	***–***	***2,479***	***–***	***69***	***–***
Partially collateralised (A):	**1,384**	**0.1**	***326***	***–***	***284***	***–***	***5***	***–***
LTV ratio:								
– 101% to 110%	**843**	**0.1**	***89***	***–***	***281***	***–***	***3***	***–***
– 111% to 120%	**195**	**0.2**	***48***	***–***	***1***	***–***	***1***	***–***
– greater than 120%	**346**	**0.1**	***189***	***–***	***2***	***–***	***1***	***–***
– *collateral value on A*	***1,232***		***232***		***279***		***5***	
Total	**327,894**	**–**	***144,098***	***–***	***86,333***	***–***	***16,084***	***–***
Stage 2								
Fully collateralised	**7,087**	**0.9**	***1,941***	***1.0***	***1,116***	***–***	***1,074***	***0.3***
LTV ratio:								
– less than 50%	**3,781**	**0.5**	***1,146***	***0.7***	***892***	***–***	***680***	***0.2***
– 51% to 60%	**923**	**1.1**	***233***	***1.5***	***95***	***–***	***184***	***0.3***
– 61% to 70%	**909**	**1.2**	***262***	***1.2***	***59***	***–***	***130***	***0.6***
– 71% to 80%	**894**	**1.1**	***231***	***1.0***	***32***	***–***	***53***	***1.3***
– 81% to 90%	**425**	**1.6**	***36***	***2.9***	***25***	***–***	***17***	***2.7***
– 91% to 100%	**155**	**4.4**	***33***	***1.8***	***13***	***–***	***10***	***1.1***
Partially collateralised (B):	**76**	**7.2**	***23***	***1.8***	***1***	***–***	***4***	***–***
LTV ratio:								
– 101% to 110%	**45**	**5.4**	***20***	***1.5***	***1***	***–***	***2***	***–***
– 111% to 120%	**10**	**11.1**	***1***	***4.8***	***–***	***–***	***1***	***–***
– greater than 120%	**21**	**9.0**	***2***	***3.0***	***–***	***–***	***1***	***–***
– *collateral value on B*	***69***		***20***		***1***		***3***	
Total	**7,163**	**1.0**	***1,964***	***1.0***	***1,117***	***–***	***1,078***	***0.3***
Stage 3								
Fully collateralised	**2,725**	**9.0**	***1,177***	***9.9***	***44***	***0.5***	***695***	***0.7***
LTV ratio:								
– less than 50%	**1,337**	**7.1**	***711***	***7.8***	***39***	***0.5***	***279***	***0.7***
– 51% to 60%	**410**	**7.0**	***159***	***10.0***	***3***	***0.2***	***126***	***0.8***
– 61% to 70%	**358**	**7.9**	***136***	***10.6***	***–***	***–***	***125***	***0.8***
– 71% to 80%	**309**	**13.4**	***100***	***18.9***	***1***	***–***	***93***	***1.1***
– 81% to 90%	**178**	**13.8**	***47***	***12.3***	***1***	***–***	***51***	***–***
– 91% to 100%	**133**	**21.8**	***24***	***26.3***	***–***	***–***	***21***	***–***
Partially collateralised (C):	**371**	**47.6**	***25***	***27.3***	***–***	***–***	***13***	***0.2***
LTV ratio:								
– 101% to 110%	**97**	**36.4**	***11***	***19.1***	***–***	***–***	***7***	***0.3***
– 111% to 120%	**62**	**37.8**	***6***	***22.7***	***–***	***–***	***2***	***0.3***
– greater than 120%	**212**	**55.6**	***8***	***42.0***	***–***	***–***	***4***	***–***
– *collateral value on C*	***305***		***24***		***–***		***13***	
Total	**3,096**	**13.7**	***1,202***	***10.3***	***44***	***0.5***	***708***	***0.7***
At 31 Dec 2019	**338,153**	**0.2**	***147,264***	***0.1***	***87,494***	***–***	***17,870***	***0.1***

Personal lending – residential mortgage loans including loan commitments by level of collateral for key countries/territories by stage (continued)

(Audited)

	Total		*Of which:* UK		*Hong Kong*		*US*	
	Gross carrying/ nominal amount	ECL coverage	*Gross carrying/ nominal amount*	*ECL coverage*	*Gross carrying/ nominal amount*	*ECL coverage*	*Gross carrying/ nominal amount*	*ECL coverage*
	$m	%	*$m*	*%*	*$m*	*%*	*$m*	*%*
Stage 1								
Fully collateralised	299,072	—	*130,646*	*—*	*79,180*	*—*	*15,321*	*—*
LTV ratio:								
– less than 50%	160,563	—	*66,834*	*—*	*54,262*	*—*	*8,060*	*—*
– 51% to 60%	51,415	—	*20,937*	*—*	*11,591*	*—*	*3,382*	*—*
– 61% to 70%	40,273	—	*17,480*	*—*	*5,979*	*—*	*2,473*	*—*
– 71% to 80%	28,383	—	*15,086*	*—*	*2,986*	*—*	*1,113*	*—*
– 81% to 90%	14,191	—	*8,824*	*—*	*2,637*	*—*	*158*	*—*
– 91% to 100%	4,247	0.1	*1,485*	*—*	*1,725*	*—*	*135*	*—*
Partially collateralised (A):	1,420	0.1	*581*	*—*	*300*	*—*	*10*	*—*
LTV ratio:								
– 101% to 110%	808	0.1	*334*	*—*	*256*	*—*	*5*	*—*
– 111% to 120%	184	0.2	*46*	*—*	*41*	*—*	*2*	*—*
– greater than 120%	428	0.2	*201*	*—*	*3*	*—*	*3*	*—*
– collateral value on A	*1,266*		*493*		*284*		*8*	
Total	300,492	—	*131,227*	*—*	*79,480*	*—*	*15,331*	*—*
Stage 2								
Fully collateralised	6,170	1.0	*1,234*	*1.3*	*867*	*—*	*1,435*	*0.3*
LTV ratio:								
– less than 50%	3,334	0.7	*917*	*0.9*	*699*	*—*	*814*	*0.1*
– 51% to 60%	932	1.1	*113*	*3.0*	*74*	*—*	*268*	*0.4*
– 61% to 70%	853	1.0	*105*	*2.2*	*43*	*—*	*231*	*0.3*
– 71% to 80%	586	1.3	*39*	*3.4*	*28*	*—*	*79*	*0.9*
– 81% to 90%	331	1.7	*27*	*3.1*	*20*	*—*	*32*	*1.6*
– 91% to 100%	134	2.4	*33*	*1.5*	*3*	*—*	*11*	*0.8*
Partially collateralised (B):	123	2.9	*46*	*0.2*	*1*	*—*	*5*	*0.3*
LTV ratio:								
– 101% to 110%	76	1.5	*44*	*0.1*	*1*	*—*	*3*	*0.5*
– 111% to 120%	17	4.5	*1*	*4.3*	*—*	*—*	*1*	*—*
– greater than 120%	30	5.3	*1*	*0.6*	*—*	*—*	*1*	*—*
– collateral value on B	*118*		*44*		*1*		*4*	
Total	6,293	1.0	*1,280*	*1.3*	*868*	*—*	*1,440*	*0.3*
Stage 3								
Fully collateralised	2,557	12.3	*1,023*	*10.9*	*25*	*0.9*	*671*	*1.0*
LTV ratio:								
– less than 50%	1,255	13.6	*638*	*7.8*	*24*	*0.9*	*219*	*0.9*
– 51% to 60%	359	8.3	*151*	*11.3*	*1*	*—*	*107*	*0.9*
– 61% to 70%	336	12.0	*119*	*18.4*	*—*	*—*	*105*	*1.0*
– 71% to 80%	280	9.9	*70*	*14.8*	*—*	*—*	*114*	*0.9*
– 81% to 90%	190	9.4	*33*	*19.4*	*—*	*—*	*81*	*1.2*
– 91% to 100%	137	19.8	*12*	*45.9*	*—*	*—*	*45*	*2.2*
Partially collateralised (C):	391	33.6	*23*	*15.8*	*—*	*—*	*24*	*0.4*
LTV ratio:								
– 101% to 110%	73	17.4	*10*	*14.3*	*—*	*—*	*14*	*0.6*
– 111% to 120%	68	24.2	*5*	*26.4*	*—*	*—*	*6*	*0.3*
– greater than 120%	250	40.8	*8*	*11.1*	*—*	*—*	*4*	*0.2*
– collateral value on C	*372*		*20*		*—*		*22*	
Total	2,948	15.1	*1,046*	*11.0*	*25*	*0.9*	*695*	*1.0*
At 31 Dec 2018	309,733	0.2	*133,553*	*0.1*	*80,373*	*—*	*17,466*	*0.1*

Supplementary information

Wholesale lending – loans and advances to customers at amortised cost by country/territory

	Gross carrying amount				Allowance for ECL			
	Corporate and commercial	*Of which: real estate*[1]	Non-bank financial institutions	Total	Corporate and commercial	*Of which: real estate*[1]	Non-bank financial institutions	Total
	$m	*$m*	$m	$m	$m	*$m*	$m	$m
Europe	**175,215**	***26,587***	**26,497**	**201,712**	**(2,304)**	***(354)***	**(81)**	**(2,385)**
– UK	**126,760**	***18,941***	**18,545**	**145,305**	**(1,629)**	***(303)***	**(26)**	**(1,655)**
– France	**27,885**	***5,643***	**4,899**	**32,784**	**(423)**	***(28)***	**(52)**	**(475)**
– Germany	**9,771**	***390***	**1,743**	**11,514**	**(60)**	**—**	**—**	**(60)**
– Switzerland	**1,535**	***554***	**406**	**1,941**	**(1)**	**—**	**—**	**(1)**
– other	**9,264**	***1,059***	**904**	**10,168**	**(191)**	***(23)***	**(3)**	**(194)**
Asia	**267,709**	***85,556***	**32,157**	**299,866**	**(1,449)**	***(94)***	**(52)**	**(1,501)**
– Hong Kong	**168,380**	***67,856***	**19,776**	**188,156**	**(750)**	***(51)***	**(40)**	**(790)**
– Australia	**11,428**	***1,993***	**1,743**	**13,171**	**(70)**	***(3)***	**—**	**(70)**
– India	**6,657**	***1,565***	**2,622**	**9,279**	**(49)**	***(3)***	**(1)**	**(50)**
– Indonesia	**4,346**	***63***	**353**	**4,699**	**(222)**	***(1)***	**(2)**	**(224)**
– mainland China	**26,594**	***5,304***	**5,911**	**32,505**	**(198)**	***(29)***	**(8)**	**(206)**
– Malaysia	**6,914**	***1,597***	**230**	**7,144**	**(40)**	***(2)***	**—**	**(40)**
– Singapore	**19,986**	***5,235***	**618**	**20,604**	**(60)**	***(2)***	**—**	**(60)**
– Taiwan	**6,384**	***28***	**82**	**6,466**	**(2)**	**—**	**—**	**(2)**
– other	**17,020**	***1,915***	**822**	**17,842**	**(58)**	***(3)***	**(1)**	**(59)**
Middle East and North Africa (excluding Saudi Arabia)	**23,447**	***1,816***	**288**	**23,735**	**(1,087)**	***(181)***	**(13)**	**(1,100)**
– Egypt	**1,889**	***35***	**16**	**1,905**	**(132)**	**—**	**(3)**	**(135)**
– UAE	**13,697**	***1,695***	**122**	**13,819**	**(683)**	***(179)***	**(7)**	**(690)**
– other	**7,861**	***86***	**150**	**8,011**	**(272)**	***(2)***	**(3)**	**(275)**
North America	**59,680**	***15,128***	**10,078**	**69,758**	**(274)**	***(43)***	**(11)**	**(285)**
– US	**34,477**	***8,282***	**8,975**	**43,452**	**(116)**	***(14)***	**(2)**	**(118)**
– Canada	**24,427**	***6,556***	**979**	**25,406**	**(136)**	***(10)***	**(4)**	**(140)**
– other	**776**	***290***	**124**	**900**	**(22)**	***(19)***	**(5)**	**(27)**
Latin America	**14,448**	***1,665***	**1,685**	**16,133**	**(324)**	***(8)***	**(3)**	**(327)**
– Mexico	**12,352**	***1,664***	**1,625**	**13,977**	**(221)**	***(8)***	**(3)**	**(224)**
– other	**2,096**	***1***	**60**	**2,156**	**(103)**	**—**	**—**	**(103)**
At 31 Dec 2019	**540,499**	***130,752***	**70,705**	**611,204**	**(5,438)**	***(680)***	**(160)**	**(5,598)**
Europe	176,577	*25,715*	22,529	199,106	(2,507)	*(481)*	(82)	(2,589)
– UK	127,093	*18,384*	17,703	144,796	(1,701)	*(410)*	(78)	(1,779)
– France	28,204	*5,890*	2,488	30,692	(405)	*(36)*	(1)	(406)
– Germany	10,454	*246*	1,371	11,825	(35)	—	—	(35)
– Switzerland	1,674	*509*	348	2,022	(1)	—	—	(1)
– other	9,152	*686*	619	9,771	(365)	*(35)*	(3)	(368)
Asia	263,608	*79,941*	27,284	290,892	(1,343)	*(67)*	(31)	(1,374)
– Hong Kong	168,621	*63,287*	15,062	183,683	(579)	*(40)*	(20)	(599)
– Australia	11,335	*2,323*	2,115	13,450	(68)	*(3)*	—	(68)
– India	6,396	*1,408*	2,846	9,242	(77)	*(4)*	(1)	(78)
– Indonesia	4,286	*35*	354	4,640	(269)	—	(2)	(271)
– mainland China	24,225	*4,423*	5,146	29,371	(172)	*(15)*	(6)	(178)
– Malaysia	7,924	*1,649*	274	8,198	(77)	*(2)*	—	(77)
– Singapore	17,564	*4,463*	431	17,995	(31)	*(2)*	—	(31)
– Taiwan	6,008	*23*	156	6,164	(2)	—	—	(2)
– other	17,249	*2,330*	900	18,149	(68)	*(1)*	(2)	(70)
Middle East and North Africa (excluding Saudi Arabia)	23,738	*2,025*	322	24,060	(1,167)	*(178)*	(1)	(1,168)
– Egypt	1,746	*41*	—	1,746	(125)	—	—	(125)
– UAE	14,445	*1,849*	206	14,651	(721)	*(176)*	(1)	(722)
– other	7,547	*135*	116	7,663	(321)	*(2)*	—	(321)
North America	56,983	*14,169*	9,647	66,630	(236)	*(37)*	(8)	(244)
– US	35,714	*8,422*	8,777	44,491	(103)	*(8)*	(2)	(105)
– Canada	20,493	*5,354*	770	21,263	(105)	*(5)*	(2)	(107)
– other	776	*393*	100	876	(28)	*(24)*	(4)	(32)
Latin America	13,671	*1,383*	1,625	15,296	(299)	*(8)*	(4)	(303)
– Mexico	11,302	*1,354*	1,567	12,869	(225)	*(8)*	(4)	(229)
– other	2,369	*29*	58	2,427	(74)	—	—	(74)
At 31 Dec 2018	534,577	*123,233*	61,407	595,984	(5,552)	*(771)*	(126)	(5,678)

1 Real estate lending within this disclosure corresponds solely to the industry of the borrower. Commercial real estate on page 147 includes borrowers in multiple industries investing in income-producing assets and to a lesser extent, their construction and development.

Personal lending – loans and advances to customers at amortised cost by country/territory

	Gross carrying amount				Allowance for ECL			
	First lien residential mortgages	Other personal	*Of which: credit cards*	Total	First lien residential mortgages	Other personal	*Of which: credit cards*	Total
	$m	$m	*$m*	$m	$m	$m	*$m*	$m
Europe	145,382	50,368	*10,246*	195,750	(266)	(962)	*(438)*	(1,228)
– UK	137,985	22,395	*9,816*	160,380	(159)	(828)	*(434)*	(987)
– France	3,520	21,120	*376*	24,640	(39)	(101)	*(3)*	(140)
– Germany	—	325	—	325	—	—	—	—
– Switzerland	1,183	6,165	—	7,348	(6)	(17)	—	(23)
– other	2,694	363	*54*	3,057	(62)	(16)	(1)	(78)
Asia	131,864	48,231	*12,144*	180,095	(42)	(690)	*(463)*	(732)
– Hong Kong	86,892	33,061	*8,043*	119,953	(1)	(353)	*(242)*	(354)
– Australia	16,997	693	*603*	17,690	(5)	(34)	*(33)*	(39)
– India	1,047	528	*219*	1,575	(5)	(21)	*(15)*	(26)
– Indonesia	67	329	*204*	396	—	(24)	*(18)*	(24)
– mainland China	8,966	1,190	*656*	10,156	(2)	(74)	*(68)*	(76)
– Malaysia	2,840	3,200	*980*	6,040	(22)	(73)	*(33)*	(95)
– Singapore	6,687	7,033	*452*	13,720	(1)	(60)	*(19)*	(61)
– Taiwan	5,286	1,004	*297*	6,290	0	(14)	*(4)*	(14)
– other	3,082	1,193	*690*	4,275	(6)	(37)	*(31)*	(43)
Middle East and North Africa (excluding Saudi Arabia)	2,303	3,914	*1,042*	6,217	(62)	(235)	*(111)*	(297)
– Egypt	—	346	*88*	346	—	(3)	*(1)*	(3)
– UAE	1,920	1,462	*517*	3,382	(59)	(121)	*(54)*	(180)
– other	383	2,106	*437*	2,489	(3)	(111)	*(56)*	(114)
North America	39,065	5,251	*1,742*	44,316	(122)	(194)	*(142)*	(316)
– US	17,870	2,551	*1,424*	20,421	(8)	(160)	*(134)*	(168)
– Canada	19,997	2,495	*271*	22,492	(21)	(25)	*(7)*	(46)
– other	1,198	205	*47*	1,403	(93)	(9)	*(1)*	(102)
Latin America	3,564	4,329	*1,594*	7,893	(37)	(524)	*(241)*	(561)
– Mexico	3,419	3,780	*1,308*	7,199	(31)	(488)	*(224)*	(519)
– other	145	549	*286*	694	(6)	(36)	*(17)*	(42)
At 31 Dec 2019	**322,178**	**112,093**	***26,768***	**434,271**	**(529)**	**(2,605)**	***(1,395)***	**(3,134)**
Europe	131,557	46,007	*9,790*	177,564	(258)	(750)	*(313)*	(1,008)
– UK	124,357	20,503	*9,356*	144,860	(141)	(592)	*(309)*	(733)
– France	3,454	19,616	*376*	23,070	(43)	(114)	*(4)*	(157)
– Germany	—	288	—	288	—	—	—	—
– Switzerland	1,120	5,213	—	6,333	(2)	(19)	—	(21)
– other	2,626	387	*58*	3,013	(72)	(25)	—	(97)
Asia	119,718	42,049	*11,900*	161,767	(44)	(696)	(465)	(740)
– Hong Kong	79,059	28,734	*8,124*	107,793	(1)	(329)	*(228)*	(330)
– Australia	13,858	764	*626*	14,622	(5)	(55)	*(54)*	(60)
– India	1,030	608	*228*	1,638	(5)	(20)	*(14)*	(25)
– Indonesia	59	279	*206*	338	—	(34)	*(27)*	(34)
– mainland China	8,706	1,139	*502*	9,845	(2)	(57)	*(50)*	(59)
– Malaysia	2,890	3,209	*888*	6,099	(24)	(71)	*(33)*	(95)
– Singapore	5,991	5,353	*434*	11,344	—	(70)	*(21)*	(70)
– Taiwan	5,123	860	*289*	5,983	(1)	(20)	*(5)*	(21)
– other	3,002	1,103	*603*	4,105	(6)	(40)	*(33)*	(46)
Middle East and North Africa (excluding Saudi Arabia)	2,393	3,933	*1,181*	6,326	(88)	(306)	*(148)*	(394)
– Egypt	—	309	*71*	309	—	(5)	*(1)*	(5)
– UAE	1,974	1,477	*538*	3,451	(82)	(126)	*(54)*	(208)
– other	419	2,147	*572*	2,566	(6)	(175)	*(93)*	(181)
North America	36,964	5,057	*1,341*	42,021	(122)	(139)	*(81)*	(261)
– US	17,464	2,280	*1,028*	19,744	(13)	(106)	*(75)*	(119)
– Canada	18,267	2,562	*265*	20,829	(16)	(23)	*(5)*	(39)
– other	1,233	215	*48*	1,448	(93)	(10)	*(1)*	(103)
Latin America	2,701	3,958	*1,432*	6,659	(23)	(521)	*(254)*	(544)
– Mexico	2,550	3,192	*1,121*	5,742	(22)	(465)	*(227)*	(487)
– other	151	766	*311*	917	(1)	(56)	*(27)*	(57)
At 31 Dec 2018	293,333	101,004	*25,644*	394,337	(535)	(2,412)	*(1,261)*	(2,947)

Summary of financial instruments to which the impairment requirements in IFRS 9 are applied – by global business

	Gross carrying/nominal amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers at amortised cost	951,583	80,182	13,378	332	1,045,475	(1,297)	(2,284)	(5,052)	(99)	(8,732)
– RBWM	378,792	15,251	4,472	–	398,515	(593)	(1,320)	(1,210)	–	(3,123)
– CMB	297,319	46,423	6,649	212	350,603	(520)	(765)	(3,190)	(68)	(4,543)
– GB&M	228,546	16,934	1,598	120	247,198	(173)	(176)	(550)	(31)	(930)
– GPB	45,512	1,543	659	–	47,714	(9)	(10)	(102)	–	(121)
– Corporate Centre	1,414	31	–	–	1,445	(2)	(13)	–	–	(15)
Loans and advances to banks at amortised cost	67,769	1,450	–	–	69,219	(14)	(2)	–	–	(16)
– RBWM	4,733	388	–	–	5,121	–	(1)	–	–	(1)
– CMB	1,245	216	–	–	1,461	(2)	–	–	–	(2)
– GB&M	23,420	801	–	–	24,221	(9)	(1)	–	–	(10)
– GPB	28	–	–	–	28	–	–	–	–	–
– Corporate Centre	38,343	45	–	–	38,388	(3)	–	–	–	(3)
Other financial assets measured at amortised cost	613,200	1,827	151	1	615,179	(38)	(38)	(42)	–	(118)
– RBWM	55,915	535	32	–	56,482	(21)	(30)	(3)	–	(54)
– CMB	13,698	900	47	1	14,646	(8)	(7)	(26)	–	(41)
– GB&M	280,621	372	34	–	281,027	(5)	(1)	(11)	–	(17)
– GPB	1,406	9	4	–	1,419	–	–	(2)	–	(2)
– Corporate Centre	261,560	11	34	–	261,605	(4)	–	–	–	(4)
Total gross carrying amount on-balance sheet at 31 Dec 2019	1,632,552	83,459	13,529	333	1,729,873	(1,349)	(2,324)	(5,094)	(99)	(8,866)
Loans and other credit-related commitments	577,631	21,618	771	9	600,029	(137)	(133)	(59)	–	(329)
– RBWM	171,118	1,850	180	–	173,148	(14)	(1)	–	–	(15)
– CMB	117,703	11,403	558	9	129,673	(69)	(65)	(56)	–	(190)
– GB&M	246,805	8,270	28	–	255,103	(53)	(67)	(3)	–	(123)
– GPB	41,975	95	5	–	42,075	(1)	–	–	–	(1)
– Corporate Centre	30	–	–	–	30	–	–	–	–	–
Financial guarantees	17,684	2,340	186	4	20,214	(16)	(22)	(10)	–	(48)
– RBWM	61	2	1	–	64	–	–	–	–	–
– CMB	7,446	1,442	105	4	8,997	(9)	(12)	(6)	–	(27)
– GB&M	9,263	894	80	–	10,237	(7)	(10)	(4)	–	(21)
– GPB	911	2	–	–	913	–	–	–	–	–
– Corporate Centre	3	–	–	–	3	–	–	–	–	–
Total nominal amount off-balance sheet at 31 Dec 2019	595,315	23,958	957	13	620,243	(153)	(155)	(69)	–	(377)
RBWM	13,754	278	–	–	14,032	(5)	(58)	–	–	(63)
CMB	250	25	–	1	276	–	(12)	–	–	(12)
GB&M	1,055	18	–	–	1,073	–	(8)	–	–	(8)
GPB	–	–	–	–	–	–	–	–	–	–
Corporate Centre	339,590	693	–	–	340,283	(34)	(49)	–	–	(83)
Debt instruments measured at FVOCI at 31 Dec 2019	354,649	1,014	–	1	355,664	(39)	(127)	–	–	(166)

Summary of financial instruments to which the impairment requirements in IFRS 9 are applied – by global business[1] (continued)

	Gross carrying/nominal amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers at amortised cost	908,393	68,581	13,023	324	990,321	(1,276)	(2,108)	(5,047)	(194)	(8,625)
– RBWM	340,606	19,228	4,960	—	364,794	(544)	(1,250)	(1,129)	—	(2,923)
– CMB	299,523	32,109	5,732	298	337,662	(538)	(659)	(3,110)	(194)	(4,501)
– GB&M	228,035	16,327	1,683	25	246,070	(188)	(182)	(718)	—	(1,088)
– GPB	37,970	724	618	1	39,313	(5)	(3)	(89)	—	(97)
– Corporate Centre	2,259	193	30	—	2,482	(1)	(14)	(1)	—	(16)
Loans and advances to banks at amortised cost	71,873	307	—	—	72,180	(11)	(2)	—	—	(13)
– RBWM	5,801	5	—	—	5,806	(1)	—	—	—	(1)
– CMB	1,912	15	—	—	1,927	(1)	—	—	—	(1)
– GB&M	25,409	212	—	—	25,621	(7)	(2)	—	—	(9)
– GPB	46	—	—	—	46	—	—	—	—	—
– Corporate Centre	38,705	75	—	—	38,780	(2)	—	—	—	(2)
Other financial assets measured at amortised cost	581,118	1,673	126	—	582,917	(27)	(6)	(22)	—	(55)
– RBWM	49,142	184	32	—	49,358	(14)	(2)	(1)	—	(17)
– CMB	15,082	774	60	—	15,916	(7)	(3)	(21)	—	(31)
– GB&M	272,028	703	20	—	272,751	(1)	(1)	—	—	(2)
– GPB	924	1	2	—	927	—	—	—	—	—
– Corporate Centre	243,942	11	12	—	243,965	(5)	—	—	—	(5)
Total gross carrying amount on-balance sheet at 31 Dec 2018	1,561,384	70,561	13,149	324	1,645,418	(1,314)	(2,116)	(5,069)	(194)	(8,693)
Loans and other credit-related commitments	567,232	23,857	912	7	592,008	(143)	(139)	(43)	—	(325)
– RBWM	164,589	1,792	399	—	166,780	(6)	(1)	(1)	—	(8)
– CMB	112,969	10,129	308	5	123,411	(72)	(52)	(40)	—	(164)
– GB&M	251,676	10,892	194	2	262,764	(58)	(86)	(2)	—	(146)
– GPB	33,885	1,044	11	—	34,940	—	—	—	—	—
– Corporate Centre	4,113	—	—	—	4,113	(7)	—	—	—	(7)
Financial guarantees	20,834	2,384	297	3	23,518	(19)	(29)	(45)	—	(93)
– RBWM	54	3	3	—	60	—	—	—	—	—
– CMB	7,605	1,227	230	3	9,065	(10)	(11)	(39)	—	(60)
– GB&M	12,067	1,141	63	—	13,271	(8)	(18)	(5)	—	(31)
– GPB	1,053	13	—	—	1,066	(1)	—	—	—	(1)
– Corporate Centre	55	—	1	—	56	—	—	(1)	—	(1)
Total nominal amount off-balance sheet at 31 Dec 2018	588,066	26,241	1,209	10	615,526	(162)	(168)	(88)	—	(418)
RBWM	13,160	153	—	—	13,313	(5)	—	—	—	(5)
CMB	226	—	—	1	227	(2)	—	—	—	(2)
GB&M	1,994	—	—	—	1,994	(5)	—	—	—	(5)
GPB	—	—	—	—	—	—	—	—	—	—
Corporate Centre	326,795	770	7	4	327,576	(21)	(50)	(1)	—	(72)
Debt instruments measured at FVOCI at 31 Dec 2018	342,175	923	7	5	343,110	(33)	(50)	(1)	—	(84)

1 *During the period, the Group has re-presented the UK wholesale lending stage 1 and stage 2 amount. For further details, see page 122.*

Loans and advances to customers and banks metrics

	Gross carrying amount	*Of which: stage 3 and POCI*	Allowance for ECL	*Of which: stage 3 and POCI*	Change in ECL	Write-offs	Recoveries
	$m	*$m*	$m	*$m*	$m	$m	$m
First lien residential mortgages	322,178	*3,070*	(529)	*(422)*	(107)	(139)	54
Other personal lending	112,093	*1,781*	(2,605)	*(793)*	(1,114)	(1,206)	260
Personal lending	434,271	*4,851*	(3,134)	*(1,215)*	(1,221)	(1,345)	314
– agriculture, forestry and fishing	6,696	280	(182)	(140)	(15)	(6)	–
– mining and quarrying	14,435	*323*	(226)	*(134)*	(31)	(4)	–
– manufacturing	104,380	*1,717*	(1,210)	*(856)*	(392)	(332)	8
– electricity, gas, steam and air-conditioning supply	15,040	*175*	(80)	*(25)*	14	(54)	2
– water supply, sewerage, waste management and remediation	3,501	*30*	(28)	*(18)*	(4)	–	–
– construction	15,287	*884*	(564)	*(499)*	(171)	(191)	12
– wholesale and retail trade, repair of motor vehicles and motorcycles	94,681	*1,633*	(1,184)	*(936)*	(330)	(389)	13
– transportation and storage	25,580	*617*	(237)	*(158)*	(93)	(37)	–
– accommodation and food	24,656	*263*	(146)	*(63)*	(49)	(81)	–
– publishing, audiovisual and broadcasting	19,971	*162*	(87)	*(34)*	(17)	(31)	–
– real estate	130,752	*1,330*	(680)	*(475)*	(34)	(168)	6
– professional, scientific and technical activities	24,122	*350*	(209)	*(145)*	(47)	(10)	1
– administrative and support services	25,714	*527*	(270)	*(179)*	(80)	(22)	–
– public administration and defence, compulsory social security	2,377	*–*	(8)	*–*	–	–	–
– education	1,900	*16*	(18)	*(6)*	6	(3)	–
– health and care	4,465	*111*	(57)	*(28)*	(6)	(13)	1
– arts, entertainment and recreation	2,824	*30*	(25)	*(11)*	3	(4)	–
– other services	14,276	*192*	(199)	*(133)*	(79)	(102)	2
– activities of households	791	*–*	–	*–*	–	–	–
– extra-territorial organisations and bodies activities	2	*–*	–	*–*	2	–	1
– government	8,313	*7*	(14)	*(6)*	(8)	–	–
– asset-backed securities	736	*–*	(14)	*–*	–	–	–
Corporate and commercial	540,499	*8,647*	(5,438)	*(3,846)*	(1,331)	(1,447)	46
Non-bank financial institutions	70,705	*212*	(160)	*(90)*	(71)	(5)	1
Wholesale lending	611,204	*8,859*	(5,598)	*(3,936)*	(1,402)	(1,452)	47
Loans and advances to customers	1,045,475	*13,710*	(8,732)	*(5,151)*	(2,623)	(2,797)	361
Loans and advances to banks	69,219	*–*	(16)	*–*	(6)	–	–
At 31 Dec 2019	1,114,694	*13,710*	(8,748)	*(5,151)*	(2,629)	(2,797)	361

HSBC Holdings

(Audited)

Risk in HSBC Holdings is overseen by the HSBC Holdings Asset and Liability Management Committee ('Holdings ALCO'). The major risks faced by HSBC Holdings are credit risk, liquidity risk and market risk (in the form of interest rate risk and foreign exchange risk).

Credit risk in HSBC Holdings primarily arises from transactions with Group subsidiaries and its investments in those subsidiaries.

In HSBC Holdings, the maximum exposure to credit risk arises from two components:

- financial instruments on the balance sheet (see page 268); and
- financial guarantees and similar contracts, where the maximum exposure is the maximum that we would have to pay if the guarantees were called upon (see Note 32).

In the case of our derivative balances, we have amounts with a legally enforceable right of offset in the case of counterparty default that are not included in the carrying value. These offsets also include collateral received in cash and other financial assets. The total offset relating to our derivative balances was $0.1bn at 31 December 2019 (2018: $1.5bn).

The credit quality of loans and advances and financial investments, both of which consist of intra-Group lending and US Treasury bills and bonds, is assessed as 'strong', with 100% of the exposure being neither past due nor impaired (2018: 100%). For further details of credit quality classification, see page 121.

Capital and liquidity risk

Overview

Capital and liquidity risk is the risk of having insufficient capital, liquidity or funding resources to meet financial obligations and satisfy regulatory requirements, including pension risk.

Capital and liquidity risk arises from changes to the respective resources and risk profiles driven by customer behaviour, management decisions or the external environment.

Governance and structure

Capital and liquidity are the responsibility of the Group Management Board and directly addressed by the GRC. Capital and liquidity risks are managed through the Holdings ALCO and local Asset and Liability Management Committees ('ALCOs') and overseen by the RMM. The Global Head of Wholesale and Market Risk is the accountable risk steward.

Capital risk management

Overview

Capital risk is the risk that we fail to meet our regulatory capital requirements either at Group, subsidiary or branch level.

Key developments in 2019

In 2019, we carried out a restructuring of our capital risk management function, with the creation of a dedicated second line of defence that will provide independent oversight of capital management activities. The approach to capital risk management is evolving. This will operate across the Group focusing on both adequacy of capital and sufficiency of returns. Other developments in 2019 included:

- The Risk function was actively involved in the calibration of the capital risk appetite metrics, the review and challenge of the capital adequacy expressed through stress testing, and the internal capital adequacy assessment process ('ICAAP').
- The common equity tier 1 ('CET1') ratio was 14.7% at 31 December 2019 and the leverage ratio was 5.3%. Allocation of the Group's capital to business lines and legal entities is informed by return metrics and the performance of key capital ratios under plan and stress scenarios.
- We passed the PRA annual stress test exercise with sufficient capital to operate through a severe macroeconomic scenario.

For quantitative disclosures on capital ratios, own funds and RWAs, refer to pages 188 to 191 in the Capital section.

ICAAP and risk appetite

The objectives of our capital management policy are to maintain a strong capital base to support the risks inherent in our business and invest in accordance with our strategy, meeting both consolidated and local regulatory capital requirements at all times. Our capital management policy is underpinned by a capital management framework and our ICAAP. The framework incorporates key capital risk appetites for CET1, total capital, minimum required eligible liabilities ('MREL'), and double leverage. The ICAAP is an assessment of the Group's capital position, outlining both regulatory and internal capital resources and requirements resulting from HSBC's business model, strategy, risk profile and management, performance and planning, risks to capital, and the implications of stress testing. Our assessment of capital adequacy is driven by an assessment of risks. These risks include credit, market, operational, pensions, insurance, structural foreign exchange, residual risk and interest rate risk in the banking book. An ICAAP supports the determination of the consolidated and subsidiary capital risk appetite and target ratios as well as enables the assessment and determination of capital requirements by regulators.

HSBC Holdings is the provider of equity capital to its subsidiaries and also provides them with non-equity capital where necessary. These investments are substantially funded by HSBC Holdings' own capital issuance and profit retention.

HSBC Holdings seeks to maintain a prudent balance between the composition of its capital and its investment in subsidiaries, including management of double leverage. Double leverage reflects the extent to which equity investments in operating entities are funded by holding company debt. Where Group capital requirements are less than the aggregate of operating entity capital requirements, double leverage can be used to improve Group capital efficiency provided it is managed appropriately and prudently in accordance with risk appetite. Double leverage is a constraint on managing our capital position, given the complexity of the Group's subsidiary structure and the multiple regulatory regimes under which we operate. As a matter of long-standing policy, the holding company retains a substantial portfolio of high-quality liquid assets ('HQLA'), which at 31 December 2019 was in excess of $14bn to mitigate holding company cash flow risk arising from double leverage and to underpin the strength of support the holding company can offer its subsidiaries in times of stress. Further mitigation is provided by additional tier 1 ('AT1') securities issued in excess of the regulatory requirements of our subsidiaries.

Planning and performance

Capital and risk-weighted asset ('RWA') plans form part of the annual operating plan that is approved by the Board. Capital and RWA forecasts are submitted to the Group Management Board on a monthly basis, and capital and RWAs are monitored and managed against the plan. The responsibility for global capital allocation principles rests with the Group Chief Financial Officer supported by the Group Capital Management Meeting. This is a specialist forum addressing capital management, reporting into Holdings ALCO.

Through our internal governance processes, we seek to strengthen discipline over our investment and capital allocation decisions, and to ensure that returns on investment meet the Group's management objectives. Our strategy is to allocate capital to businesses and entities to support growth objectives where returns above internal hurdle levels have been identified and in order to meet their regulatory and economic capital needs. We evaluate and manage business returns by using a return on average tangible equity measure.

Risks to capital

Outside the stress testing framework, other risks may be identified that have the potential to affect our RWAs and/or capital position. Downside and Upside scenarios are assessed against our capital management objectives and mitigating actions are assigned as necessary. We closely monitor and consider future regulatory change. We continue to evaluate the impact upon our capital requirements of regulatory developments, including the amendments to the Capital Requirements Regulation, the Basel III reforms package and the UK's withdrawal from the EU.

We currently estimate our pre-mitigation RWAs could potentially rise in the range of 5% to 10% as at 1 January 2022 as a result of the regulatory changes. The primary drivers include changes in the market risk, operational risk and credit valuation adjustment methodologies, as well as the potential lack of equivalence for certain investments in funds. We plan to take action to substantially mitigate a significant proportion of the increase.

The Basel package introduces an output floor that will be introduced in 2022 with a five-year transitional provision. This floor ensures that at the end of the transitional period banks' total RWAs are no lower than 72.5% of those generated by the standardised approaches. We estimate that there will be an additional RWA impact as a result of the output floor from 2026.

There remains a significant degree of uncertainty in the impact due to the number of national discretions within Basel's reforms, the need for further supporting technical standards to be developed and the lack of clarity regarding their implementation following the UK's withdrawal from the EU. Furthermore, the impact does not take into consideration the possibility of offsets against Pillar 2, which may arise as the shortcomings within Pillar 1 are addressed.

Further details can be found in the 'Regulatory developments' section of the Group's Pillar 3 Disclosures at 31 December 2019.

Stress testing and recovery planning

The Group uses stress testing to evaluate the robustness of plans and risk portfolios as well as to meet the requirements for stress testing set by supervisors. Stress testing also informs the ICAAP and supports recovery planning in many jurisdictions. It is a critical methodology used to evaluate how much capital the Group requires in setting risk appetite for capital risk and to re-evaluate business plans where analysis shows returns and/or capital do not meet target.

Supervisory stress testing requirements are increasing in frequency and in the granularity with which the results are required. These exercises include the programmes of the Bank of England, the US Federal Reserve Board, the European Banking Authority, the European Central Bank and the Hong Kong Monetary Authority, and stress tests undertaken in other jurisdictions. The results of regulatory stress testing and our internal stress tests are used when assessing our internal capital requirements through the ICAAP. The outcome of stress testing exercises carried out by the PRA and other regulators feeds into the setting of regulatory minimum ratios and buffers.

The Group and subsidiaries have established recovery plans addressing the actions that management would consider taking in a stress scenario if the capital position deteriorates through the target ratio and threatens to breach risk appetite and regulatory minimum levels. The recovery plans set out a range of appropriate actions that could feasibly be executed in a stressed environment to recover the capital position. These include cost management, reducing dividends and raising additional capital.

Liquidity and funding risk management

Overview

Liquidity risk is the risk that we do not have sufficient financial resources to meet our obligations as they fall due. Liquidity risk arises from mismatches in the timing of cash flows.

Funding risk is the risk that we cannot raise funding or can only do so at excessive cost.

Key developments in 2019

We have amended the Group risk appetite statement to remove the depositor concentration and wholesale funding concentration metrics. Both these risks will be monitored and controlled at the operating entity level.

For the major operating entities, we have transferred second line of defence activities to a newly created team in the Risk function. This team provides independent review and challenge of first line business activities and approves the liquidity and funding risk management framework ('LFRF').

ILAAP and risk appetite

We maintain a comprehensive LFRF, which aims to enable us to withstand very severe liquidity stresses. The LFRF comprises policies, metrics and controls designed to ensure that Group and entity management have oversight of our liquidity and funding risks in order to manage them appropriately.

We manage liquidity and funding risk at an operating entity level to ensure that obligations can be met in the jurisdiction where they fall due, generally without reliance on other parts of the Group. Operating entities are required to meet internal minimum requirements and any applicable regulatory requirements at all times. These requirements are assessed through the internal liquidity adequacy assessment process ('ILAAP'), which is used to ensure that operating entities have robust strategies, policies, processes and systems for the identification, measurement, management and monitoring of liquidity risk over an appropriate set of time horizons, including intra-day, so as to ensure they maintain adequate levels of liquidity buffers. It informs the validation of risk tolerance and the setting of risk appetite. It also assesses the capability to manage liquidity and funding effectively in each major entity. These metrics are set and managed locally but are subject to robust global review and challenge to ensure consistency of approach and application of the LFRF across the Group.

Performance and measurement

Funding and liquidity plans form part of the annual operating plan that is approved by the Board. The critical Board-level appetite measures are the liquidity coverage ratio ('LCR') and net stable funding ratio ('NSFR'). An appropriate funding and liquidity profile is managed through a wider set of measures:

- a minimum LCR requirement;
- a minimum NSFR requirement or other appropriate metric;
- a legal entity depositor concentration limit;
- three-month and 12-month cumulative rolling term contractual maturity limits covering deposits from banks, deposits from non-bank financial institutions and securities issued;
- a minimum LCR requirement by currency;
- intra-day liquidity;
- the application of liquidity funds transfer pricing; and
- forward-looking funding assessments.

The LCR and NSFR metrics are to be supplemented by an internal liquidity metric in 2020.

Risks to liquidity and funding

Risks to liquidity and funding are assessed through forecasting, stress testing and scenario analysis, combined with ongoing assessments of risks in the business and external environment.

Stress testing, recovery and contingency planning

The Group uses stress testing to evaluate the robustness of plans and risk portfolios, inform the ILAAP and support recovery planning, as well as meeting the requirements for stress testing set by supervisors. It is a critical methodology used to evaluate how much funding and liquidity the Group requires in setting risk appetite.

All entities maintain contingency plans that can be enacted in the event of internal or external triggers, which threaten the liquidity or funding position. They also have established recovery plans addressing the actions that management would consider taking in a stress scenario if the position deteriorates and threatens to breach risk appetite and regulatory minimum levels. The recovery plans set out a range of appropriate actions, which could feasibly be executed in a stressed environment to recover the position.

Details of HSBC's liquidity and funding risk management framework ('LFRF') can be found in the Group's Pillar 3 Disclosures at 31 December 2019.

Liquidity and funding risk in 2019

Liquidity metrics

At 31 December 2019, all of the Group's material operating entities were above regulatory minimum levels.

Each entity maintains sufficient unencumbered liquid assets to comply with local and regulatory requirements. The liquidity value of these liquidity assets for each entity is shown in the following table along with the individual LCR levels on a European Commission ('EC') basis. This basis may differ from local LCR measures due to differences in the way non-EU regulators have implemented the Basel III standards.

Each entity maintains sufficient stable funding relative to the required stable funding assessed using the NSFR or other appropriate metric.

The Group liquidity and funding position at the end of 2019 is analysed in the following sections.

Operating entities' liquidity

	Footnotes	LCR %	HQLA $bn	Net outflows $bn	NSFR %
		At 31 December 2019			
HSBC UK Bank plc (ring-fenced bank)	1	**165**	**75**	**45**	**150**
HSBC Bank plc (non-ring-fenced bank)	2	**142**	**103**	**72**	**106**
The Hongkong and Shanghai Banking Corporation – Hong Kong branch	3	**163**	**109**	**67**	**128**
The Hongkong and Shanghai Banking Corporation – Singapore branch	3	**147**	**14**	**10**	**120**
Hang Seng Bank		**185**	**42**	**23**	**148**
HSBC Bank China		**180**	**21**	**11**	**151**
HSBC Bank USA		**125**	**73**	**59**	**122**
HSBC France	4	**152**	**44**	**29**	**117**
HSBC Middle East – UAE branch		**202**	**11**	**5**	**159**
HSBC Canada	4	**124**	**18**	**14**	**124**
HSBC Mexico		**208**	**9**	**4**	**136**
		At 31 December 2018			
HSBC UK Bank plc (ring-fenced bank)	1	143	59	41	144
HSBC Bank plc (non-ring-fenced bank)	2	147	117	80	113
The Hongkong and Shanghai Banking Corporation – Hong Kong branch	3	161	125	78	132
The Hongkong and Shanghai Banking Corporation – Singapore branch	3	149	12	8	123
Hang Seng Bank		202	38	19	152
HSBC Bank China		153	24	15	153
HSBC Bank USA		121	70	58	131
HSBC France	4	128	20	16	113
HSBC Middle East – UAE branch		182	7	4	132
HSBC Canada	4	115	16	14	126
HSBC Mexico		153	6	4	123

1 *HSBC UK Bank plc refers to the HSBC UK liquidity group, which comprises four legal entities: HSBC UK Bank plc (including the Dublin branch), Marks and Spencer Financial Services plc, HSBC Private Bank (UK) Ltd and HSBC Trust Company (UK) Limited, managed as a single operating entity, in line with the application of UK liquidity regulation as agreed with the PRA.*
2 *HSBC Bank plc includes oversea branches and SPEs consolidated by HSBC for financial statements purposes.*
3 *The Hongkong and Shanghai Banking Corporation – Hong Kong branch and The Hongkong and Shanghai Banking Corporation – Singapore branch represent the material activities of The Hongkong and Shanghai Banking Corporation. Each branch is monitored and controlled for liquidity and funding risk purposes as a stand-alone operating entity.*
4 *HSBC France and HSBC Canada represent the consolidated banking operations of the Group in France and Canada, respectively. HSBC France and HSBC Canada are each managed as single distinct operating entities for liquidity purposes.*

At 31 December 2019, all of the Group's principal operating entities were well above regulatory minimum levels.

The most significant movements in 2019 are explained below:

- HSBC UK Bank plc improved its liquidity ratio to 165%, mainly driven by increased customer surplus, wholesale funding and MREL issuance.
- The Hongkong and Shanghai Banking Corporation – Hong Kong branch remained highly liquid. The reduction in Hang Seng Bank reflected changes in the maturity of both customer lending and deposits.
- HSBC Bank China improved its LCR to 180%, mainly reflecting increased customer deposits and wholesale funding issuance.
- HSBC France increased significantly the liquidity position, reflecting management actions to address restructuring related to the UK's departure from the EU.

Liquid assets

At 31 December 2019, the Group had a total of $601bn of highly liquid unencumbered LCR eligible liquid assets (31 December 2018: $567bn) held in a range of asset classes and currencies. Of these, 90% were eligible as level 1 (31 December 2018: 89%).

The following tables reflect the composition of the liquidity pool by asset type and currency at 31 December 2019:

Liquidity pool by asset type

	Liquidity pool $bn	Cash $bn	Level 1[1] $bn	Level 2[1] $bn
Cash and balance at central bank	**158**	**158**	**–**	**–**
Central and local government bonds	**375**	**–**	**334**	**41**
Regional government PSE	**17**	**–**	**15**	**2**
International organisation and MDBs	**15**	**–**	**15**	**–**
Covered bonds	**12**	**–**	**3**	**9**
Other	**24**	**–**	**16**	**8**
Total at 31 Dec 2019	**601**	**158**	**383**	**60**
Total at 31 Dec 2018	567	165	338	64

1 *As defined in EU regulation, level 1 assets means 'assets of extremely high liquidity and credit quality', and level 2 assets means 'assets of high liquidity and credit quality'.*

Liquidity pool by currency

	$ $bn	£ $bn	€ $bn	HK$ $bn	Other $bn	Total $bn
Liquidity pool at 31 Dec 2019	**179**	**117**	**93**	**47**	**165**	**601**
Liquidity pool at 31 Dec 2018	164	105	81	57	160	567

Consolidated liquidity metrics

The Group consolidated LCR reflects the LCR of the Group, according to the guidelines under the EC Delegated Act. The Group LCR was 150% at 31 December 2019. The Group LCR was well above the regulatory minimum.

The methodology used to calculate the Group consolidated LCR is currently under review given that the Group's liquidity profile is set and managed based on factors relevant to the operating entities on a stand-alone basis.

	At		
	31 Dec 2019	30 Jun 2019	31 Dec 2018
	$bn	$bn	$bn
High-quality liquid assets (liquidity value)	**601**	533	567
Net outflows	**400**	391	369
Liquidity coverage ratio	**150%**	136%	154%

Sources of funding

Our primary sources of funding are customer current accounts and customer savings deposits payable on demand or at short notice. We issue wholesale securities (secured and unsecured) to supplement our customer deposits and change the currency mix, maturity profile or location of our liabilities and to meet the Group's minimum requirement for own funds and eligible liabilities.

The following 'Funding sources' and 'Funding uses' tables provide a consolidated view of how our balance sheet is funded, and should be read in light of the LFRF, which generally requires operating entities to manage liquidity and funding risk on a stand-alone basis.

The tables analyse our consolidated balance sheet according to the assets that primarily arise from operating activities and the sources of funding primarily supporting these activities. Assets and liabilities that do not arise from operating activities are presented at other balance sheet lines.

In 2019, the level of customer accounts continued to exceed the level of loans and advances to customers.

Loans and advances to banks continued to exceed deposits by banks, meaning the Group remained a net unsecured lender to the banking sector.

Funding sources

(Audited)

	2019	2018
	$m	$m
Customer accounts	**1,439,115**	1,362,643
Deposits by banks	**59,022**	56,331
Repurchase agreements – non-trading	**140,344**	165,884
Debt securities in issue	**104,555**	85,342
Cash collateral, margin and settlement accounts	**71,002**	54,066
Liabilities of disposal groups held for sale	**—**	313
Subordinated liabilities	**24,600**	22,437
Financial liabilities designated at fair value	**164,466**	148,505
Liabilities under insurance contracts	**97,439**	87,330
Trading liabilities	**83,170**	84,431
– repos	**558**	1,495
– stock lending	**9,702**	10,998
– other trading liabilities	**72,910**	71,938
Total equity	**192,668**	194,249
Other balance sheet liabilities	**338,771**	296,593
At 31 Dec	**2,715,152**	2,558,124

Funding uses

(Audited)

		2019	2018
	Footnotes	**$m**	$m
Loans and advances to customers		**1,036,743**	981,696
Loans and advances to banks		**69,203**	72,167
Reverse repurchase agreements – non-trading		**240,862**	242,804
Prepayments, accrued income and other assets	*1*	**63,891**	47,159
– cash collateral, margin and settlement accounts		**63,891**	47,159
Assets held for sale		**123**	735
Trading assets		**254,271**	238,130
– reverse repos		**13,659**	9,893
– stock borrowing		**7,691**	8,387
– other trading assets		**232,921**	219,850
Financial investments		**443,312**	407,433
Cash and balances with central banks		**154,099**	162,843
Other balance sheet assets		**452,648**	405,157
At 31 Dec		**2,715,152**	2,558,124

1 *Includes only those financial instruments that are subject to the impairment requirements of IFRS 9. 'Prepayments, accrued income and other assets' as presented within the consolidated balance sheet on page 262 includes both financial and non-financial assets.*

Wholesale term debt maturity profile

The maturity profile of our wholesale term debt obligations is set out in the following table.

The balances in the table are not directly comparable with those in the consolidated balance sheet because the table presents gross cash flows relating to principal payments and not the balance sheet carrying value, which include debt securities and subordinated liabilities measured at fair value.

Wholesale funding cash flows payable by HSBC under financial liabilities by remaining contractual maturities

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Debt securities issued	**17,728**	**19,758**	**15,654**	**16,284**	**16,132**	**35,836**	**57,387**	**53,768**	**232,547**
– unsecured CDs and CP	**4,913**	**12,280**	**11,020**	**8,745**	**11,509**	**1,156**	**2,095**	**1,578**	**53,296**
– unsecured senior MTNs	**8,198**	**2,462**	**695**	**4,595**	**1,753**	**25,121**	**42,316**	**38,812**	**123,952**
– unsecured senior structured notes	**1,698**	**1,386**	**1,711**	**1,003**	**923**	**3,579**	**6,102**	**9,596**	**25,998**
– secured covered bonds	**—**	**—**	**—**	**—**	**1,139**	**749**	**3,661**	**1,159**	**6,708**
– secured asset-backed commercial paper	**1,933**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**1,933**
– secured ABS	**—**	**—**	**248**	**161**	**—**	**205**	**911**	**741**	**2,266**
– others	**986**	**3,630**	**1,980**	**1,780**	**808**	**5,026**	**2,302**	**1,882**	**18,394**
Subordinated liabilities	**1,523**	**—**	**22**	**2,000**	**—**	**754**	**2,424**	**26,809**	**33,532**
– subordinated debt securities	**1,500**	**—**	**22**	**2,000**	**—**	**754**	**2,424**	**24,587**	**31,287**
– preferred securities	**23**	**—**	**—**	**—**	**—**	**—**	**—**	**2,222**	**2,245**
At 31 Dec 2019	**19,251**	**19,758**	**15,676**	**18,284**	**16,132**	**36,590**	**59,811**	**80,577**	**266,079**
Debt securities issued	8,091	13,362	15,808	10,241	5,447	21,811	70,462	63,914	209,136
– unsecured CDs and CP	4,378	7,640	10,696	6,546	818	529	764	1,031	32,402
– unsecured senior MTNs	467	1,233	3,107	2,263	2,172	11,252	55,307	54,256	130,057
– unsecured senior structured notes	817	821	1,452	1,029	2,394	3,005	7,021	4,473	21,012
– secured covered bonds	—	—	205	—	—	1,190	3,469	1,137	6,001
– secured asset-backed commercial paper	2,094	—	—	—	—	—	—	—	2,094
– secured ABS	—	—	—	—	—	—	—	327	327
– others	335	3,668	348	403	63	5,835	3,901	2,690	17,243
Subordinated liabilities	—	95	2,007	—	—	2,021	1,383	31,131	36,637
– subordinated debt securities	—	95	2,007	—	—	2,021	1,383	28,934	34,440
– preferred securities	—	—	—	—	—	—	—	2,197	2,197
At 31 Dec 2018	8,091	13,457	17,815	10,241	5,447	23,832	71,845	95,045	245,773

Pension risk

Overview

Pension risk is the risk of increased costs to HSBC from offering post-employment benefit plans to its employees.

Pension risk arises from investments delivering an inadequate return, adverse changes in interest rates or inflation, or members living longer than expected. Pension risk also includes operational and reputational risk of sponsoring pension plans.

Key developments in 2019

There were no material changes to our global policies and practices for the management of pension risk in 2019.

Governance and structure

A global pension risk framework and accompanying global policies on the management of risks related to defined benefit and defined contribution plans are in place. Pension risk is managed by a network of local and regional pension risk forums. The Global Pensions Oversight Forum is responsible for the governance and oversight of all pension plans sponsored by HSBC around the world.

Key risk management processes

Our global pensions strategy is to move from defined benefit to defined contribution plans, where local law allows and it is considered competitive to do so.

In defined contribution pension plans, the contributions that HSBC is required to make are known, while the ultimate pension benefit will vary, typically with investment returns achieved by investment choices made by the employee. While the market risk to HSBC of defined contribution plans is low, the Group is still exposed to operational and reputational risk.

In defined benefit pension plans, the level of pension benefit is known. Therefore, the level of contributions required by HSBC will vary due to a number of risks, including:

- investments delivering a return below that required to provide the projected plan benefits;
- the prevailing economic environment leading to corporate failures, thus triggering write-downs in asset values (both equity and debt);
- a change in either interest rates or inflation expectations, causing an increase in the value of plan liabilities; and
- plan members living longer than expected (known as longevity risk).

Pension risk is assessed using an economic capital model that takes into account potential variations in these factors. The impact of these variations on both pension assets and pension liabilities is assessed using a one-in-200-year stress test. Scenario analysis and other stress tests are also used to support pension risk management. To fund the benefits associated with defined benefit plans, sponsoring Group companies, and in some instances employees, make regular contributions in accordance with advice from actuaries and in consultation with the plan's trustees where relevant. These contributions are normally set to ensure that there are sufficient funds to meet the cost of the accruing benefits for the future service of active members. However, higher contributions are required when plan assets are considered insufficient to cover the existing pension liabilities. Contribution rates are typically revised annually or once every three years, depending on the plan.

The defined benefit plans invest contributions in a range of investments designed to limit the risk of assets failing to meet a plan's liabilities. Any changes in expected returns from the investments may also change future contribution requirements. In pursuit of these long-term objectives, an overall target allocation of the defined benefit plan assets between asset classes is established. In addition, each permitted asset class has its own benchmarks, such as stock-market or property valuation indices or liability characteristics. The benchmarks are reviewed at least once every three to five years and more frequently if required by local legislation or circumstances. The process generally involves an extensive asset and liability review.

In addition, during 2019, some of the Group's pension plans performed longevity swap transactions. These arrangements provide long-term protection to the relevant plans against costs resulting from pensioners or their dependants living longer than initially expected. The most sizeable plan to do this was the HSBC Bank (UK) Pension Scheme, which performed longevity swap transactions with The Prudential Insurance Company of America, a subsidiary of Prudential Financial, Inc., and with Swiss Re. Together these cover approximately three-quarters of the plan's pensioner liabilities (50% with The Prudential Insurance Company of America and 25% with Swiss Re).

Market risk

Overview

Market risk is the risk that movements in market factors, such as foreign exchange rates, interest rates, credit spreads, equity prices and commodity prices, will reduce our income or the value of our portfolios. Exposure to market risk is separated into two portfolios: trading portfolios and non-trading portfolios.

Market risk management

Key developments in 2019

There were no material changes to our policies and practices for the management of market risk in 2019.

Governance and structure

The following diagram summarises the main business areas where trading and non-trading market risks reside, and the market risk measures used to monitor and limit exposures.

	Trading risk	Non-trading risk
Risk types	• Foreign exchange and commodities • Interest rates • Credit spreads • Equities	• Structural foreign exchange • Interest rates[1] • Credit spreads
Global business	GB&M and BSM[2]	GB&M, BSM[2], GPB, CMB and RBWM
Risk measure	Value at risk | Sensitivity | Stress testing	Value at risk | Sensitivity | Stress testing

1 *The interest rate risk on the fixed-rate securities issued by HSBC Holdings is not included in the Group value at risk. The management of this risk is described on page 178.*
2 *Balance Sheet Management ('BSM'), for external reporting purposes, forms part of the Corporate Centre while daily operations and risk are managed within GB&M.*

Where appropriate, we apply similar risk management policies and measurement techniques to both trading and non-trading portfolios. Our objective is to manage and control market risk exposures to optimise return on risk while maintaining a market profile consistent with our established risk appetite.

Market risk is managed and controlled through limits approved by the Group Chief Risk Officer for HSBC Holdings. These limits are allocated across business lines and to the Group's legal entities. The majority of HSBC's total value at risk ('VaR') and almost all trading VaR reside in GB&M. Each major operating entity has an independent market risk management and control sub-function, which is responsible for measuring, monitoring and reporting market risk exposures against limits on a daily basis. Each operating entity is required to assess the market risks arising in its business and to transfer them either to its local GB&M unit for management, or to separate books managed under the supervision of the local ALCO. The Traded Risk function enforces the controls around trading in permissible instruments approved for each site as well as new product approval procedures. Traded Risk also restricts trading in the more complex derivative products to offices with appropriate levels of product expertise and robust control systems.

Key risk management processes

Monitoring and limiting market risk exposures

Our objective is to manage and control market risk exposures while maintaining a market profile consistent with our risk appetite.

We use a range of tools to monitor and limit market risk exposures including sensitivity analysis, VaR and stress testing.

Sensitivity analysis

Sensitivity analysis measures the impact of individual market factor movements on specific instruments or portfolios, including interest rates, foreign exchange rates and equity prices. We use sensitivity measures to monitor the market risk positions within each risk type. Granular sensitivity limits are set for trading desks with consideration of market liquidity, customer demand and capital constraints, among other factors.

Value at risk

(Audited)

VaR is a technique for estimating potential losses on risk positions as a result of movements in market rates and prices over a specified time horizon and to a given level of confidence. The use of VaR is integrated into market risk management and calculated for all trading positions regardless of how we capitalise them. In addition, we calculate VaR for non-trading portfolios to have a complete picture of risk. Where we do not calculate VaR explicitly, we use alternative tools as summarised in the 'Stress testing' section below.

Our models are predominantly based on historical simulation that incorporates the following features:

- historical market rates and prices, which are calculated with reference to foreign exchange rates, commodity prices, interest rates, equity prices and the associated volatilities;
- potential market movements that are calculated with reference to data from the past two years; and
- calculations to a 99% confidence level and using a one-day holding period.

The models also incorporate the effect of option features on the underlying exposures. The nature of the VaR models means that an increase in observed market volatility will lead to an increase in VaR without any changes in the underlying positions.

VaR model limitations

Although a valuable guide to risk, VaR is used with awareness of its limitations. For example:

- The use of historical data as a proxy for estimating future market moves may not encompass all potential market events, particularly those that are extreme in nature.
- The use of a one-day holding period for risk management purposes of trading and non-trading books assumes that this short period is sufficient to hedge or liquidate all positions.
- The use of a 99% confidence level by definition does not take into account losses that might occur beyond this level of confidence.

- VaR is calculated on the basis of exposures outstanding at the close of business and therefore does not reflect intra-day exposures.

Risk not in VaR framework

The risks not in VaR ('RNIV') framework captures and capitalises material market risks that are not adequately covered in the VaR model.

Risk factors are reviewed on a regular basis and are either incorporated directly in the VaR models, where possible, or quantified through either the VaR-based RNIV approach or a stress test approach within the RNIV framework. While VaR-based RNIVs are calculated by using historical scenarios, stress-type RNIVs are estimated on the basis of stress scenarios whose severity is calibrated to be in line with the capital adequacy requirements. The outcome of the VaR-based RNIV approach is included in the overall VaR calculation but excluded from the VaR measure used for regulatory back-testing. In addition, the stressed VaR measure also includes risk factors considered in the VaR-based RNIV approach.

Stress-type RNIVs include a gap risk exposure measure to capture risk on non-recourse margin loans, and a de-peg risk measure to capture risk to pegged and heavily managed currencies.

Stress testing

Stress testing is an important procedure that is integrated into our market risk management framework to evaluate the potential impact on portfolio values of more extreme, although plausible, events or movements in a set of financial variables. In such scenarios, losses can be much greater than those predicted by VaR modelling.

Stress testing is implemented at legal entity, regional and overall Group levels. A set of scenarios is used consistently across all regions within the Group. The risk appetite around potential stress losses for the Group is set and monitored against a referral limit.

Market risk reverse stress tests are designed to identify vulnerabilities in our portfolios by looking for scenarios that lead to loss levels considered severe for the relevant portfolio. These scenarios may be quite local or idiosyncratic in nature, and complement the systematic top-down stress testing.

Stress testing and reverse stress testing provide senior management with insights regarding the 'tail risk' beyond VaR, for which our appetite is limited.

Trading portfolios

Trading portfolios comprise positions held for client servicing and market-making, with the intention of short-term resale and/or to hedge risks resulting from such positions.

Back-testing

We routinely validate the accuracy of our VaR models by back-testing the VaR metric against both actual and hypothetical profit and loss. Hypothetical profit and loss excludes non-modelled items such as fees, commissions and revenue of intra-day transactions.

The number of back-testing exceptions is used to gauge how well the models are performing. We consider enhanced internal monitoring of a VaR model if more than five profit exceptions or more than five loss exceptions occur in a 250-day period.

We back-test our VaR at set levels of our Group entity hierarchy.

Structural foreign exchange exposures

Structural foreign exchange exposures represent net investments in subsidiaries, branches and associates, the functional currencies of which are currencies other than the US dollar. An entity's functional currency is normally that of the primary economic environment in which the entity operates.

Exchange differences on structural exposures are recognised in 'Other comprehensive income'. We use the US dollar as our presentation currency in our consolidated financial statements because the US dollar and currencies linked to it form the major currency bloc in which we transact and fund our business. Therefore, our consolidated balance sheet is affected by exchange differences between the US dollar and all the non-US dollar functional currencies of underlying subsidiaries.

Our structural foreign exchange exposures are managed with the primary objective of ensuring, where practical, that our consolidated capital ratios and the capital ratios of individual banking subsidiaries are largely protected from the effect of changes in exchange rates. We hedge structural foreign exchange exposures only in limited circumstances.

For further details of our structural foreign exchange exposures, see page 175.

Interest rate risk in the banking book

Overview

Interest rate risk in the banking book is the risk of an adverse impact to earnings or capital due to changes in market interest rates. It is generated by our non-traded assets and liabilities, specifically loans, deposits and financial instruments that are not held for trading intent or that are held in order to hedge positions held with trading intent. This risk is monitored and controlled by the Asset, Liability and Capital Management ('ALCM') function. Interest rate risk in the banking book is transferred to and managed by Balance Sheet Management ('BSM'), and also monitored by the Wholesale Market Risk, Product Control and ALCM functions with reference to established risk appetites.

Governance and structure

The ALCM function monitors and controls non-traded interest rate risk. This includes reviewing and challenging the business prior to the release of new products and in respect of proposed behavioural assumptions used for hedging activities. The ALCM function is also responsible for maintaining and updating the transfer pricing framework, informing the ALCO of the Group's overall banking book interest rate risk exposure and managing the balance sheet in conjunction with BSM.

BSM manages the banking book interest rate positions transferred to it within the market risk limits approved by RMM. Effective governance of BSM is supported by the dual reporting lines it has to the Chief Executive Officer of GB&M and to the Group Treasurer, with Risk acting as a second line of defence. The global businesses can only transfer non-trading assets and liabilities to BSM provided BSM can economically hedge the risk it receives. Hedging is generally executed through interest rate derivatives or fixed-rate government bonds. Any interest rate risk that BSM cannot economically hedge is not transferred and will remain within the global business where the risks originate.

Measurement of interest rate risk in the banking book

The ALCM function uses a number of measures to monitor and control interest rate risk in the banking book, including:

- non-traded VaR;
- net interest income sensitivity; and
- economic value of equity ('EVE').

Non-traded VaR

Non-traded VaR uses the same models as those used in the trading book and excludes both HSBC Holdings and the elements of risk that are not transferred to BSM.

NII sensitivity

A principal part of our management of non-traded interest rate risk is to monitor the sensitivity of expected net interest income ('NII') under varying interest rate scenarios (i.e. simulation modelling), where all other economic variables are held constant. This monitoring is undertaken at an entity level by local ALCOs, where entities forecast both one-year and five-year NII sensitivities across a range of interest rate scenarios.

Projected NII sensitivity figures represent the effect of *pro forma* movements in projected yield curves based on a static balance sheet size and structure. The exception to this is where the size of the balances or repricing is deemed interest rate sensitive, for example, non-interest-bearing current account migration and fixed-rate loan early prepayment. These sensitivity calculations do not incorporate actions that would be taken by BSM or in the business units to mitigate the effect of interest rate movements.

The NII sensitivity calculations assume that interest rates of all maturities move by the same amount in the 'up-shock' scenario. Rates are not assumed to become negative in the 'down-shock' scenario unless the central bank rate is already negative. In these cases, rates are not assumed to go further negative, which may, in certain currencies, effectively result in non-parallel shock. In addition, the NII sensitivity calculations take account of the effect of anticipated differences in changes between interbank and internally determined interest rates, where the entity has discretion in terms of the timing and extent of rate changes.

Tables showing our calculations of NII sensitivity can be found on page 176.

Economic value of equity

Economic value of equity ('EVE') represents the present value of the future banking book cash flows that could be distributed to equity providers under a managed run-off scenario. This equates to the current book value of equity plus the present value of future NII in this scenario. EVE can be used to assess the economic capital required to support interest rate risk in the banking book. An EVE sensitivity is the extent to which the EVE value will change due to pre-specified movements in interest rates, where all other economic variables are held constant. Operating entities are required to monitor EVE sensitivity as a percentage of capital resources.

HSBC Holdings

As a financial services holding company, HSBC Holdings has limited market risk activities. Its activities predominantly involve maintaining sufficient capital resources to support the Group's diverse activities; allocating these capital resources across the Group's businesses; earning dividend and interest income on its investments in the businesses; payment of operating expenses; providing dividend payments to its equity shareholders and interest payments to providers of debt capital; and maintaining a supply of short-term liquid assets for deployment under extraordinary circumstances.

The main market risks to which HSBC Holdings is exposed are banking book interest rate risk and foreign currency risk. Exposure to these risks arises from short-term cash balances, funding positions held, loans to subsidiaries, investments in long-term financial assets and financial liabilities including debt capital issued. The objective of HSBC Holdings' market risk management strategy is to reduce exposure to these risks and minimise volatility in capital resources, cash flows and distributable reserves. Market risk for HSBC Holdings is monitored by Holdings ALCO in accordance with its risk appetite statement.

HSBC Holdings uses interest rate swaps and cross-currency interest rate swaps to manage the interest rate risk and foreign currency risk arising from its long-term debt issues.

Market risk in 2019

The performance of financial markets through the year reflected fluctuations in global trade tensions and changes in the policy stance of key central banks. With persistently low inflation and weak growth outlook, monetary policy turned accommodative in several major economies and emerging markets. The FRB cut its policy rate three times, reversing the tightening cycle started in 2018. At the same time, the ECB restarted its programme of government bond purchases in September. Yield curves inverted in a number of countries during the summer, while the stock of fixed income securities with negative yields reached record highs.

During the last quarter of the year, easing of US-China trade tensions and looser financial conditions contributed to a more positive market sentiment. Global stock markets reached historical record highs and volatility remained subdued. However, tensions around the UK's departure from the EU led to spikes in short-term sterling volatility. Search for yield contributed to further tightening of credit spreads on investment grade and high-yield debt, although spreads on corporate debt with the lowest ratings tended to widen.

The overall risk profile remained relatively stable in 2019, with the fixed income business continuing to be the key driver of trading VaR. The interest rates asset class was the major contributor to trading VaR, while the exposure to credit spread risks provided partial offsetting gains. The equity and foreign exchange components provided more limited contributions to the overall market risk in the trading book.

Trading portfolios

Value at risk of the trading portfolios

Trading VaR predominantly resides within Global Markets.

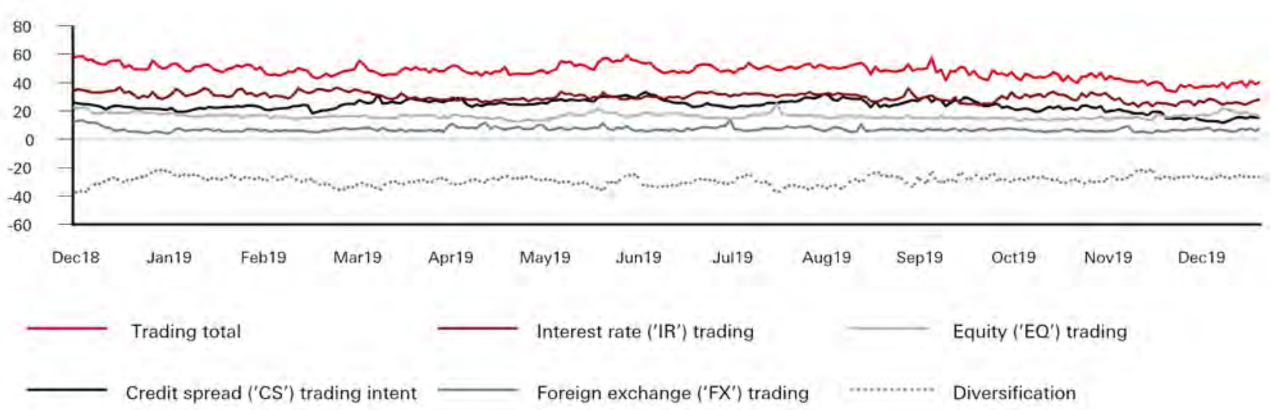
VaR for trading book activity at the end of 2019 was lower than at the end of 2018. The decrease was attributable primarily to lower contributions from:

- credit spread risks due to a reduction of exposures during the year and lower baseline credit spread levels;
- reduced equity correlation and interest rate volatility risks captured in the RNIV framework; and
- some offsetting gains provided by the flow rates activity.

The lower contribution of the above drivers of trading VaR was partly offset by reduced diversification benefits across asset classes.

The daily levels of total trading VaR during 2019 are set out in the graph below.

Daily VaR (trading portfolios), 99% 1 day ($m)



The Group trading VaR for the year is shown in the table below.

Trading VaR, 99% 1 day[1]

(Audited)

	Foreign exchange and commodity	Interest rate	Equity	Credit spread	Portfolio diversification[2]	Total[3]
	$m	$m	$m	$m	$m	$m
Balance at 31 Dec 2019	**7.7**	**28.2**	**15.7**	**15.2**	**(26.4)**	**40.3**
Average	**6.9**	**29.9**	**16.2**	**23.7**	**(29.0)**	**47.8**
Maximum	**13.5**	**36.5**	**24.9**	**33.2**		**59.3**
Minimum	**4.1**	**22.9**	**12.4**	**11.7**		**33.3**
Balance at 31 Dec 2018	12.6	33.9	22.6	25.9	(37.9)	57.1
Average	9.5	36.4	22.5	20.7	(34.3)	54.8
Maximum	21.8	49.9	33.8	35.2		71.2
Minimum	5.5	27.0	13.5	12.2		43.9

1 *Trading portfolios comprise positions arising from the market-making and warehousing of customer-derived positions.*
2 *Portfolio diversification is the market risk dispersion effect of holding a portfolio containing different risk types. It represents the reduction in unsystematic market risk that occurs when combining a number of different risk types – such as interest rate, equity and foreign exchange – together in one portfolio. It is measured as the difference between the sum of the VaR by individual risk type and the combined total VaR. A negative number represents the benefit of portfolio diversification. As the maximum and minimum occurs on different days for different risk types, it is not meaningful to calculate a portfolio diversification benefit for these measures.*
3 *The total VaR is non-additive across risk types due to diversification effects.*

Back-testing

In 2019, the Group experienced six profit back-testing exceptions and one loss back-testing exception against actual profit and loss. Some of these exceptions were driven by profits spread across a large number of desks or arose from new trades, which are outside trading VaR scope. The above exceptions comprised:

- a profit exception in early January, driven by gains across most asset classes, as interest rates rose and equity markets rebounded;
- a profit exception in late January, due mainly to gains from new transactions in the Rates business and lower equity volatilities;
- a profit exception in March, driven by increased volatility in some emerging markets currencies and interest rates;
- a loss exception in March, attributable to month-end valuation adjustments driven by portfolio and spread changes;
- two profit exceptions in early May, arising from new transactions and a number of relatively small gains spread across all asset classes; and
- a profit exception in December, due to gains from multiple desks and spread across all asset classes.

The Group also experienced one profit back-testing exception and one loss back-testing exception against hypothetical profit and loss:

- a loss exception in November driven primarily by the impact of the widening of the credit spread on a high-yield bond holding; and
- a profit exception in December, due to gains from multiple desks and spread across all asset classes.

Non-trading portfolios

Non-trading portfolios comprise positions that primarily arise from the interest rate management of our retail and commercial banking assets and liabilities, financial investments measured at fair value through other comprehensive income, debt instruments measured at amortised cost, and exposures arising from our insurance operations.

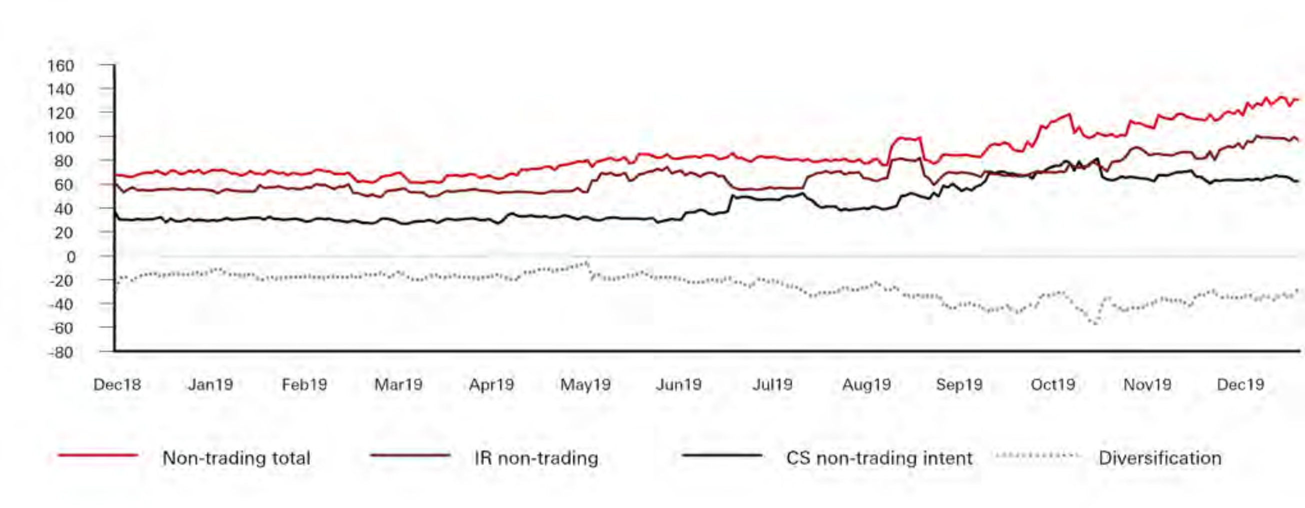
Value at risk of the non-trading portfolios

VaR for non-trading books at the end of 2019 was materially larger than in 2018. The increase was driven by an uplift in contributions from both interest rate and credit spread risks during the last quarter of the year. The larger contribution from interest rate risks was primarily due to increased inventories of highly-rated government securities and the effect of rising long-term interest rates on the duration of the agency mortgage-backed securities ('MBS') portfolio. Increase in credit spread risk contribution was also driven by the MBS portfolio, due mainly to US mortgage spreads widening in the second half of the year owing to geopolitical events, such as the US-China trade- and tariff-related tensions, and related concerns around weaker economic growth.

Non-trading VaR includes the interest rate risk in the banking book transferred to and managed by BSM and the non-trading financial instruments held by BSM. The management of interest rate risk in the banking book is described further in the 'Net interest income sensitivity' section.

The daily levels of total non-trading VaR over the last year are set out in the graph below.

Daily VaR (non-trading portfolios), 99% 1 day ($m)



The Group non-trading VaR for the year is shown in the table below.

Non-trading VaR, 99% 1 day

(Audited)

	Interest rate	Credit spread	Portfolio diversification[1]	Total[2]
	$m	$m	$m	$m
Balance at 31 Dec 2019	**96.2**	**62.5**	**(28.2)**	**130.5**
Average	**65.9**	**44.2**	**(25.6)**	**84.5**
Maximum	**100.1**	**81.2**		**132.8**
Minimum	**49.2**	**26.6**		**60.9**
Balance at 31 Dec 2018	61.4	37.2	(30.6)	68
Average	96.8	48.3	(29.1)	116
Maximum	129.3	96		154.1
Minimum	59.9	27.6		68

1 *Portfolio diversification is the market risk dispersion effect of holding a portfolio containing different risk types. It represents the reduction in unsystematic market risk that occurs when combining a number of different risk types – such as interest rate, equity and foreign exchange – together in one portfolio. It is measured as the difference between the sum of the VaR by individual risk type and the combined total VaR. A negative number represents the benefit of portfolio diversification. As the maximum and minimum occurs on different days for different risk types, it is not meaningful to calculate a portfolio diversification benefit for these measures.*
2 *The total VaR is non-additive across risk types due to diversification effects.*

Non-trading VaR excludes equity risk on securities held at fair value, structural foreign exchange risk and interest rate risk on fixed-rate securities issued by HSBC Holdings. The following sections describe the scope of HSBC's management of market risks in non-trading books.

Market risk balance sheet linkages

The following balance sheet lines in the Group's consolidated position are subject to market risk:

Trading assets and liabilities

The Group's trading assets and liabilities are in almost all cases originated by GB&M. These assets and liabilities are treated as traded risk for the purposes of market risk management, other than a limited number of exceptions, primarily in Global Banking where the short-term acquisition and disposal of the assets are linked to other non-trading-related activities such as loan origination.

Derivative assets and liabilities

We undertake derivative activity for three primary purposes: to create risk management solutions for clients, to manage the portfolio risks arising from client business, and to manage and hedge our own risks. Most of our derivative exposures arise from sales and trading activities within GB&M. The assets and liabilities included in trading VaR give rise to a large proportion of the income included in net income from financial instruments held for trading or managed on a fair value basis. Adjustments to trading income such as valuation adjustments are not measured by the trading VaR model.

For information on the accounting policies applied to financial instruments at fair value, see Note 1 on the financial statements

Structural foreign exchange exposures

For our policies and procedures for managing structural foreign exchange exposures, see page 172 of the 'Risk management' section.

Structural foreign exchange exposures represent net investments in subsidiaries, branches and associates, the functional currencies of which are currencies other than the US dollar. Exchange differences on structural exposures are recognised in 'Other comprehensive income'.

Net structural foreign exchange exposures

	Footnotes	2019 $m	2018 $m
Currency of structural exposure			
Hong Kong dollars		**46,527**	41,477
Pound sterling	1	**33,383**	36,642
Chinese renminbi		**28,847**	27,554
Euros		**14,881**	20,964
Mexican pesos		**4,600**	4,363
Canadian dollars		**4,416**	3,815
Indian rupees		**4,375**	3,837
Saudi riyals		**4,280**	3,913
UAE dirhams		**4,105**	2,185
Malaysian ringgit		**2,695**	2,572
Singapore dollars		**2,256**	2,246
Taiwanese dollars		**1,957**	1,904
Australian dollars		**1,898**	1,823
Indonesian rupiah		**1,665**	1,792
Korean won		**1,245**	1,285
Swiss francs		**1,188**	987
Thai baht		**910**	856
Egyptian pound		**875**	697
Brazilian real		**271**	707
Others, each less than $700m		**6,758**	6,140
At 31 Dec		**167,132**	165,759

1 *At 31 December 2019, we had forward foreign exchange contracts of $10.5bn (2018: $5bn) in order to manage our sterling structural foreign exchange exposure.*

Shareholders' equity would decrease by $2,298m (2018: $2,743m) if euro and sterling foreign currency exchange rates weakened by 5% relative to the US dollar.

Net interest income sensitivity

The following tables set out the assessed impact to a hypothetical base case projection of our NII (excluding insurance) under the following scenarios:

- an immediate shock of 25 basis points ('bps') to the current market-implied path of interest rates across all currencies on 1 January 2020 (effects over one year and five years); and
- an immediate shock of 100bps to the current market-implied path of interest rates across all currencies on 1 January 2020 (effects over one year and five years).

The sensitivities shown represent our assessment of the change to a hypothetical base case NII, assuming a static balance sheet and no management actions from BSM. They incorporate the effect of interest rate behaviouralisation, managed rate product pricing assumptions and customer behaviour, including prepayment of mortgages or customer migration from non-interest-bearing to interest-bearing deposit accounts under the specific interest rate scenarios. Market uncertainty and our competitors' behaviours also need to be factored in when analysing these results. The scenarios represent interest rate shocks to the current market implied path of rates.

The NII sensitivities shown are indicative and based on simplified scenarios. Immediate interest rate rises of 25bps and 100bps would increase projected NII for the 12 months to 31 December 2020 by $853m and $2,798m, respectively. Conversely, falls of 25bps and 100bps would decrease projected NII for the 12 months to 31 December 2020 by $849m and $3,311m, respectively.

The sensitivity of NII for 12 months increased by $20m in the plus 100bps parallel shock and decreased by $143m in the minus 100bps parallel shock, comparing December 2020 with December 2019. These changes were driven by movements in the sterling amounts primarily due to changes in balance sheet composition given by liquidity management.

The change in NII sensitivity for five years is also driven by the factors above.

The structural sensitivity arising from the four global businesses, excluding Global Markets, is positive in a rising rate environment and negative in a falling rate environment. Both BSM and Global Markets have NII sensitivity profiles that offset this to some degree. The tables do not include BSM management actions or changes in Global Markets' net trading income that may further limit the offset.

The limitations of this analysis are discussed within the 'Market risk management' section on page 171.

NII sensitivity to an instantaneous change in yield curves (12 months)

	Currency					
	$	**HK$**	**£**	**€**	**Other**	**Total**
	$m	**$m**	**$m**	**$m**	**$m**	**$m**
Change in Jan 2020 to Dec 2020 (based on balance sheet at 31 December 2019)						
+25bps parallel	**59**	**198**	**278**	**116**	**202**	**853**
-25bps parallel	**(91)**	**(255)**	**(332)**	**11**	**(182)**	**(849)**
+100bps parallel	**(16)**	**504**	**1,123**	**441**	**746**	**2,798**
-100bps parallel	**(490)**	**(1,023)**	**(1,049)**	**(23)**	**(726)**	**(3,311)**
Change in Jan 2019 to Dec 2019 (based on balance sheet at 31 December 2018)						
+25bps parallel	70	232	198	115	213	828
-25bps parallel	(160)	(301)	(244)	8	(187)	(884)
+100bps parallel	147	773	777	408	673	2,778
-100bps parallel	(523)	(1,046)	(1,122)	9	(772)	(3,454)

The net interest income sensitivities arising from the scenarios presented in the tables above are not directly comparable. This is due to timing differences relating to interest rate changes and the repricing of assets and liabilities.

NII sensitivity to an instantaneous change in yield curves (5 years)

	Year 1 $m	Year 2 $m	Year 3 $m	Year 4 $m	Year 5 $m	Total $m
Change in Jan 2020 to Dec 2020 (based on balance sheet at 31 December 2019)						
+25bps parallel	**853**	**1,158**	**1,348**	**1,449**	**1,523**	**6,331**
-25bps parallel	**(849)**	**(1,205)**	**(1,402)**	**(1,562)**	**(1,649)**	**(6,667)**
+100bps parallel	**2,798**	**4,255**	**4,915**	**5,155**	**5,454**	**22,577**
-100bps parallel	**(3,311)**	**(4,621)**	**(5,289)**	**(5,766)**	**(6,164)**	**(25,151)**
Change in Jan 2019 to Dec 2019 (based on balance sheet at 31 December 2018)						
+25bps parallel	828	1,155	1,416	1,529	1,428	6,356
-25bps parallel	(884)	(1,127)	(1,206)	(1,296)	(1,597)	(6,110)
+100bps parallel	2,778	3,863	4,542	4,968	5,096	21,247
-100bps parallel	(3,454)	(4,632)	(5,276)	(5,691)	(6,187)	(25,240)

Sensitivity of capital and reserves

Financial assets at fair value through other comprehensive income reserves are included as part of CET1 capital. We measure the potential downside risk to the CET1 ratio due to interest rate and credit spread risk in this portfolio using the portfolio's stressed VaR, with a 99% confidence level and an assumed holding period of one quarter. At December 2019, the stressed VaR of the portfolio was $3.2bn (2018: $2.9bn).

We monitor the sensitivity of reported cash flow hedging reserves to interest rate movements on a yearly basis by assessing the expected reduction in valuation of cash flow hedges due to parallel movements of plus or minus 100bps in all yield curves. These particular exposures form only a part of our overall interest rate exposure.

The following table describes the sensitivity of our cash flow hedge reported reserves to the stipulated movements in yield curves at year end. The sensitivities are indicative and based on simplified scenarios.

Sensitivity of cash flow hedging reported reserves to interest rate movements

	$m
At 31 Dec 2019	
+100 basis point parallel move in all yield curves	**(702)**
As a percentage of total shareholders' equity	**(0.38)%**
-100 basis point parallel move in all yield curves	**732**
As a percentage of total shareholders' equity	**0.4%**
At 31 Dec 2018	
+100 basis point parallel move in all yield curves	(492)
As a percentage of total shareholders' equity	(0.26)%
-100 basis point parallel move in all yield curves	550
As a percentage of total shareholders' equity	0.3%

Third-party assets in Balance Sheet Management

For our BSM governance framework, see page 172.

Third-party assets in BSM increased by 1.6% during 2019. 'Reverse repurchase agreements' increased by $7bn, reflecting in part the management of cash and commercial surplus in North America and Asia respectively. 'Financial Investments' increased by $18bn, driven by an increase in investments predominantly across Europe and Middle East. 'Cash and balances at central banks' comparatively decreased by $16bn.

Third-party assets in Balance Sheet Management

	2019 $m	2018 $m
Cash and balances at central banks	**129,114**	144,802
Trading assets	**268**	601
Loans and advances:		
– to banks	**24,466**	25,257
– to customers	**310**	964
Reverse repurchase agreements	**29,868**	22,899
Financial investments	**351,842**	333,622
Other	**7,655**	6,880
At 31 Dec	**543,523**	535,025

Defined benefit pension schemes

Market risk arises within our defined benefit pension schemes to the extent that the obligations of the schemes are not fully matched by assets with determinable cash flows.

For details of our defined benefit schemes, including asset allocation, see Note 5 on the financial statements, and for pension risk management, see page 170.

Additional market risk measures applicable only to the parent company

HSBC Holdings monitors and manages foreign exchange risk and interest rate risk. In order to manage interest rate risk, HSBC Holdings uses the projected sensitivity of its NII to future changes in yield curves and the interest rate gap repricing tables.

Foreign exchange risk

HSBC Holdings' foreign exchange exposures derive almost entirely from the execution of structural foreign exchange hedges on behalf of the Group as its business-as-usual foreign exchange exposures are managed within tight risk limits. At 31 December 2019, HSBC Holdings had forward foreign exchange contracts of $10.5bn (2018: $5bn) to manage the Group's sterling structural foreign exchange exposure.

Sensitivity of net interest income

HSBC Holdings monitors NII sensitivity over a five-year time horizon, reflecting the longer-term perspective on interest rate risk management appropriate to a financial services holding company. These sensitivities assume that any issuance where HSBC Holdings has an option to reimburse at a future call date is called at this date. The table below sets out the effect on HSBC Holdings' future NII over a five-year time horizon of incremental 25bps parallel falls or rises in all yield curves at the beginning of each quarter during the 12 months from 1 January 2020.

The NII sensitivities shown are indicative and based on simplified scenarios. Immediate interest rate rises of 25bps and 100bps would decrease projected NII for the 12 months to 31 December 2020 by $21m and $96m, respectively. Conversely, falls of 25bps and 100bps would increase projected NII for the 12 months to 31 December 2020 by $23m and $99m, respectively.

NII sensitivity to an instantaneous change in yield curves (12 months)

	$	HK$	£	€	Other	Total
	$m	$m	$m	$m	$m	$m
Change in Jan 2020 to Dec 2020 (based on balance sheet at 31 December 2019)						
+25bps	**(30)**	**—**	**7**	**2**	**—**	**(21)**
-25bps	**30**	**—**	**(7)**	**—**	**—**	**23**
+100bps	**(120)**	**—**	**30**	**(6)**	**—**	**(96)**
-100bps	**120**	**—**	**(21)**	**—**	**—**	**99**
Change in Jan 2019 to Dec 2019 (based on balance sheet at 31 December 2018)						
+25bps	(10)	—	8	(5)	—	(7)
-25bps	10	—	(8)	8	—	10
+100bps	(38)	—	31	(22)	—	(29)
-100bps	38	—	(28)	33	—	43

NII sensitivity to an instantaneous change in yield curves (5 years)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	$m	$m	$m	$m	$m	$m
Change in Jan 2020 to Dec 2020 (based on balance sheet at 31 December 2019)						
+25bps	**(21)**	**(14)**	**(13)**	**(14)**	**(17)**	**(79)**
-25bps	**23**	**12**	**8**	**9**	**13**	**65**
+100bps	**(96)**	**(64)**	**(53)**	**(54)**	**(72)**	**(339)**
-100bps	**99**	**61**	**41**	**38**	**43**	**282**
Change in Jan 2019 to Dec 2019 (based on balance sheet at 31 December 2018)					—	
+25bps	(7)	(9)	(9)	(4)	(8)	(37)
-25bps	10	12	11	11	11	55
+100bps	(29)	(36)	(36)	(16)	(32)	(149)
-100bps	43	47	47	29	42	208

The interest rate sensitivities in the preceding table are indicative and based on simplified scenarios. The figures represent hypothetical movements in NII based on our projected yield curve scenarios, HSBC Holdings' current interest rate risk profile and assumed changes to that profile during the next five years.

The sensitivities represent our assessment of the change to a hypothetical base case based on a static balance sheet assumption, and do not take into account the effect of actions that could be taken to mitigate this interest rate risk.

Interest rate repricing gap table

The interest rate risk on the fixed-rate securities issued by HSBC Holdings is not included within the Group VaR, but is managed on a repricing gap basis. The following interest rate repricing gap table analyses the full-term structure of interest rate mismatches within HSBC Holdings' balance sheet where debt issuances are reflected based on either the next reprice date if floating rate or the maturity/call date (whichever is first) if fixed rate.

Repricing gap analysis of HSBC Holdings

	Footnotes	Total	Up to 1 year	From over 1 to 5 years	From over 5 to 10 years	More than 10 years	Non-interest bearing
		$m	$m	$m	$m	$m	$m
Cash at bank and in hand:							
– balances with HSBC undertakings		**2,382**	**2,382**	**–**	**–**	**–**	**–**
Derivatives		**2,002**	**–**	**–**	**–**	**–**	**2,002**
Loans and advances to HSBC undertakings		**72,182**	**19,976**	**21,084**	**24,739**	**2,000**	**4,383**
Financial investments in HSBC undertakings		**16,106**	**13,054**	**3,006**	**–**	**–**	**46**
Investments in subsidiaries		**163,948**	**5,035**	**5,118**	**3,924**	**–**	**149,871**
Other assets		**1,095**	**102**	**–**	**–**	**–**	**993**
Total assets		**257,715**	**40,549**	**29,208**	**28,663**	**2,000**	**157,295**
Amounts owed to HSBC undertakings		**(464)**	**(464)**	**–**	**–**	**–**	**–**
Financial liabilities designated at fair values		**(30,303)**	**–**	**(14,628)**	**(14,698)**	**(750)**	**(227)**
Derivatives		**(2,021)**	**–**	**–**	**–**	**–**	**(2,021)**
Debt securities in issue		**(56,844)**	**(15,446)**	**(22,336)**	**(15,154)**	**(2,000)**	**(1,908)**
Other liabilities		**(2,203)**	**–**	**–**	**–**	**–**	**(2,203)**
Subordinated liabilities		**(18,361)**	**–**	**(2,000)**	**(2,543)**	**(11,284)**	**(2,534)**
Total equity		**(147,519)**	**(2,950)**	**(10,707)**	**(9,975)**	**–**	**(123,887)**
Total liabilities and equity		**(257,715)**	**(18,860)**	**(49,671)**	**(42,370)**	**(14,034)**	**(132,780)**
Off-balance sheet items attracting interest rate sensitivity			**(30,363)**	**16,789**	**6,796**	**6,469**	**309**
Net interest rate risk gap at 31 Dec 2019			**(8,674)**	**(3,674)**	**(6,911)**	**(5,565)**	**24,824**
Cumulative interest rate gap			**(8,674)**	**(12,348)**	**(19,259)**	**(24,824)**	**–**
Cash at bank and in hand:							
– balances with HSBC undertakings		3,509	3,509	–	–	–	–
Derivatives		707	–	–	–	–	707
Loans and advances to HSBC undertakings		79,657	39,316	16,717	18,382	2,000	3,242
Financial investments in HSBC undertakings		–	–	–	–	–	–
Investments in subsidiaries		160,231	4,703	2,136	379		153,013
Other assets		1,077	–	–	–	–	1,077
Total assets		245,181	47,528	18,853	18,761	2,000	158,039
Amounts owed to HSBC undertakings		(949)	–	–	–	–	(949)
Financial liabilities designated at fair values		(25,049)	(1,920)	(11,871)	(9,299)	(750)	(1,208)
Derivatives		(2,159)	–	–	–	–	(2,159)
Debt securities in issue		(50,800)	(14,879)	(16,753)	(18,156)	(2,900)	1,888
Other liabilities		(1,156)	–	–	–	–	(1,156)
Subordinated liabilities		(17,715)	(1,646)	–	(4,476)	(10,317)	(1,277)
Total equity		(147,353)	(1,450)	(9,861)	(10,777)	(1,372)	(123,893)
Total liabilities and equity		(245,181)	(19,895)	(38,485)	(42,708)	(15,339)	(128,754)
Off-balance sheet items attracting interest rate sensitivity			(30,713)	10,544	12,718	6,410	1,041
Net interest rate risk gap at 31 Dec 2018	1		(3,080)	(9,088)	(11,229)	(6,929)	30,326
Cumulative interest rate gap			(3,080)	(12,168)	(23,397)	(30,326)	

1 *Investments in subsidiaries and equity have been allocated based on call dates for any callable bonds. The prior year figures have been amended to reflect this.*

Resilience risk

Overview

Resilience risk is the risk that we are unable to provide critical services to our customers, affiliates and counterparties as a result of sustained and significant operational disruption.

Resilience risk arises from failures or inadequacies in processes, people, systems or external events.

Resilience risk management

Key developments in 2019

In May 2019, in line with the increasing threat landscape that we face, we formed a new Resilience Risk sub-function. The function seeks to take a holistic view of the increasing geopolitical, environmental and technological risks to ensure the continued provision of critical services to our customers. These threats include those to our physical buildings, data centres and branches, cyber-attacks impacting our critical systems and data as well as threats posed by our reliance on third parties.

We have carried out a number of initiatives to develop and embed the new sub-function:

- We recruited and consolidated the following previously independent risk functions: Information and Cyber Security; Protective Security; Business Continuity and Incident Management; Building Availability and Workspace Safety; Third Party; Systems and Data Integrity; and Transaction Processing.
- We aligned with the operational risk management framework and the agreed non-financial risk responsibilities.
- We developed a new risk taxonomy with control library changes, simplifying and removing duplication that existed in the previously independent risk functions, which helped to strengthen our overall management of operational risks.
- We focused on the establishment of preventative measures, which include deepening an understanding of resilience risk, and creating clearly defined resilience risk oversight services and end-to-end strategic change programme support.
- We focused on detailed responsive methods, which include robust business continuity plans, back-up plans, alternative delivery channels and tested recovery options.
- We invested in IT resilience by designing and implementing IT systems that continue to be available to use in the face of adverse conditions.

- We have sought to ensure we understand the root cause of IT failures and learn lessons both from our own experiences and those of others.

We prioritise our efforts on areas of material risk and strategic growth by being present in higher risk profile countries. However, we are also supporting chief risk officers and our colleagues in the Operational Risk function in countries where we have no physical presence, with assessing and understanding their risk profile.

Governance and structure

Resilience Risk provides oversight, advice, guidance and challenge to our global businesses and global functions to strengthen our ability to prevent, adapt, and learn from resilience-related threats when – and not if – something goes wrong.

The Resilience Risk target operating model was published in November 2019. It is helping us to provide a globally consistent view across resilience risks, strengthening our risk management oversight while operating effectively as part of a simplified non-financial risk structure. We view resilience risk through six risk lenses: strategic change and emerging threats; third-party risk; information and data resilience; payments and processing resilience; systems and cyber resilience; and protective security risk.

The Resilience Risk structure simplifies interactions with our key stakeholders by providing a single channel of contact for all areas across Resilience Risk. The Resilience Risk manager interfacing with the stakeholders will be supported by experts in the wider Resilience Risk organisation to deliver clear, consistent and credible responses to the business.

A strategic change and emerging threat team within Resilience Risk provides increased oversight and robust challenge around high-priority programmes and change programmes. They consider how emerging threats, requirements and opportunities arise from the use of new technologies, and how they could impact our risk profile.

The Resilience Risk Management Meeting oversees resilience risk and has accountability to the RMM. The Resilience Risk management meeting is supported by its sub-committees that provide oversight over each of the respective Resilience Risk sub-teams.

The Resilience Risk Global Governance Meeting aims to ensure that resilience risk is managed within its defined risk appetite. It is jointly chaired by the Global Head of Operational Resilience and the Group Chief Information Officer. The Resilience Risk Global Governance Meeting has accountability into the Non-Financial Risk Management Board and escalates issues to the Group Risk Committee.

Key risk management processes

Operational resilience is our ability to adapt operations to continue functioning when an operational disturbance occurs. We measure resilience in terms of the maximum disruption period or the impact tolerance that we are willing to accept for a business service. Resilience risk cannot be managed down to zero, so we concentrate on material risk and critical business services and strategic change programmes that have the highest potential to threaten our ability to provide continued service to our customers.

The Resilience Risk team oversees the identification, management and control of resilience risks. To support our oversight, a variety of changes have been made to the risk taxonomy and control library to simplify and strengthen the risk management of Resilience Risk. The risk taxonomy and control library was developed by looking at a number of frameworks and control libraries, including National Institute for Standards and Technology, Control Objectives for Information and related Technology and Standard of Good Practice.

Continuity of business operations

Every department within the organisation undertakes business continuity management. This incorporates the development of a plan that includes a business impact analysis, which assesses risk when business disruption occurs.

We maintain a number of dedicated work area recovery sites globally. Regular testing of these facilities is carried out with representation from each business and support function to help ensure business continuity plans remain accurate, relevant and fit for purpose. Where possible, we ensured that our critical business systems are not co-located with business systems users, thereby reducing concentration risk.

Regulatory compliance risk

Overview

Regulatory compliance risk is the risk that we fail to observe the letter and spirit of all relevant laws, codes, rules, regulations and standards of good market practice, which as a consequence incur fines and penalties and suffer damage to our business.

Regulatory compliance risk arises from the risks associated with breaching our duty to our customers and other counterparties, inappropriate market conduct and breaching other regulatory requirements.

Regulatory compliance risk management

Key developments in 2019

There were no material changes to the policies and practices for the management of regulatory compliance risk in 2019, except for the initiatives that we undertook to raise our standards in relation to the conduct of our business, as described below under 'Conduct of business'.

Governance and structure

The Regulatory Compliance sub-function provides independent, objective oversight and challenge, and promotes a compliance-orientated culture that supports the business in delivering fair outcomes for customers, maintaining the integrity of financial markets and achieving our strategic objectives. Regulatory Compliance is part of the Compliance function, which is headed by the Group Chief Compliance Officer. Regulatory Compliance is structured as a global sub-function with regional and country Regulatory Compliance teams, which support and advise each global business and global function.

Key risk management processes

We regularly review our policies and procedures. Global policies and procedures require the prompt identification and escalation of any actual or potential regulatory breach to Regulatory Compliance. Reportable events are escalated to the RMM and the GRC, as appropriate. Matters relating to the Group's regulatory conduct of business are reported to the GRC.

Conduct of business

In 2019, we continued to promote and encourage good conduct through our people's behaviour and decision making in order to deliver fair outcomes for our customers, and to maintain financial market integrity. During 2019:

- We developed and implemented a set of principles to govern the ethical management and use of data and artificial intelligence ('AI'), which includes support of digital products and services. This was complemented with training of our people to use data appropriately.
- We continued to focus on the needs of vulnerable customers in our product and process design. In specific markets, we provided awareness and training initiatives, and we also deployed staff with specialist knowledge of conditions such as dementia. Financial inclusion initiatives progressed in specific markets, combating financial abuse and developing financial education schemes for older customers.
- We further defined roles and responsibilities for our people as part of the enterprise risk management framework across the Group to consider the customer in decision making and action.
- We delivered our fifth annual global mandatory training course on conduct, and reinforced the importance of conduct by highlighting examples of good conduct.

- We continued the expansion of recognition programmes across business areas for our people when they deliver exceptional service, when working directly with customers or in supporting roles.

The Board continues to maintain oversight of conduct matters through the GRC.

Further details can be found under the 'Our conduct' section of www.hsbc.com/our-approach/risk-and-responsibility.

Financial crime and fraud risk

Overview

Financial crime and fraud risk is the risk that we knowingly or unknowingly help parties to commit or to further potentially illegal activity, including both internal and external fraud. Financial crime and fraud risk arises from day-to-day banking operations.

Financial crime and fraud risk management

Key developments in 2019

In 2019, we continued to increase our efforts to strengthen our ability to combat financial crime. We integrated into our day-to-day operations the majority of the financial crime risk core capabilities delivered through the Global Standards programme, which we set up in 2013 to enhance our risk management policies, processes and systems. We have begun several initiatives to define the next phase of financial crime risk management, including:

- We continued to strengthen our anti-fraud capabilities, focusing upon threats posed by new and existing technologies, and delivered a comprehensive fraud training programme to our people.
- We continued to invest in the use of AI and advanced analytics techniques to develop a financial crime risk management framework for the future.
- We launched advanced anti-money laundering ('AML') and sanctions automation systems to detect and disrupt financial crime in international trade. These systems are designed to strengthen our ability to fight financial crime through the detection of suspicious activity and possible criminal networks.

Governance and structure

Since establishing a global framework of financial crime risk management committees in the first quarter of 2018, we have continued to strengthen and review the effectiveness of our governance framework to manage financial crime risk. Formal governance committees are held across all countries, territories, regions and lines of business, and are chaired by the respective CEOs. They help to enable compliance with the letter and the spirit of all applicable financial crime compliance laws and regulations, as well as our own standards, values and policies relating to financial crime risks.

In 2019, at a Group level, the Financial System Vulnerabilities Committee ('FSVC') reported to the Board on matters relating to financial crime. The committee, which was attended by the Group Chief Compliance Officer, received regular reports on actions being taken to address issues and vulnerabilities, and updates on the ongoing work to strengthen financial crime controls in relation to money laundering and sanctions. In order to simplify our governance framework and processes, and as a reflection of the growing maturity of our financial crime and fraud risk management, responsibility for the oversight of financial crime risk transferred from the FSVC to the GRC, with the final meeting of the FSVC taking place on 15 January 2020. For more details on the work of the FSVC, see page 218.

Key risk management processes

We continued to deliver a programme to further enhance the policies and controls around identifying and managing the risks of bribery and corruption across our business. Our transformation programme continued to focus on our anti-fraud and anti-tax evasion capabilities. Further enhancements have been made to our governance and policy frameworks, and to the management information reporting process, which demonstrates the effectiveness of our financial crime controls. We are investing in the next generation of capabilities to fight financial crime by applying advanced analytics and AI. We remain committed to enhancing our risk assessment capabilities and to delivering more proactive risk management.

Working in partnership with the public sector and other financial institutions is vital to managing financial crime risk. We are a strong proponent of public-private partnerships and participate in information-sharing initiatives around the world to gain a better understanding of these risks so that they can be mitigated more effectively.

Skilled Person/Independent Consultant

Following expiration in December 2017 of the anti-money laundering deferred prosecution agreement entered into with the US Department of Justice ('DoJ'), the then-Monitor has continued to work in his capacity as a Skilled Person under Section 166 of the Financial Services and Markets Act under the Direction issued by the UK Financial Conduct Authority ('FCA') in 2013. He has also continued to work in his capacity as an Independent Consultant under a cease-and-desist order issued by the US Federal Reserve Board ('FRB').

The Skilled Person has assessed HSBC's progress towards being able to effectively manage its financial crime risk on a business-as-usual basis. The Skilled Person issued several reports in 2019. The Skilled Person has noted that HSBC continues to make material progress towards its financial crime risk target end state in terms of key systems, processes and people. Nonetheless, the Skilled Person has identified some areas that require further work before HSBC reaches a business-as-usual state. Reflective of HSBC's significant progress in strengthening its financial crime risk management capabilities, HSBC's engagement with the current Skilled Person will be terminated and a new Skilled Person with a narrower mandate will be appointed to assess the remaining areas that require further work in order for HSBC to transition fully to business-as-usual financial crime risk management. The FCA also intends to take steps to maintain global oversight of HSBC's management of financial crime risk.

The Independent Consultant completed his sixth annual assessment, which was primarily focused on HSBC's sanctions programme. The Independent Consultant concluded that HSBC continues to make significant strides toward establishing an effective sanctions compliance programme, commending HSBC's material progress since the fifth annual assessment in 2018. However, he has determined that certain areas within HSBC's sanctions compliance programme require further work. A seventh annual assessment will take place in the first quarter of 2020. The Independent Consultant will continue to carry out an annual Office of Foreign Assets Control compliance review, at the FRB's discretion.

Throughout 2019, the FSVC received regular reports on HSBC's relationship with the Skilled Person and Independent Consultant. The FSVC received regular updates on the Skilled Person's and Independent Consultant's reviews and received the Skilled Person's country and quarterly reports and the Independent Consultant's sixth annual assessment report. Given our general progress in strengthening our financial crime systems and controls, and in order to simplify our governance framework and processes, responsibilities of the FSVC transferred recently to the Group Risk Committee, and the final meeting of the FSVC was held on 15 January 2020.

Model risk

Overview

Model risk is the potential for adverse consequences from business decisions informed by models, which can be exacerbated by errors in methodology, design or the way they are used. Model risk arises in both financial and non-financial contexts whenever business decision making includes reliance on models.

Key developments in 2019

In 2019, we carried out a number of initiatives to further develop and embed the Model Risk Management sub-function, including:

- We appointed regional heads of Model Risk Management in all of our key geographies, and a Global Head of Model Risk Governance.
- We refined the model risk policy to enable a more risk-based approach to model risk management.
- We conducted a full review of model governance arrangements overseeing model risk across the Group, resulting in a range of enhancements to the underlying structure to improve effectiveness and increase business engagement.
- We designed a new target operating model for Model Risk Management, referring to internal and industry best practice.
- We enhanced the calculation methodology within our Group risk appetite for model risk.

Governance and structure

We placed greater focus on our model risk activities during 2019, and to reflect this, we created the role of Chief Model Risk Officer, reporting to the Group Chief Risk Officer. This has been filled on an interim basis while we seek a permanent role holder. Model Risk Management is structured as a sub-function within Global Risk Strategy. Regional Model Risk Management teams support and advise all areas of the Group.

Key risk management processes

We use a variety of modelling approaches, including regression, simulation, sampling, machine learning and judgemental scorecards for a range of business applications, in activities such as customer selection, product pricing, financial crime transaction monitoring, creditworthiness evaluation and financial reporting. Global responsibility for managing model risk is delegated from the RMM to the Global Model Risk Committee, which is chaired by the Group Chief Risk Officer. This committee regularly reviews our model risk management policies and procedures, and requires the first line of defence to demonstrate comprehensive and effective controls based on a library of model risk controls provided by Model Risk Management.

Model Risk Management also reports on model risk to senior management on a regular basis through the use of the risk map, risk appetite metrics and top and emerging risks.

We regularly review the effectiveness of these processes, including the model oversight committee structure, to help ensure appropriate understanding and ownership of model risk is embedded in the businesses and functions.

Insurance manufacturing operations risk

Overview

Insurance risk is the risk that, over time, the cost of insurance policies written, including claims and benefits, may exceed the total amount of premiums and investment income received. The cost of claims and benefits can be influenced by many factors, including mortality and morbidity experience, as well as lapse and surrender rates.

Insurance manufacturing operations risk management

Key developments in 2019

There were no material changes to our policies and practices for the management of risks arising in our insurance manufacturing operations in 2019.

Governance and structure

(Audited)

Insurance risks are managed to a defined risk appetite, which is aligned to the Group’s risk appetite and risk management framework, including its three lines of defence model. For details of the Group’s governance framework, see page 96. The Global Insurance Risk Management Meeting oversees the control framework globally and is accountable to the RBWM Risk Management Meeting on risk matters relating to the insurance business.

The monitoring of the risks within our insurance operations is carried out by insurance risk teams. Specific risk functions, including Wholesale Credit and Market Risk, Operational Risk, Resilience Risk, and Compliance, support Insurance Risk teams in their respective areas of expertise.

Stress and scenario testing

(Audited)

Stress testing forms a key part of the risk management framework for the insurance business. We participate in local and Group-wide regulatory stress tests, including the Bank of England stress test of the banking system, the Hong Kong Monetary Authority stress test, the European Insurance and Occupational Pensions Authority stress test, and individual country insurance regulatory stress tests.

These have highlighted that a key risk scenario for the insurance business is a prolonged low interest rate environment. In order to mitigate the impact of this scenario, the insurance operations have taken a number of actions, including repricing some products to reflect lower interest rates, launching less capital intensive products, investing in more capital efficient assets and developing investment strategies to optimise the expected returns against the cost of economic capital.

Key risk management processes

Market risk

(Audited)

All our insurance manufacturing subsidiaries have market risk mandates that specify the investment instruments in which they are permitted to invest and the maximum quantum of market risk that they may retain. They manage market risk by using, among others, some or all of the techniques listed below, depending on the nature of the contracts written:

- We are able to adjust bonus rates to manage the liabilities to policyholders for products with discretionary participating features ('DPF'). The effect is that a significant portion of the market risk is borne by the policyholder.
- We use asset and liability matching where asset portfolios are structured to support projected liability cash flows. The Group manages its assets using an approach that considers asset quality, diversification, cash flow matching, liquidity, volatility and target investment return. It is not always possible to match asset and liability durations due to uncertainty over the receipt of all future premiums, the timing of claims and because the forecast payment dates of liabilities may exceed the duration of the longest dated investments available. We use models to assess the effect of a range of future scenarios on the values of financial assets and associated liabilities, and ALCOs employ the outcomes in determining how best to structure asset holdings to support liabilities.
- We use derivatives to protect against adverse market movements to better match liability cash flows.
- For new products with investment guarantees, we consider the cost when determining the level of premiums or the price structure.
- We periodically review products identified as higher risk, such as those that contain investment guarantees and embedded optionality features linked to savings and investment products, for active management.
- We design new products to mitigate market risk, such as changing the investment return sharing portion between policyholders and the shareholder.
- We exit, to the extent possible, investment portfolios whose risk is considered unacceptable.
- We reprice premiums charged on new contracts to policyholders.

Credit risk

(Audited)

Our insurance manufacturing subsidiaries are responsible for the credit risk, quality and performance of their investment portfolios. Our assessment of the creditworthiness of issuers and counterparties is based primarily upon internationally recognised credit ratings and other publicly available information.

Investment credit exposures are monitored against limits by our insurance manufacturing subsidiaries and are aggregated and reported to the Group Insurance Credit Risk and Group Credit Risk functions. Stress testing is performed on investment credit exposures using credit spread sensitivities and default probabilities.

We use a number of tools to manage and monitor credit risk. These include a credit report containing a watch-list of investments with current credit concerns, primarily investments that may be at risk of future impairment or where high concentrations to counterparties are present in the investment portfolio. Sensitivities to credit spread risk are assessed and monitored regularly.

Liquidity risk

(Audited)

Risk is managed by cash flow matching and maintaining sufficient cash resources, investing in high credit-quality investments with deep and liquid markets, monitoring investment concentrations and restricting them where appropriate, and establishing committed contingency borrowing facilities.

Insurance manufacturing subsidiaries complete quarterly liquidity risk reports and an annual review of the liquidity risks to which they are exposed.

Insurance risk

HSBC Insurance primarily uses the following techniques to manage and mitigate insurance risk:

- a formalised product approval process covering product design, pricing and overall proposition management (for example, management of lapses by introducing surrender charges);
- underwriting policy;
- claims management processes; and
- reinsurance which cedes risks above our acceptable thresholds to an external reinsurer thereby limiting our exposure.

Insurance manufacturing operations risk in 2019

The majority of the risk in our insurance business derives from manufacturing activities and can be categorised as financial risk or insurance risk. Financial risks include market risk, credit risk and liquidity risk. Insurance risk is the risk, other than financial risk, of loss transferred from the holder of the insurance contract to HSBC, the issuer.

HSBC's bancassurance model

We operate an integrated bancassurance model that provides insurance products principally for customers with whom we have a banking relationship.

The insurance contracts we sell relate to the underlying needs of our banking customers, which we can identify from our point-of-sale contacts and customer knowledge. For the products we manufacture, the majority of sales are of savings, universal life and credit and term life contracts.

We choose to manufacture these insurance products in HSBC subsidiaries based on an assessment of operational scale and risk appetite. Manufacturing insurance allows us to retain the risks and rewards associated with writing insurance contracts by keeping part of the underwriting profit and investment income within the Group.

We have life insurance manufacturing subsidiaries in eight countries and territories, which are Hong Kong, France, Singapore, the UK, mainland China, Malta, Mexico and Argentina. We also have a life insurance manufacturing associate in India.

Where we do not have the risk appetite or operational scale to be an effective insurance manufacturer, we engage with a small number of leading external insurance companies in order to provide insurance products to our customers through our banking network and direct channels. These arrangements are generally structured with our exclusive strategic partners and earn the Group a combination of commissions, fees and a share of profits. We distribute insurance products in all of our geographical regions.

Insurance products are sold worldwide through branches, direct channels and third-party distributors.

Measurement

(Audited)

The risk profile of our insurance manufacturing businesses is measured using an economic capital approach. Assets and liabilities are measured on a market value basis, and a capital requirement is defined to ensure that there is a less than one-in-200 chance of insolvency over a one-year time horizon, given the risks to which the businesses are exposed. The methodology for the economic capital calculation is largely aligned to the pan-European Solvency II insurance capital regulations. The economic capital coverage ratio (economic net asset value divided by the economic capital requirement) is a key risk appetite measure.

Each of the businesses operates to appetite limits of 135% or higher. In addition to economic capital, the regulatory solvency ratio is also a metric used to manage risk appetite on an entity basis.

The following tables show the composition of assets and liabilities by contract type and by geographical region.

Balance sheet of insurance manufacturing subsidiaries by type of contract

(Audited)

	Footnotes	With DPF	Unit-linked	Other contracts[1]	Shareholder assets and liabilities	Total
		$m	$m	$m	$m	$m
Financial assets		**73,929**	**7,333**	**17,514**	**8,269**	**107,045**
– trading assets		**—**	**—**	**—**	**—**	**—**
– financial assets designated and otherwise mandatorily measured at fair value through profit or loss		**21,652**	**7,119**	**3,081**	**2,426**	**34,278**
– derivatives		**202**	**(6)**	**9**	**3**	**208**
– financial investments at amortised cost		**35,299**	**18**	**13,436**	**4,076**	**52,829**
– financial investments at fair value through other comprehensive income		**12,447**	**—**	**445**	**1,136**	**14,028**
– other financial assets	2	**4,329**	**202**	**543**	**628**	**5,702**
Reinsurance assets		**2,208**	**72**	**1,563**	**1**	**3,844**
PVIF	3	**—**	**—**	**—**	**8,945**	**8,945**
Other assets and investment properties		**2,495**	**2**	**211**	**602**	**3,310**
Total assets		**78,632**	**7,407**	**19,288**	**17,817**	**123,144**
Liabilities under investment contracts designated at fair value		**—**	**2,011**	**3,881**	**—**	**5,892**
Liabilities under insurance contracts		**77,147**	**6,151**	**14,141**	**—**	**97,439**
Deferred tax	4	**197**	**23**	**6**	**1,297**	**1,523**
Other liabilities		**—**	**—**	**—**	**4,410**	**4,410**
Total liabilities		**77,344**	**8,185**	**18,028**	**5,707**	**109,264**
Total equity		**—**	**—**	**—**	**13,879**	**13,879**
Total liabilities and equity at 31 Dec 2019		**77,344**	**8,185**	**18,028**	**19,586**	**123,143**

Balance sheet of insurance manufacturing subsidiaries by type of contract (continued)

(Audited)

	Footnotes	With DPF	Unit-linked	Other contracts[1]	Shareholder assets and liabilities	Total
		$m	$m	$m	$m	$m
Financial assets		66,735	7,337	15,552	7,120	96,744
– trading assets		—	—	—	—	—
– financial assets designated and otherwise mandatorily measured at fair value through profit or loss		17,855	7,099	3,024	1,264	29,242
– derivatives		200	—	33	4	237
– financial investments at amortised cost		33,575	70	11,597	4,171	49,413
– financial investments at fair value through other comprehensive income		11,499	—	450	1,385	13,334
– other financial assets	2	3,606	168	448	296	4,518
Reinsurance assets		1,255	69	1,368	—	2,692
PVIF	3	—	—	—	7,149	7,149
Other assets and investment properties		2,670	2	235	453	3,360
Total assets		70,660	7,408	17,155	14,722	109,945
Liabilities under investment contracts designated at fair value		—	1,574	3,884	—	5,458
Liabilities under insurance contracts		69,269	5,789	12,272	—	87,330
Deferred tax	4	179	21	15	1,051	1,266
Other liabilities		—	—	—	3,659	3,659
Total liabilities		69,448	7,384	16,171	4,710	97,713
Total equity		—	—	—	12,232	12,232
Total liabilities and equity at 31 Dec 2018		69,448	7,384	16,171	16,942	109,945

1 *'Other Contracts' includes term insurance, credit life insurance, universal life insurance and investment contracts not included in the 'Unit-linked' or 'With DPF' columns.*
2 *Comprise mainly loans and advances to banks, cash and inter-company balances with other non-insurance legal entities.*
3 *Present value of in-force long-term insurance business.*
4 *'Deferred tax' includes the deferred tax liabilities arising on recognition of PVIF.*

Balance sheet of insurance manufacturing subsidiaries by geographical region[1]

(Audited)

	Footnotes	Europe $m	Asia $m	Latin America $m	Total $m
Financial assets		**31,613**	**74,237**	**1,195**	**107,045**
– trading assets		**—**	**—**	**—**	**—**
– financial assets designated and otherwise mandatorily measured at fair value through profit or loss		**15,490**	**18,562**	**226**	**34,278**
– derivatives		**84**	**124**	**—**	**208**
– financial investments – at amortised cost		**100**	**52,186**	**543**	**52,829**
– financial investments – at fair value through other comprehensive income		**13,071**	**582**	**375**	**14,028**
– other financial assets	2	**2,868**	**2,783**	**51**	**5,702**
Reinsurance assets		**237**	**3,604**	**3**	**3,844**
PVIF	3	**945**	**7,841**	**159**	**8,945**
Other assets and investment properties		**1,085**	**2,176**	**49**	**3,310**
Total assets		**33,880**	**87,858**	**1,406**	**123,144**
Liabilities under investment contracts designated at fair value		**1,139**	**4,753**	**—**	**5,892**
Liabilities under insurance contracts		**28,437**	**67,884**	**1,118**	**97,439**
Deferred tax	4	**229**	**1,275**	**19**	**1,523**
Other liabilities		**2,212**	**2,172**	**26**	**4,410**
Total liabilities		**32,017**	**76,084**	**1,163**	**109,264**
Total equity		**1,862**	**11,774**	**243**	**13,879**
Total liabilities and equity at 31 Dec 2019		**33,879**	**87,858**	**1,406**	**123,143**

Balance sheet of insurance manufacturing subsidiaries by geographical region[1] (continued)

	Footnotes	Europe $m	Asia $m	Latin America $m	Total $m
Financial assets		28,631	66,793	1,320	96,744
– trading assets		—	—	—	—
– financial assets designated and otherwise mandatorily measured at fair value through profit or loss		13,142	15,744	326	29,242
– derivatives		121	116	—	237
– financial investments – at amortised cost		296	48,595	522	49,413
– financial investments – at fair value through other comprehensive income		12,453	440	441	13,334
– other financial assets	2	2,619	1,868	31	4,518
Reinsurance assets		249	2,438	5	2,692
PVIF	3	832	6,195	122	7,149
Other assets and investment properties		1,053	2,280	27	3,360
Total assets		30,765	77,706	1,474	109,945
Liabilities under investment contracts designated at fair value		780	4,678	—	5,458
Liabilities under insurance contracts		26,375	59,829	1,126	87,330
Deferred tax	4	209	1,050	7	1,266
Other liabilities		1,690	1,911	58	3,659
Total liabilities		29,054	67,468	1,191	97,713
Total equity		1,711	10,238	283	12,232
Total liabilities and equity at 31 Dec 2018		30,765	77,706	1,474	109,945

1 *HSBC has no insurance manufacturing subsidiaries in Middle East and North Africa or North America.*
2 *Comprise mainly loans and advances to banks, cash and inter-company balances with other non-insurance legal entities.*
3 *Present value of in-force long-term insurance business.*
4 *'Deferred tax' includes the deferred tax liabilities arising on recognition of PVIF.*

Key risk types

The key risks for the insurance operations are market risks, in particular interest rate and equity, and credit risks, followed by insurance underwriting risk and operational risks. Liquidity risk, while significant for the bank, is minor for our insurance operations.

Market risk

(Audited)

Description and exposure

Market risk is the risk of changes in market factors affecting HSBC's capital or profit. Market factors include interest rates, equity and growth assets and foreign exchange rates.

Our exposure varies depending on the type of contract issued. Our most significant life insurance products are contracts with discretionary participating features ('DPF') issued in France and Hong Kong. These products typically include some form of capital guarantee or guaranteed return on the sums invested by the policyholders, to which discretionary bonuses are added if allowed by the overall performance of the funds. These funds are primarily invested in bonds, with a proportion allocated to other asset classes to provide customers with the potential for enhanced returns.

DPF products expose HSBC to the risk of variation in asset returns, which will impact our participation in the investment performance.

In addition, in some scenarios the asset returns can become insufficient to cover the policyholders' financial guarantees, in which case the shortfall has to be met by HSBC. Amounts are held against the cost of such guarantees, calculated by stochastic modelling.

Where local rules require, these reserves are held as part of liabilities under insurance contracts. Any remainder is accounted for as a deduction from the present value of in-force ('PVIF') long-term insurance business on the relevant product. The following table shows the total reserve held for the cost of guarantees, the range of investment returns on assets supporting these products and the implied investment return that would enable the business to meet the guarantees.

The cost of guarantees increased to $693m (2018: $669m) primarily due to the reduction in swap rates in France and Hong Kong, partly offset by the impact of modelling changes in Hong Kong.

For unit-linked contracts, market risk is substantially borne by the policyholder, but some market risk exposure typically remains, as fees earned are related to the market value of the linked assets.

Financial return guarantees

(Audited)

		2019			2018		
		Investment returns implied by guarantee	**Long-term investment returns on relevant portfolios**	**Cost of guarantees**	Investment returns implied by guarantee	Long-term investment returns on relevant portfolios	Cost of guarantees
	Footnotes	**%**	**%**	**$m**	%	%	$m
Capital		**0.0**	**1.3 - 3.9**	**110**	0.0	2.2-3.0	100
Nominal annual return		**0.1 - 2.0**	**3.0-4.5**	**118**	0.1-2.0	3.6-3.7	78
Nominal annual return	1	**2.0 - 4.0**	**2.4 - 4.5**	**355**	2.1-4.0	2.7-4.6	420
Nominal annual return		**4.1 - 5.0**	**2.3 - 4.1**	**110**	4.1-5.0	2.7-4.1	71
At 31 Dec				**693**			669

1 *A block of contracts in France with guaranteed nominal annual returns in the range 1.25%–3.72% is reported entirely in the 2.0%–4.0% category in line with the average guaranteed return of 2.6% offered to policyholders by these contracts.*

Sensitivities

Changes in financial market factors, from the economic assumptions in place at the start of the year, had a positive impact on reported profit before tax of $450m (2018: $326m negative). The following table illustrates the effects of selected interest rate, equity price and foreign exchange rate scenarios on our profit for the year and the total equity of our insurance manufacturing subsidiaries.

Where appropriate, the effects of the sensitivity tests on profit after tax and equity incorporate the impact of the stress on the PVIF. Due in part to the impact of the cost of guarantees and hedging strategies, which may be in place, the relationship between the profit and total equity and the risk factors is non-linear. Therefore, the results disclosed should not be extrapolated to measure sensitivities to different levels of stress. For the same reason, the impact of the stress is not necessarily symmetrical on the upside and downside. The sensitivities are stated before allowance for management actions, which may mitigate the effect of changes in the market environment. The sensitivities presented allow for adverse changes in policyholder behaviour that may arise in response to changes in market rates. The differences between the impacts on profit after tax and equity are driven by the changes in value of the bonds measured at fair value through other comprehensive income, which are only accounted for in equity.

Sensitivity of HSBC's insurance manufacturing subsidiaries to market risk factors

(Audited)

	2019		2018	
	Effect on profit after tax	**Effect on total equity**	Effect on profit after tax	Effect on total equity
	$m	**$m**	$m	$m
+100 basis point parallel shift in yield curves	**43**	**(37)**	9	(61)
-100 basis point parallel shift in yield curves	**(221)**	**(138)**	(28)	46
10% increase in equity prices	**270**	**270**	213	213
10% decrease in equity prices	**(276)**	**(276)**	(202)	(202)
10% increase in US dollar exchange rate compared with all currencies	**41**	**41**	36	36
10% decrease in US dollar exchange rate compared with all currencies	**(41)**	**(41)**	(36)	(36)

Credit risk

(Audited)

Description and exposure

Credit risk is the risk of financial loss if a customer or counterparty fails to meet their obligation under a contract. It arises in two main areas for our insurance manufacturers:

- risk associated with credit spread volatility and default by debt security counterparties after investing premiums to generate a return for policyholders and shareholders; and
- risk of default by reinsurance counterparties and non-reimbursement for claims made after ceding insurance risk.

The amounts outstanding at the balance sheet date in respect of these items are shown in the table on page 184.

The credit quality of the reinsurers' share of liabilities under insurance contracts is assessed as 'satisfactory' or higher (as defined on page 121), with 100% of the exposure being neither past due nor impaired (2018: 100%).

Credit risk on assets supporting unit-linked liabilities is predominantly borne by the policyholder. Therefore, our exposure is primarily related to liabilities under non-linked insurance and investment contracts and shareholders' funds. The credit quality of insurance financial assets is included in the table on page 136. The risk associated with credit spread volatility is to a large extent mitigated by holding debt securities to maturity, and sharing a degree of credit spread experience with policyholders.

Capital and liquidity risk

(Audited)

Description and exposure

Liquidity risk is the risk that an insurance operation, though solvent, either does not have sufficient financial resources available to meet its obligations when they fall due, or can secure them only at excessive cost.

The following table shows the expected undiscounted cash flows for insurance liabilities at 31 December 2019. The liquidity risk exposure is wholly borne by the policyholder in the case of unit-linked business and is shared with the policyholder for non-linked insurance.

The profile of the expected maturity of insurance contracts at 31 December 2019 remained comparable with 2018.

The remaining contractual maturity of investment contract liabilities is included in Note 29 on page 329.

Expected maturity of insurance contract liabilities

(Audited)

	Expected cash flows (undiscounted)				
	Within 1 year	**1-5 years**	**5-15 years**	**Over 15 years**	**Total**
	$m	**$m**	**$m**	**$m**	**$m**
Unit-linked	**1,296**	**3,153**	**2,654**	**1,955**	**9,058**
With DPF and Other contracts	**7,907**	**26,906**	**50,576**	**71,731**	**157,120**
At 31 Dec 2019	**9,203**	**30,059**	**53,230**	**73,686**	**166,178**
Unit-linked	1,119	2,932	2,684	1,962	8,697
With DPF and Other contracts	7,459	27,497	46,217	55,989	137,162
At 31 Dec 2018	8,578	30,429	48,901	57,951	145,859

Insurance risk

Description and exposure

Insurance risk is the risk of loss through adverse experience, in either timing or amount, of insurance underwriting parameters (non-economic assumptions). These parameters include mortality, morbidity, longevity, lapses and unit costs.

The principal risk we face is that, over time, the cost of the contract, including claims and benefits, may exceed the total amount of premiums and investment income received.

The tables on pages 184 and 185 analyse our life insurance risk exposures by type of contract and by geographical region.

The insurance risk profile and related exposures remain largely consistent with those observed at 31 December 2018.

Sensitivities

(Audited)

The following table shows the sensitivity of profit and total equity to reasonably possible changes in non-economic assumptions across all our insurance manufacturing subsidiaries.

Mortality and morbidity risk is typically associated with life insurance contracts. The effect on profit of an increase in mortality or morbidity depends on the type of business being written. Our largest exposures to mortality and morbidity risk exist in Hong Kong and Singapore.

Sensitivity to lapse rates depends on the type of contracts being written. For a portfolio of term assurance, an increase in lapse rates typically has a negative effect on profit due to the loss of future income on the lapsed policies. However, some contract lapses have a positive effect on profit due to the existence of policy surrender charges. We are most sensitive to a change in lapse rates on unit-linked and universal life contracts in Hong Kong and Singapore, and DPF contracts in France.

Expense rate risk is the exposure to a change in the cost of administering insurance contracts. To the extent that increased expenses cannot be passed on to policyholders, an increase in expense rates will have a negative effect on our profits.

Sensitivity analysis

(Audited)

	2019	2018
	$m	$m
Effect on profit after tax and total equity at 31 Dec		
10% increase in mortality and/or morbidity rates	**(88)**	(77)
10% decrease in mortality and/or morbidity rates	**88**	82
10% increase in lapse rates	**(99)**	(95)
10% decrease in lapse rates	**114**	107
10% increase in expense rates	**(106)**	(92)
10% decrease in expense rates	**105**	93

Capital

Capital overview

Capital ratios[1]

	At	
	31 Dec 2019	31 Dec 2018
	%	%
Transitional basis		
Common equity tier 1 ratio	**14.7**	14.0
Tier 1 ratio	**17.6**	17.0
Total capital ratio	**20.4**	20.0
End point basis		
Common equity tier 1 ratio	**14.7**	14.0
Tier 1 ratio	**17.2**	16.6
Total capital ratio	**18.9**	19.4

Total regulatory capital and risk-weighted assets[1]

	At	
	31 Dec 2019	31 Dec 2018
	$m	$m
Transitional basis		
Common equity tier 1 capital	**123,966**	121,022
Additional tier 1 capital	**24,393**	26,120
Tier 2 capital	**23,791**	26,096
Total regulatory capital	**172,150**	173,238
Risk-weighted assets	**843,395**	865,318
End point basis		
Common equity tier 1 capital	**123,966**	121,022
Additional tier 1 capital	**20,870**	22,525
Tier 2 capital	**14,473**	24,511
Total regulatory capital	**159,309**	168,058
Risk-weighted assets	**843,395**	865,318

RWAs by risk types

	RWAs	Capital required[2]
	$bn	$bn
Credit risk	**676.6**	**54.2**
Counterparty credit risk	**44.1**	**3.5**
Market risk	**29.9**	**2.4**
Operational risk	**92.8**	**7.4**
At 31 Dec 2019	**843.4**	**67.5**

1 *Capital figures and ratios at 31 December 2019 are calculated in accordance with the revised Capital Requirements Regulation, as implemented ('CRR II'). Prior period capital figures are reported under the Capital Requirements Regulation and Directive ('CRD IV'). Unless otherwise stated, all figures are calculated using the EU's regulatory transitional arrangements for IFRS 9 'Financial Instruments' in article 473a of the Capital Requirements Regulation.*

2 *'Capital required' represents the minimum total capital charge set at 8% of risk-weighted assets by article 92 of the Capital Requirements Regulation.*

Capital management

(Audited)

Our objective in the management of Group capital is to maintain appropriate levels to support our business strategy, and meet our regulatory and stress testing-related requirements.

Approach and policy

Our approach to capital management is driven by our strategic and organisational requirements, taking into account the regulatory, economic and commercial environment. We aim to maintain a strong capital base to support the risks inherent in our business and invest in accordance with our strategy, meeting both consolidated and local regulatory capital requirements at all times.

Our policy on capital management is underpinned by a capital management framework and our internal capital adequacy assessment process ('ICAAP'), which helps enable us to manage our capital in a consistent manner. The framework incorporates a number of different capital measures calculated on an economic capital and regulatory capital basis. The ICAAP is an assessment of the Group's capital position, outlining both regulatory and internal capital resources and requirements with HSBC's business model, strategy, performance and planning, risks to capital, and the implications of stress testing to capital.

Our assessment of capital adequacy is aligned to our assessment of risks. These risks include credit, market, operational, pensions, insurance, structural foreign exchange, residual risk and interest rate risk in the banking book.

For further details, please refer to our *Pillar 3 Disclosures at 31 December 2019.*

Own funds

Own funds disclosure

(Audited)

Ref*		At 31 Dec 2019 $m	31 Dec 2018 $m
	Common equity tier 1 ('CET1') capital: instruments and reserves		
1	Capital instruments and the related share premium accounts	**22,873**	22,384
	– ordinary shares	**22,873**	22,384
2	Retained earnings	**127,188**	121,180
3	Accumulated other comprehensive income (and other reserves)	**1,735**	3,368
5	Minority interests (amount allowed in consolidated CET1)	**4,865**	4,854
5a	Independently reviewed interim net profits net of any foreseeable charge or dividend	**(3,381)**	3,697
6	**Common equity tier 1 capital before regulatory adjustments**	**153,280**	155,483
28	Total regulatory adjustments to common equity tier 1	**(29,314)**	(34,461)
29	**Common equity tier 1 capital**	**123,966**	121,022
36	Additional tier 1 capital before regulatory adjustments	**24,453**	26,180
43	Total regulatory adjustments to additional tier 1 capital	**(60)**	(60)
44	**Additional tier 1 capital**	**24,393**	26,120
45	**Tier 1 capital**	**148,359**	147,142
51	Tier 2 capital before regulatory adjustments	**25,192**	26,729
57	Total regulatory adjustments to tier 2 capital	**(1,401)**	(633)
58	**Tier 2 capital**	**23,791**	26,096
59	**Total capital**	**172,150**	173,238

* *The references identify the lines prescribed in the European Banking Authority ('EBA') template, which are applicable and where there is a value.*

Throughout 2019, we complied with the PRA's regulatory capital adequacy requirements, including those relating to stress testing.

At 31 December 2019, our common equity tier 1 ('CET1') ratio increased to 14.7% from 14.0% at 31 December 2018.

CET1 capital increased during the year by $2.9bn, mainly as a result of:

- capital generation of $6.0bn through profits;
- a fall in the deduction for goodwill and other intangible assets of $4.9bn. This was primarily due to $7.3bn of goodwill impairment, partly offset by an increase in internally generated software;
- a $1.5bn increase in FVOCI reserve; and
- favourable foreign currency translation differences of $1.0bn.

These increases were partly offset by:

- dividends and scrip of $9.0bn;
- share buy-backs of $1.0bn; and
- an increase in the deduction for excess expected loss $0.7bn.

Our Pillar 2A requirement at 31 December 2019, as per the PRA's Individual Capital Requirement based on a point-in-time assessment, was 3.0% of RWAs, of which 1.7% was met by CET1.

Risk-weighted assets

Risk-weighted assets ('RWAs') decreased by $21.9bn during the year. The $26.9bn decrease (excluding foreign currency translation differences) comprised the movements described by the following comments.

Asset size

The $9.0bn rise in RWAs due to asset size movements was the result of lending growth largely in CMB, RBWM and GB&M, partly offset by reductions due to active portfolio management in GB&M and CMB. In CMB, a $9.5bn RWA increase arose from growth of $14.4bn principally in Asia and Europe, which was partly offset by active portfolio management measures totalling $4.9bn, largely in Europe. In RBWM, the $7.5bn RWA increase was the result of lending growth, whereas the fall of $1.6bn in GB&M resulted from management actions of $12.3bn, mainly in Europe, Asia and North America, which offset growth of $10.7bn. A $4.0bn decrease in Corporate Centre was primarily due to disposals from the legacy portfolio, and a $2.4bn fall in market risk levels mainly resulted from reduced exposures.

Asset quality

The $3.7bn growth as a result of changes in asset quality included a $3.3bn increase in CMB RWAs, most notably in Asia, and a $0.6bn increase in GB&M RWAs, predominantly in Europe. These movements were primarily due to changes in portfolio mix.

Model updates

The $7.7bn reduction in RWAs from model updates included a $4.8bn fall in GB&M and CMB RWAs, largely due to global corporate model updates, and a $2.3bn decrease in GPB RWAs, reflecting changes to Private Banking models in Asia and North America. The $0.6bn decrease in RBWM RWAs was mainly due to updates to UK retail models.

Methodology and policy

The $32.2bn fall in RWAs due to methodology and policy changes was primarily due to management initiatives of $25.9bn, largely in CMB and GB&M. These included risk parameter refinements and securitisation transactions.

A change to our best estimate of expected loss on corporate exposures further reduced RWAs by $6.3bn, primarily in CMB's UK portfolio. The $3.7bn decrease in market risk RWAs derived mainly from increased diversification benefits following regulatory approval to expand the scope of consolidation. In addition, an approved change to operational risk methodology caused a $0.9bn fall in RWAs across all global businesses.

These decreases were partly offset by a $4.5bn increase in tangible fixed assets within Corporate Centre as a result of implementing IFRS 16 'Leases', recognising right-of-use assets in relation to leases previously classified as 'operating leases'.

RWAs by global business

	RBWM	CMB	GB&M	GPB	Corporate Centre	Total
	$bn	$bn	$bn	$bn	$bn	$bn
Credit risk	**103.8**	**290.8**	**161.1**	**11.0**	**109.9**	**676.6**
Counterparty credit risk	**—**	**—**	**42.7**	**0.2**	**1.2**	**44.1**
Market risk	**—**	**—**	**23.6**	**—**	**6.3**	**29.9**
Operational risk	**30.2**	**25.9**	**30.8**	**2.8**	**3.1**	**92.8**
At 31 Dec 2019	**134.0**	**316.7**	**258.2**	**14.0**	**120.5**	**843.4**
Credit risk	99.6	296.9	172.0	13.8	108.8	691.1
Counterparty credit risk	—	—	45.1	0.2	2.0	47.3
Market risk	—	—	32.4	—	3.4	35.8
Operational risk	27.3	24.3	31.5	2.8	5.2	91.1
At 31 Dec 2018	126.9	321.2	281.0	16.8	119.4	865.3

RWAs by geographical region

		Europe	Asia	MENA	North America	Latin America	Total
	Footnotes	$bn	$bn	$bn	$bn	$bn	$bn
Credit risk		**208.3**	**292.0**	**48.0**	**98.4**	**29.9**	**676.6**
Counterparty credit risk		**25.1**	**8.7**	**1.3**	**7.3**	**1.7**	**44.1**
Market risk	*1*	**23.1**	**20.5**	**2.0**	**4.4**	**1.8**	**29.9**
Operational risk		**24.5**	**45.2**	**6.2**	**11.9**	**5.0**	**92.8**
At 31 Dec 2019		**281.0**	**366.4**	**57.5**	**122.0**	**38.4**	**843.4**
Credit risk		219.5	291.9	47.0	103.1	29.6	691.1
Counterparty credit risk		27.3	9.2	1.0	8.3	1.5	47.3
Market risk	*1*	24.0	23.3	1.9	8.5	1.4	35.8
Operational risk		27.3	39.5	6.8	11.7	5.8	91.1
At 31 Dec 2018		298.1	363.9	56.7	131.6	38.3	865.3

1 RWAs are non-additive across geographical regions due to market risk diversification effects within the Group.

RWA movement by global business by key driver

	Credit risk, counterparty credit risk and operational risk						
	RBWM	CMB	GB&M	GPB	Corporate Centre	Market risk	Total RWAs
	$bn	$bn	$bn	$bn	$bn	$bn	$bn
RWAs at 1 Jan 2019	**126.9**	**321.2**	**248.6**	**16.8**	**116.0**	**35.8**	**865.3**
Asset size	**7.5**	**9.5**	**(1.6)**	**—**	**(4.0)**	**(2.4)**	**9.0**
Asset quality	**—**	**3.3**	**0.6**	**(0.3)**	**(0.1)**	**0.2**	**3.7**
Model updates	**(0.6)**	**(1.9)**	**(2.9)**	**(2.3)**	**—**	**—**	**(7.7)**
Methodology and policy	**(0.6)**	**(18.3)**	**(11.0)**	**(0.3)**	**1.7**	**(3.7)**	**(32.2)**
Acquisitions and disposals	**—**	**—**	**—**	**—**	**0.3**	**—**	**0.3**
Foreign exchange movements	**0.8**	**2.9**	**0.9**	**0.1**	**0.3**	**—**	**5.0**
Total RWA movement	**7.1**	**(4.5)**	**(14.0)**	**(2.8)**	**(1.8)**	**(5.9)**	**(21.9)**
RWAs at 31 Dec 2019	**134.0**	**316.7**	**234.6**	**14.0**	**114.2**	**29.9**	**843.4**

RWA movement by geographical region by key driver

	Credit risk, counterparty credit risk and operational risk						
	Europe	Asia	MENA	North America	Latin America	Market risk	Total RWAs
	$bn	$bn	$bn	$bn	$bn	$bn	$bn
RWAs at 1 Jan 2019	**274.1**	**340.6**	**54.8**	**123.1**	**36.9**	**35.8**	**865.3**
Asset size	**(2.0)**	**14.9**	**1.4**	**(3.8)**	**0.9**	**(2.4)**	**9.0**
Asset quality	**1.9**	**1.6**	**—**	**(0.5)**	**0.5**	**0.2**	**3.7**
Model updates	**(2.9)**	**(2.4)**	**(0.1)**	**(2.3)**	**—**	**—**	**(7.7)**
Methodology and policy	**(17.3)**	**(9.6)**	**(1.0)**	**(0.2)**	**(0.4)**	**(3.7)**	**(32.2)**
Acquisitions and disposals	**—**	**—**	**0.3**	**—**	**—**	**—**	**0.3**
Foreign exchange movements	**4.1**	**0.8**	**0.1**	**1.3**	**(1.3)**	**—**	**5.0**
Total RWA movement	**(16.2)**	**5.3**	**0.7**	**(5.5)**	**(0.3)**	**(5.9)**	**(21.9)**
RWAs at 31 Dec 2019	**257.9**	**345.9**	**55.5**	**117.6**	**36.6**	**29.9**	**843.4**

Leverage ratio

Ref*		Footnotes	At 31 Dec 2019 $bn	31 Dec 2018 $bn
20	Tier 1 capital		**144.8**	143.5
21	Total leverage ratio exposure		**2,726.5**	2,614.9
			%	%
22	**Leverage ratio**		**5.3**	5.5
EU-23	Choice of transitional arrangements for the definition of the capital measure		**Fully phased-in**	Fully phased-in
	UK leverage ratio exposure – quarterly average	1	**2,535.4**	2,464.4
			%	%
	UK leverage ratio – quarterly average	1	**5.8**	5.8
	UK leverage ratio – quarter end	1	**5.7**	6.0

* *The references identify the lines prescribed in the EBA template.*

1 *UK leverage ratio denotes the Group's leverage ratio calculated under the PRA's UK leverage framework and excludes qualifying central bank balances from the calculation of exposure.*

Our leverage ratio calculated in accordance with the Capital Requirements Regulation was 5.3% at 31 December 2019, down from 5.5% at 31 December 2018. The increase in exposure was primarily due to growth in customer lending and financial investments.

At 31 December 2019, our UK minimum leverage ratio requirement of 3.25% under the PRA's UK leverage framework was supplemented by an additional leverage ratio buffer of 0.7% and a countercyclical leverage ratio buffer of 0.2%. These additional buffers translated into capital values of $17.7bn, and $5.4bn respectively. We exceeded these leverage requirements.

Pillar 3 disclosure requirements

Pillar 3 of the Basel regulatory framework is related to market discipline and aims to make financial services firms more transparent by requiring publication of wide-ranging information on their risks, capital and management. Our *Pillar 3 Disclosures at 31 December 2019* is published on our website, www.hsbc.com/investors.

Corporate governance report

HSBC is committed to high standards of corporate governance. We have a comprehensive range of policies and systems in place to ensure that the Group is well managed, with effective oversight and control.

Chairman’s governance statement

“The Board sets the tone to achieve our results in a way that treats our customers fairly and helps to strengthen communities and ensure a properly functioning financial system.”

Mark E Tucker
Group Chairman

Dear Shareholder

On behalf of the Board, I am pleased to present the corporate governance report for 2019.

Corporate governance provides the framework within which we form our decisions and build our business. The entire Board is focused on creating long-term sustainable growth for our shareholders. We also aim to deliver long-term value to all stakeholders. Our corporate governance framework helps us achieve these goals.

We continued our efforts to strengthen and simplify our governance arrangements during the year, with the aim of achieving more effective decision making at Board and management levels. A key achievement in this respect was the demise of our Financial System Vulnerabilities Committee at the end of January 2020, which followed regulatory approval. More information on the transition of the committee’s responsibilities to the Group Risk Committee can be found on page 218.

There have been a number of Board changes throughout the year. As a result of these changes, the Board reviewed its current and future skills needs and began a search for additional non-executive Directors, with complementary skills and experience to help the Board through the next stage of the Group’s strategy.

Setting our culture
We believe how we do business is as important as what we do. The Board sets the tone to achieve our results in a way that treats our customers fairly and helps to strengthen communities and ensure a properly functioning financial system. Our culture determines how we behave, how we make decisions and our attitude towards risk. It is also aligned with the Group’s purpose, values and strategy.

Corporate governance reform and engagement
With main share listings on the London Stock Exchange and The Stock Exchange of Hong Kong Limited, the Group is required to comply with both corporate governance codes.

Corporate governance reform
A number of new requirements were introduced by the new UK Corporate Governance Code 2018. The new UK Code and new reporting regulations place greater emphasis on company purpose, culture and the need for boards to consider views of their stakeholders when making decisions. Information on how the Board discharged its duties can be found on pages 42 to 43.

We are committed to engaging meaningfully with the workforce regardless of geographical location to help ensure that the Board considers the views of employees. The Board considered the existing mechanisms through which it receives views from the workforce and determined that these were working effectively and, therefore, did not adopt one of the three workforce engagement options proposed under the UK Code. Further details can be found on page 208.

The Board commissioned an external effectiveness review during the year. The review confirmed that the Board and its committees were operating effectively and that each individual Director has sufficient time to meet their Board responsibilities. However, the review identified a number of enhancements to improve the Board’s practices. Details of the findings and the actions can be found on page 206.

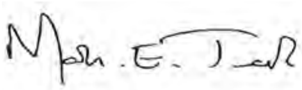
Subsidiary relationships
The Board oversaw the implementation of initiatives to strengthen, simplify and enhance corporate governance arrangements at all levels of the Group during 2019. We also took action to formalise our interactions with our principal subsidiaries by holding regular forums with the chairs of these subsidiaries and their material subsidiaries, which provided an opportunity to share best practice and discuss common challenges.

In order to improve Board effectiveness, programmes such as ‘Ways of Working’ were introduced to make management and Board meetings shorter, more focused and decisive. A total of 200,000 hours of management time were saved and the initiative won ‘Governance Project of the Year’ at the ICSA Chartered Governance Institute Awards.

We also introduced our subsidiary accountability framework to embed improved governance procedures across the Group.

Focus for 2020
Strong and effective corporate governance will be of critical importance as the Board and management progress the implementation of the new business update.

We will continue to seek opportunities to improve our corporate governance arrangements and adapt our governance processes so that these align with the Group’s strategic and operational ambitions, and support the Board in its objective of providing long-term sustainable value for all stakeholders.



Mark E Tucker
Group Chairman

18 February 2020

The Board

The Board aims to promote the Group's long-term success, deliver sustainable value to shareholders and promote a culture of openness and debate.

Chairman and executive Directors

Mark E Tucker (62) C
Group Chairman
Appointed to the Board: September 2017
Group Chairman since: October 2017

Skills and experience: With over 30 years of experience in financial services in Asia and the UK, Mark has a deep understanding of the industry and the markets in which we operate.

Career: Mark was previously Group Chief Executive and President of AIA Group Limited ('AIA'). Prior to joining AIA, he held various senior management roles with Prudential plc, including as Group Chief Executive for four years. He served on Prudential's Board for 10 years.

Mark previously served as non-executive Director of the Court of The Bank of England, as an independent non-executive Director of Goldman Sachs Group and as Group Finance Director of HBOS plc.

External appointments:
– Chair of the CityUK
– Non-executive Chairman of Discovery Limited

Noel Quinn (58)
Group Chief Executive
Appointed to the Board: August 2019

Skills and experience: Noel has more than 30 years of banking and financial services experience, both in the UK and Asia, with over 27 years at HSBC.

Career: Noel has held various management roles across HSBC since joining in 1992. He was most recently Chief Executive Officer of Global Commercial Banking, having been appointed to the role in December 2015 and as a Group Managing Director in September 2016. Noel joined Forward Trust Group, a subsidiary of Midland Bank, in 1987 and joined HSBC in 1992 when the Group acquired Midland Bank. He is also a Director of HSBC Bank Canada.

External appointments: None

Ewen Stevenson (53)
Group Chief Financial Officer
Appointed to the Board: January 2019

Skills and experience: Ewen has over 25 years of experience in the banking industry, both as an adviser to major banks and as an executive of a large financial institution.

Career: Ewen was Chief Financial Officer of Royal Bank of Scotland Group plc from 2014 to 2018. Prior to this, Ewen spent 25 years with Credit Suisse, where his last role was co-Head of the EMEA Investment Banking Division and co-Head of the Global Financial Institutions Group.

External appointments: None

Board committee membership key
C Committee Chair
● Group Audit Committee
○ Group Risk Committee
○ Group Remuneration Committee
● Nomination & Corporate Governance Committee

Independent non-executive Directors

Kathleen Casey (53) ● ○ ●
Independent non-executive Director
Appointed to the Board: March 2014

Skills and experience: Kathleen has extensive financial regulatory policy experience, including in the US Government and in cross-governmental bodies.

Career: Kathleen served as a Commissioner of the US Securities and Exchange Commission ('SEC') between 2006 and 2011, acting as its principal representative in dialogues between the G-20 Financial Stability Board and the International Organization of Securities Commissions.

Kathleen previously spent 13 years working for the US Government, where she held positions including Staff Director and Counsel of the US Senate Committee on Banking, Housing and Urban Affairs, as well as Legislative Director and Chief of Staff for a US Senator.

External appointments:
- Chair of the Board of the Financial Accounting Foundation
- Senior Adviser to Patomak Global Partners
- Non-executive Director of the Federal Home Loan Mortgage Corporation

Laura Cha, GBM (70) ●
Independent non-executive Director
Appointed to the Board: March 2011

Skills and experience: Laura has extensive regulatory and policymaking experience in the finance and securities sector in Hong Kong and mainland China.

Career: Laura was formerly Vice Chairman of the China Securities Regulatory Commission, becoming the first person outside mainland China to join the Central Government of the People's Republic of China at Vice-Ministerial level. The Hong Kong Government awarded her Gold and Silver Bauhinia Stars for public service.

She has previously served as non-executive Director of China Telecom Corporation Limited, Bank of Communications Co., Ltd, and Tata Consultancy Services Limited.

External appointments:
- Chair of Hong Kong Exchanges and Clearing Limited
- Non-executive Chair of The Hongkong and Shanghai Banking Corporation Limited
- Non-executive Director of The London Metal Exchange
- Non-executive Director of Unilever PLC and Unilever N.V.

Henri de Castries (65) ○ ●
Independent non-executive Director
Appointed to the Board: March 2016

Skills and experience: Henri has more than 25 years of international experience in the financial services industry, working in global insurance and asset management.

Career: Henri joined AXA S.A. in 1989 and held a number of senior roles, including Chief Executive Officer from 2000. In 2010, he was appointed Chairman and Chief Executive, before stepping down in 2016.

He has previously worked for the French Finance Ministry Inspection Office and the French Treasury Department.

External appointments:
- Special Adviser to General Atlantic
- Chairman of Institut Montaigne
- Vice Chairman of Nestlé S.A.
- Non-executive Director of the French National Foundation for Political Science
- Member of the Global Advisory Council at LeapFrog Investments

Irene Lee (66) ○ ●
Independent non-executive Director
Appointed to the Board: July 2015

Skills and experience: Irene has more than 40 years of experience in the finance industry, having held senior investment banking and fund management roles in the UK, the US and Australia.

Career: Irene held senior positions at Citibank, the Commonwealth Bank of Australia and SealCorp Holdings Limited.

Other past appointments include being a member of the Advisory Council for J.P. Morgan Australia, a member of the Australian Government Takeovers Panel and a non-executive Director of Cathay Pacific Airways Limited.

External appointments:
- Executive Chair of Hysan Development Company Limited
- Non-executive Director of The Hongkong and Shanghai Banking Corporation Limited
- Non-executive Director of Hang Seng Bank Limited
- Member of the Exchange Fund Advisory Committee of the Hong Kong Monetary Authority

Independent non-executive Directors

Dr José Antonio Meade Kuribreña (50) ○ ●
Independent non-executive Director
Appointed to the Board: March 2019

Skills and experience: José has extensive experience across a number of industries, including in public administration, banking, financial policy and foreign affairs.

Career: Between 2011 and 2017, José held Cabinet-level positions in the federal government of Mexico, including as Secretary of Finance and Public Credit, Secretary of Social Development, Secretary of Foreign Affairs and Secretary of Energy. Prior to his appointment to the Cabinet, he served as Undersecretary and as Chief of Staff in the Ministry of Finance and Public Credit.

José is also a former Director General of Banking and Savings at the Ministry of Finance and Public Credit and served as Chief Executive Officer of the National Bank for Rural Credit.

External appointments:
- Commissioner and Board Member of the Global Commission on Adaptation
- Non-executive Director of Alfa S.A.B. de C.V.

Heidi Miller (66) ○ ●
Independent non-executive Director
Appointed to the Board: September 2014

Skills and experience: Heidi has more than 30 years of senior management experience in international banking and finance.

Career: Heidi was President of International at J.P. Morgan Chase & Co. between 2010 and 2012 where she led the bank's global expansion and international business strategy across the investment bank, asset management, and treasury and securities services divisions.

Previously, she ran the treasury and securities services division for six years. Other past roles included Chief Financial Officer of Bank One Corporation and Senior Executive Vice President of Priceline.com Inc. She is currently Chair of HSBC North America Holdings Inc.

She has previously served in non-executive Director roles for General Mills Inc., Merck & Co Inc. and Progressive Corp. She was also a trustee of the International Financial Reporting Standards Foundation.

External appointments:
- Non-executive Director of Fiserv Inc.

David Nish (59) ● ○ ○ ●
Independent non-executive Director
Appointed to the Board: May 2016

Skills and experience: David has substantial international experience of financial services, corporate governance, financial accounting and operational transformation.

Career: David served as Group Chief Executive Officer of Standard Life plc between 2010 and 2015, having joined the company in 2006 as Group Finance Director. He is also a former Group Finance Director of Scottish Power plc and was a partner at Price Waterhouse.

David has also previously served as a non-executive Director of HDFC Life (India), Northern Foods plc, London Stock Exchange Group plc, the UK Green Investment Bank plc and Zurich Insurance Group.

External appointments:
- Non-executive Director of Vodafone Group plc

Sir Jonathan Symonds, CBE (60) Ⓒ ○ ●
Independent non-executive Director
Appointed to the Board: April 2014
Senior Independent Director since April 2017
Deputy Group Chairman since August 2018

Skills and experience: Jonathan has a wide range of international finance and governance experience, including senior management and non-executive roles in a variety of industries.

Career: Jonathan was formerly Chairman of HSBC Bank plc, HSBC's European subsidiary. He was previously Chief Financial Officer of Novartis AG from 2009 to 2013. Before joining Novartis, he was a partner and managing director of Goldman Sachs, Chief Financial Officer of AstraZeneca plc and a partner at KPMG. He also held the roles of non-executive Director and Chair of the audit committees of Diageo plc and QinetiQ plc.

External appointments:
- Chairman of Geonomics England Limited
- Chairman of GlaxoSmithKline plc
- Chairman of Proteus Digital Health
- Non-executive Director of Rubius Therapeutics, Inc.

Board attendance in 2019

	AGM	Board[1]
Number of meetings held	**1**	**8**
Group Chairman		
Mark Tucker	1	8/8
Executive Directors		
Marc Moses	1	8/8
Noel Quinn[2]	1	2/2
Ewen Stevenson[3]	1	8/8
John Flint[4]	1	5/6

	AGM	Board[1]
Number of meetings held	**1**	**8**
Non-executive Directors		
Kathleen Casey	1	8/8
Laura Cha[5]	1	7/8
Henri de Castries[5]	1	6/8
Lord Evans of Weardale[6]	1	3/3
Irene Lee	1	8/8
José Antonio Meade Kuribreña[7]		6/6

	AGM	Board[1]
Number of meetings held	**1**	**8**
Heidi Miller	1	8/8
David Nish	1	8/8
Sir Jonathan Symonds	1	8/8
Jackson Tai[5]	1	7/8
Pauline van der Meer Mohr	1	8/8

1 Board meetings in 2019 were held in the UK, France, Hong Kong, Mexico and the US. In addition to the Board meetings listed, 10 Chairman's Committee meetings were also held in 2019, both in the UK and overseas.
2 Appointed to the Board on 5 August 2019.
3 Appointed to the Board on 1 January 2019.
4 Stepped down from the Board on 5 August 2019.
5 Laura Cha, Henri de Castries and Jackson Tai were unable to attend Board meetings due to prior arranged commitments.
6 Retired from the Board on 12 April 2019.
7 Appointed to the Board on 1 March 2019.

Jackson Tai (69) ● © ●
Independent non-executive Director
Appointed to the Board: September 2016

Skills and experience: Jackson has significant experience as a non-executive Director, having held senior operating and governance roles across Asia, North America and Europe.

Career: Jackson was Vice Chairman and Chief Executive Officer of DBS Group and DBS Bank Ltd. between 2002 and 2007, having served as Chief Financial Officer and then as President and Chief Operating Officer. He was previously an investment banker at J.P. Morgan & Co. Incorporated, where he worked for 25 years.

Other former appointments include non-executive Director of Canada Pension Plan Investment Board, Royal Philips N.V., Bank of China Limited, Singapore Airlines, NYSE Euronext, ING Groep N.V., CapitaLand Ltd, SingTel Ltd. and Jones Lang LaSalle Inc. He also served as Vice Chairman of Islamic Bank of Asia.

External appointments:
- Non-executive Director of Eli Lilly and Company
- Non-executive Director of MasterCard Incorporated

Pauline van der Meer Mohr (59)
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Independent non-executive Director
Appointed to the Board: September 2015

Skills and experience: Pauline has extensive legal and human resources experience across a number of different sectors.

Career: Pauline served on the Supervisory Board of ASML Holding N.V. between 2009 and 2018. She was formerly President of Erasmus University Rotterdam, a member of the Dutch Banking Code Monitoring Committee and a Senior Vice President and Head of Group Human Resources Director at TNT N.V. She also held various executive roles at the Royal Dutch Shell Group.

External appointments:
- Chair of the Dutch Corporate Governance Code Monitoring Committee
- Chair of the Supervisory Board of EY Netherlands
- Deputy Chair of the Supervisory Board of Royal DSM N.V.
- Non-executive Director of Mylan N.V.
- Member of the Selection and Nomination Committee of the Supreme Court of the Netherlands
- Member of the Capital Markets Committee of the Dutch Authority for Financial Markets

Aileen Taylor (47)
Group Company Secretary and Chief Governance Officer
Appointed: November 2019

Skills and experience: Aileen has significant governance experience across various roles in the banking industry.

Career: Aileen spent 19 years at the Royal Bank of Scotland Group, having held various legal, risk and compliance roles. She was appointed Group Secretary in 2010 and was most recently Chief Governance Officer and Board Counsel.

Former Directors who served for part of the year

Lord Evans of Weardale
Lord Evans retired from the Board on 12 April 2019.

John Flint
John Flint stepped down from the Board on 5 August 2019.

Marc Moses
Marc Moses retired from the Board on 31 December 2019.

For full biographical details of our Board members, see www.hsbc.com/who-we-are/leadership.

Group Management Board

The Group Management Board comprises senior executives who support the Group Chief Executive in the day-to-day management of the business and the implementation of strategy.

Elaine Arden (51)
Group Chief Human Resources Officer

Elaine joined HSBC as a Group Managing Director and Group Chief Human Resources Officer in June 2017. She was previously at the Royal Bank of Scotland Group, where she was Group Human Resources Director. She has held senior human resources and employee relations roles in a number of other financial institutions, including Clydesdale Bank and Direct Line Group. Elaine is a member of the Chartered Institute of Personnel and Development.

Samir Assaf (59)
Chief Executive Officer, Global Banking and Markets

Samir joined HSBC in 1994 and became a Group Managing Director in 2011. He is Chairman and a non-executive Director of HSBC France; Director of HSBC Trinkaus & Burkhardt AG and The Saudi British Bank. Former appointments include: a Director of HSBC Bank plc, HSBC Global Asset Management Limited and HSBC Bank Egypt S.A.E.; and Head of Global Markets for Europe, Middle East and Africa.

Colin Bell (52)
Group Chief Compliance Officer

Colin joined HSBC in July 2016 and was appointed a Group Managing Director in March 2017. He previously worked at UBS, where he was the Global Head of Compliance and Operational Risk Control. Colin joined the British Army in 1990 and he served for 16 years in a variety of command and staff roles and completed the Joint Services Command and Staff College in 2001. He joined UBS Investment Bank in 2007, working in the Risk function prior to moving into Compliance and integrating the Compliance and Operational Risk functions.

Jonathan Calvert-Davies (51)
Group Head of Internal Audit

Jonathan joined HSBC as a Group Managing Director and Group Head of Internal Audit in October 2019. He has 30 years of experience providing assurance, audit and advisory services to the banking and securities industries in the UK, the US and Europe. Prior to joining HSBC, he led KPMG's financial services internal audit services practice. His previous roles include leading PwC's UK internal audit services practice. He also served as interim Group Head of Internal Audit at the Royal Bank of Scotland Group.

John Hinshaw (49)
Group Chief Operating Officer

John joined HSBC in December 2019 and became a Group Managing Director and Group Chief Operating Officer in February 2020. John has an extensive background in transforming organisations across a range of industries. Most recently, he served as Executive Vice President of Hewlett Packard and Hewlett Packard Enterprise, where he managed technology and operations and was Chief Customer Officer. Between 2012 and 2019, he served on the Board of Directors of BNY Mellon and chaired its Technology Committee.

Pam Kaur (56)
Group Chief Risk Officer

Pam was appointed Group Chief Risk Officer in January 2020, having been a Group Managing Director since joining HSBC in 2013. In April 2019, she was appointed Head of Wholesale Market and Credit Risk and Chair of the enterprise-wide non-financial risk forum. Pam was previously Group Head of Internal Audit and has held a variety of audit and compliance roles at banks, including Deutsche Bank, RBS, Lloyds TSB and Citigroup. She serves as a non-executive Director of Centrica plc.

Stuart Levey (56)
Chief Legal Officer

Stuart joined HSBC and became a Group Managing Director in 2012. Former appointments include: Under Secretary for Terrorism and Financial Intelligence in the US Department of the Treasury; senior fellow for National Security and Financial Integrity at the Council on Foreign Relations; Principal Associate Deputy Attorney General at the US Department of Justice; and a partner at Miller, Cassidy, Larroca & Lewin LLP and at Baker Botts LLP.

Paulo Maia (61)
Chief Executive Officer, Latin America

Paulo joined HSBC in 1993 and became a Group Managing Director in February 2016. He has been CEO, Latin America since July 2015 and also holds the roles of Chairman of Grupo Financiero HSBC Mexico S.A. de C.V., Chairman of HSBC Argentina Holdings S.A. and Director of HSBC North America Holdings Inc. Former appointments include: Chief Executive Officer of HSBC Bank Canada and HSBC Bank Australia Limited.

Stephen Moss (53)
Group Chief of Staff

Stephen, who joined HSBC in 1992, became a Group Managing Director in 2018. As Chief of Staff to the Group Chief Executive, Stephen leads Group Strategy and Planning, Group Mergers and Acquisitions, Global Communications, Global Events, Group Public Affairs and Group Corporate Sustainability. Stephen is a Director of The Saudi British Bank, HSBC Middle East Holdings B.V. and HSBC Global Asset Management Limited.

Charlie Nunn (48)
Chief Executive Officer, Retail Banking and Wealth Management

Charlie joined HSBC in 2011 and became a Group Managing Director and CEO, Retail Banking and Wealth Management in January 2018. Charlie was previously Head of Group Retail Banking and Wealth Management, leading the teams supporting HSBC's retail and wealth businesses globally. Prior to this, he was Group Head of Wealth Management and before that Global Chief Operating Officer for Retail Banking and Wealth Management. Charlie has extensive financial services experience and was formerly a partner at Accenture and a Senior Partner at McKinsey & Co.

Barry O'Byrne (44)
Chief Executive Officer, Global Commercial Banking

Barry joined HSBC in April 2017 and became interim CEO, Global Commercial Banking in August 2019. He was previously Chief Operating Officer for Global Commercial Banking and prior to joining HSBC, Barry worked at GE Capital for 19 years in a number of senior leadership roles, including as CEO, GE Capital International and in CEO positions in Italy, France and the UK.

Michael Roberts (59)
President and Chief Executive Officer, HSBC USA

Michael joined HSBC and became a Group Managing Director in October 2019. He is an executive Director, President and CEO of HSBC North America Holdings Inc. He also serves as Chairman of HSBC Bank USA, N.A. and HSBC USA Inc. Previously, he spent 33 years at Citigroup in a number of senior leadership roles, most recently as Global Head of Corporate Banking and Capital Management and Chief Lending Officer.

António Simões (44)
Chief Executive Officer, Global Private Banking

António joined HSBC in 2007 and became a Group Managing Director in February 2016. He became CEO, Global Private Banking in 2019, having previously served as CEO of UK and Europe (HSBC Bank plc), and before that as Chief of Staff to the Group Chief Executive and Group Head of Strategy and Planning. António was formerly the Chairman of the Practitioner Panel of the FCA, a partner of McKinsey & Company, and an associate at Goldman Sachs.

Ian Stuart (56)
Chief Executive Officer, HSBC UK Bank plc

Ian has been a Group Managing Director and Chief Executive Officer of HSBC UK Bank plc since April 2017. Ian has worked in financial services for almost four decades. He joined HSBC as Group General Manager and Head of Commercial Banking Europe in 2014, having previously led the corporate and business banking businesses at Barclays and NatWest. He started his career at Bank of Scotland. Ian is a business ambassador for Meningitis Now and a Board member for UK Finance.

Peter Wong (68)
Deputy Chairman and Chief Executive Officer, The Hongkong and Shanghai Banking Corporation Limited

Peter joined HSBC in 2005 and became a Group Managing Director in 2010. He is Chairman and non-executive Director of HSBC Bank (China) Company Limited and a non-executive Director of Hang Seng Bank Limited. Other appointments include Deputy Chairman of the Hong Kong General Chamber of Commerce; Council Member of Hong Kong Trade Development Council and a member of its Belt and Road Committee; and a Member of the Chongqing Mayor's International Economic Advisory Council.

Additional members of the Group Management Board

Noel Quinn

Ewen Stevenson

Aileen Taylor

Biographies are provided on pages 194 and 197.

Board roles and responsibilities

At 31 December 2019, the Board comprised the Group Chairman, 10 non-executive Directors and three executive Directors. Further details of the Board's career background, skills, experience and external appointments can be found on pages 194 to 197.

Group Chairman

The Group Chairman provides effective leadership of the Board and is not responsible for executive matters regarding the Group's business.

His principal duties and responsibilities include leading the Board in providing strong strategic oversight, setting the Board's agenda, challenging management's thinking and proposals and ensuring open and constructive debate among Directors. The Group Chairman's role is to promote the highest standards of corporate governance practices, as well as providing ethical leadership of the Group, setting clear expectations of integrity, culture, values, principles and sustainability. The role involves maintaining external relationships with key stakeholders and communicating investors' views to the Board. He also develops and evaluates the Board, committees and Directors, including on succession planning.

The Group Chairman meets with the independent non-executive Directors without the executive Directors in attendance after each Board meeting and otherwise, as necessary.

Group Chief Executive

The Group Chief Executive's principal duties and responsibilities include leading the Group Management Board, under delegated authority from the Board, with responsibility for the day-to-day operations of the Group. He leads and directs the implementation of the Group's business strategies, embedding the organisation's culture and values.

His role is to protect the Group's reputation, while reviewing and developing its strategy. He is also expected to build, protect and enhance the Group's overall brand value. The Group Chief Executive maintains relationships with key stakeholders, including the Group Chairman and the Board.

Group Chief Financial Officer

The Group Chief Financial Officer's principal duties and responsibilities include supporting the Group Chief Executive in developing and implementing the Group strategy, while leading the Global Finance function, fostering key finance talent and planning for succession. Responsible for effective financial reporting, he is expected to ensure that processes and controls are in place and that the systems of financial controls are robust and fit for purpose.

Other responsibilities include supporting a robust risk management environment and facilitating strong controls in collaboration with the Risk, Compliance and Global Internal Audit functions. The Group Chief Financial Officer recommends the annual budget and long-term strategic and financial plan. He also maintains relationships with key stakeholders, including shareholders.

Group Chief Risk Officer

The Group Chief Risk Officer's principal duties and responsibilities involve leading the Global Risk function, assessing the risk profile and controls, and monitoring and mitigating the risks arising from the Group's businesses.

The Group Chief Risk Officer advises the Board and committees on risk appetite and risk tolerance matters, as well as supports the Group Risk Committee in discharging its responsibilities. With effect from 1 January 2020, the role ceased to be an executive Director but the Group Chief Risk Officer will still attend Board meetings.

Deputy Group Chairman and Senior Independent Director

The principal roles of the Deputy Group Chairman are to deputise formally for the Group Chairman and focus on external leadership of key stakeholders.

As Senior Independent Director, his responsibilities include supporting the Group Chairman in his role, acting as intermediary for other non-executive Directors when necessary, leading the non-executive Directors in the oversight of the Group Chairman and ensuring there is a clear division of responsibility between the Group Chairman and the Group Chief Executive.

The Senior Independent Director is available to shareholders to listen to their views if they have concerns that cannot be resolved through the normal channels.

Independent non-executive Directors

Independent non-executive Directors make up the majority of the Board. Their role is to challenge and scrutinise the performance of management and to help develop proposals on strategy. They also review the performance of management in meeting agreed goals and objectives and monitor the Group's risk profile.

All of the non-executive Directors are considered to be independent of HSBC. There are no relationships or circumstances that are likely to affect any individual non-executive Director's judgement.

To satisfy the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited ('HKEx'), all non-executive Directors have confirmed their independence during the year. The non-executive Group Chairman was considered to be independent on appointment.

Group Company Secretary and Chief Governance Officer

The Group Company Secretary and Chief Governance Officer ensures there is good governance practices at Board level and throughout the Group.

Under the direction of the Group Chairman, she ensures effective functioning of the Board and good information flows within the Board and its committees as well as between senior management and the non-executive Directors. The Group Company Secretary and Chief Governance Officer also facilitates induction and assists with professional development of non-executive Directors, as required.

As Chief Governance Officer, her role is to advise and support the Board and management in ensuring effective governance and good decision making across the Group.

How we are governed

Corporate governance

We are committed to high standards of corporate governance. The Group has a comprehensive range of policies and systems in place to ensure that it is well managed, with effective oversight and controls. We comply with the applicable provisions of the UK Corporate Governance Code and the requirements of the Hong Kong Corporate Governance Code.

The Board and its role

The Board aims to promote the Group's long-term success and deliver sustainable value to investors and other stakeholders, as well as encouraging a culture of risk awareness, openness and debate. Led by the Group Chairman, the Board sets the Group's strategy and risk appetite. It also approves capital and operating plans for achieving strategic objectives on the recommendation of management. The independent non-executive Directors hold management accountable and ensure the executive Directors are discharging their responsibilities properly.

The majority of Board members are independent non-executive Directors. Both the Group Chief Executive and the Group Chief Financial Officer are required to be members of the Board. In 2019, the Group Chief Risk Officer was also a member of the Board. With effect from 1 January 2020, this role ceased to be a Board member but the Group Chief Risk Officer will still attend Board meetings. The role of the independent non-executive Directors is to challenge and scrutinise the performance of management, including executive Directors, and to help develop proposals on strategy. They also review the performance of management in meeting agreed goals and objectives as well as monitor the Group's risk profile.

Powers of the Board

In exercising its duty to promote the success of the Group, the Board is responsible for overseeing the management of HSBC globally and, in so doing, may exercise its powers, subject to any relevant laws, regulations and HSBC's articles of association.

The Board is committed to effective engagement and fostering its relationship with all of its stakeholders. The Board receives reports from management on issues concerning customers, the environment, communities, suppliers, employees, regulators, governments and investors, which it takes into account in discussions and in the decision-making process under section 172 of the Companies Act 2006.

Additional non-financial disclosures detailing the policies pursued by HSBC in relation to the workforce, environment, social matters, human rights, and anti-corruption and anti-bribery matters are included in other sections of this *Annual Report and Accounts 2019* and the *ESG Update 2019*.

Certain matters, including the review and approval of annual operating plans, risk appetite, performance targets, credit or market risk limits and any substantial change in balance sheet management policy, require Board approval before implementation. Acquisitions, disposals, investments, capital expenditure or realisation or creation of a new venture, which are above certain limits, also require prior Board approval.

Operation of the Board

The Board regularly reviews reports on performance against financial and other strategic objectives, key business challenges, risk, business developments, investor relations and the Group's relationships with its stakeholders. It also considers presentations on strategy and performance by each of the global businesses and across the principal geographical areas.

All of HSBC's activities involve the measurement, evaluation, acceptance and management of risk or combinations of risks. The Board, advised by the Group Risk Committee, promotes a strong risk governance culture that shapes the Group's attitude to risk and supports the maintenance of a strong risk management framework.

The Group Chairman meets with the independent non-executive Directors without the executive Directors in attendance after each Board meeting and otherwise, as necessary. The Directors are encouraged to have free and open contact with management at all levels and full access to all relevant information. When attending off-site Board meetings and when travelling for other reasons, non-executive Directors are encouraged to visit local business operations and meet local management. Directors may take independent professional advice, if necessary, at HSBC's expense.

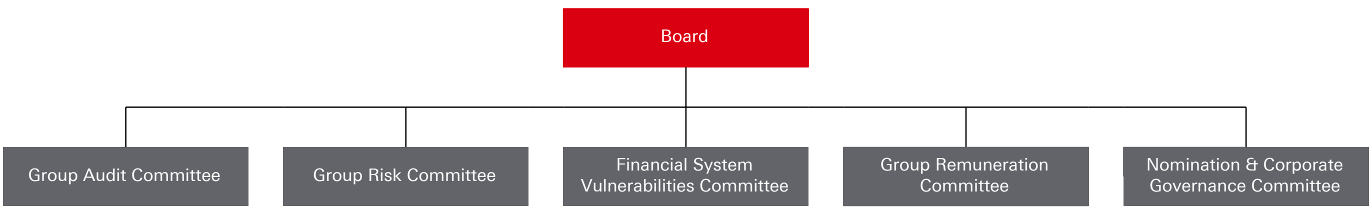
Chairman's Committee

The Chairman's Committee acts on behalf of the Board between scheduled Board meetings to facilitate ad hoc and other business requiring Board approval. It meets when necessary, with the required number of attendees determined by the nature of the proposed business to be discussed, as set out in its terms of reference.

Role of the Board committees

Committees are smaller groups delegated by the full Board to provide advice on and oversight of HSBC's different activities. Each standing committee is chaired by a non-executive Board member and has a remit to cover specific topics. Only independent non-executive Directors are able to be members of Board committees.

Details of the work carried out by each of the Board committees can be found in the respective committee reports in this *Annual Report and Accounts 2019.*



Board performance and accountability

The Board and its committees are subject to regular, independent evaluation of their effectiveness. All Board members also undergo regular performance reviews. In the case of executive Directors, this helps determine the level of variable pay they receive each year.

In addition, the Board is directly accountable to HSBC's shareholders. Shareholders vote at each Annual General Meeting ('AGM') on whether to re-elect individual Directors.

Board, committees and subsidiary interaction

In addition to the regular Board and committee meetings, there is extensive contact across the Group that complements the formal meeting and approval processes. We have defined how we escalate and cascade information and procedures between the HSBC Holdings Board, the principal subsidiary boards and their respective board committees.

Our Group Chairman interacts regularly with the chairs of the principal subsidiaries, including through the Chairs' Forum, which takes place at various times throughout the year to discuss a wide array of relevant issues impacting the principal subsidiaries.

The Chairs of each of the Group Audit Committee, Group Risk Committee and Group Remuneration Committee also have regular dialogues with the respective committees of the principal subsidiaries to ensure an awareness and coordinated approach to key issues. These interactions are reinforced through Audit and Risk Committee Chairs' Forums and the Remuneration Committee Chairs' Forum. The chairs of the principal subsidiaries committees globally are invited to attend the relevant forums, which are held several times a year, to raise and discuss current and future global issues.

Board members are encouraged to, and do, make regional visits and attend principal subsidiary meetings as guests. Similarly, regional Directors are invited regularly to attend committee meetings at a Group level.

Relationship between the Board and the senior executive team

The roles of Group Chairman and Group Chief Executive are separate, with a clear division of responsibilities between the running of the Board by the Group Chairman and executive responsibility for running HSBC's business, which is undertaken by the Group Chief Executive.

The Board delegates day-to-day management of the business and implementation of strategy to the Group Chief Executive. The Group Chief Executive is supported in his day-to-day management of the Group by recommendations and advice from the Group Management Board, an executive forum that he chairs comprising senior management.

There are special meetings of the Group Management Board that provide specialist oversight. The Risk Management Meeting, chaired by the Group Chief Risk Officer, provides oversight of risk matters, while the Financial Crime Risk Management Meeting, chaired by the Group Chief Compliance Officer, oversees the management of financial crime risk.

Principal subsidiaries

A company will typically be considered a Group subsidiary if more than 50% of its voting share capital is held by another HSBC company. Subsidiaries are formally designated as principal subsidiaries by approval of the Board. These principal subsidiaries generally conduct commercial activities in markets that carry significant reputational risks and are typically regulated. Other characteristics include having risk, audit, remuneration committees or other board committees as well as independent non-HSBC non-executive Directors.

The designated principal subsidiaries are:

Principal subsidiary	Oversight responsibility
The Hongkong and Shanghai Banking Corporation Limited	Asia-Pacific
HSBC Bank plc	Europe, Bermuda (excluding Switzerland and UK ring-fenced activities)
HSBC UK Bank plc	UK ring-fenced bank and its subsidiaries
HSBC Bank Middle East Limited	Middle East
HSBC North America Holdings Inc.	US
HSBC Latin America Holdings (UK) Limited	Mexico and Latin America
HSBC Bank Canada	Canada

To strengthen accountability and flows of information, these principal subsidiaries each take responsibility for the oversight of Group companies in their region through the subsidiary accountability framework.

There is close interaction between the Board and the principal subsidiary boards and their respective committees, including the sharing of minutes and a requirement for certain appointments to subsidiary boards to be approved by the Group's Nomination & Corporate Governance Committee.

Board activities during 2019

The activities of the Board were structured to support the development of the Group's strategy and to enable the Board to support executive management on its delivery within a transparent governance framework.

Business performance and strategy

The Board is responsible for the monitoring and delivery of the Group's strategy. In 2019, the Board reviewed the progress against the strategic priorities set in June 2018 and will oversee the implementation of the new business update approved in 2020.

As a matter of course, the Board considered and approved key standing items such as the long-term viability statement and certain acquisitions, mergers and disposals. Additional sessions requested by the Group Chairman ensured that the Board considered non-standing items, which included sustainable finance and climate change. A deep dive session on climate change was completed by the Board in July 2019. This session considered the potential impacts of climate change on the business and the climate-related risk initiatives progressing within the Group. It was confirmed that climate-related risk would remain a thematic issue within the Group's 'Top and emerging risk' report. Further details can be found on page 106 and in the *ESG Update*.

The Board managed the process involving the departure of the Group Chief Executive and the appointment of an interim Group Chief Executive on 5 August 2019. Further details can be found on page 207.

Financial decisions

The Board has an ongoing responsibility for approving key financial decisions throughout the year. Having monitored the Group's performance against the approved 2019 annual operating plan – as well as each of the global businesses – the Board approved the *Interim Report 2019*, the *Annual Report and Accounts 2019* and associated dividends. The Board also approved the renewal of debt programme authorities.

Governance, risk and regulatory

The Board remained focused on its governance, regulatory obligations and risks to the Group's business throughout the year. A number of key frameworks, control documents and core processes were reviewed and approved. These included:

- the Group's risk appetite framework and risk appetite statement;
- the individual liquidity adequacy assessment process;
- the internal capital adequacy assessment process;
- the revised terms of reference for the Board and the Board committees;
- our corporate governance framework describing HSBC's corporate governance structure and processes in consultation with the UK's Prudential Regulation Authority ('PRA') and Financial Conduct Authority ('FCA');
- the Group recovery plan and delegation of authority; and
- the Group's payment protection insurance ('PPI') provisions.

Certain operational changes were considered and approved, including the change of HSBC Private Banking Holdings (Suisse) SA from a principal subsidiary to a material subsidiary, and the recognition change of HSBC Global Asset Management Limited as a material subsidiary. These changes of definitions altered how these companies operate under the Group's subsidiary accountability framework in terms of the delegation of matters and the escalation of issues. The Board is continually working to assess the smooth operation and oversight of its principal and material subsidiaries.

A revised UK Corporate Governance Code meant that the Board considered and approved its approach to workforce engagement and organisational culture. The Group's obligations under the Modern Slavery Act were also considered and its statement for the Group website was approved.

In order to ensure that the Board is operating in the most effective way possible, an external evaluation of the Board was conducted. Actions from the review were approved and are being implemented by various key stakeholders. Further information is provided on page 206. In addition, Group-wide initiatives such as 'Ways of Working' were implemented during the year to promote efficiency at a Board level and throughout the Group as a whole. Ways of Working aims to improve the efficiency and effectiveness of how we run meetings.

The Board is conscious of the implications of geopolitical developments during the year and actively monitored and reviewed them, including US-China trade relations, the UK's General Election and departure from the EU, and the Argentinian and Hong Kong political situations.

People and culture

The Board is committed to its diversity and inclusion agenda, which forms a key part of its focus on Group culture. The Board has set targets against a number of diversity and inclusion criteria.

In 2019, the Board considered executive appointments, focusing on succession planning for the Group Chief Executive, the Group Chief Risk Officer and the Group Company Secretary and Chief Governance Officer.

As part of succession planning of the Board, Sir Jonathan Symonds is stepping down as Deputy Group Chairman, Senior Independent Director and the Chair of the Group Audit Committee in February 2020. The Board has appointed David Nish in the role of Senior Independent Director and Chair of the Group Audit Committee. The role of Deputy Chairman will be considered as part of Board succession planning in 2020. In 2019, the Board appointed Dr José Antonio Meade Kuribreña as an independent non-executive Director. It will continue to review the skills and experience of the Board as a whole to ensure the correct composition.

Technology

The Board reviewed opportunities for the Group from investments in technology, including the Cloud, data and artificial intelligence solutions. It also considered the role of the technology advisory board and its interaction with the Board.

Board governance

Appointment

Appointments to the Board are made on merit and candidates are considered against objective criteria, having regard to the benefits of a diverse Board. A rigorous selection process is followed for the appointment of Directors and senior employees. As per the Group's Articles of Association, the number of Directors (other than any alternate Directors) must not be fewer than five nor exceed 25. The Board may at any time appoint any person as a Director, either to fill a vacancy or as an addition to the existing Board. The Board may appoint any Director to hold any employment or executive office, and may revoke or terminate any such appointment.

Re-election

In accordance with the UK Corporate Governance Code and the requirements of the Hong Kong Corporate Governance Code, all Directors are nominated for annual re-election at the AGM by shareholders, subject to continued satisfactory performance based upon an assessment by the Group Chairman and the Nomination & Corporate Governance Committee. All Directors that stood for re-election at the 2019 AGM were re-elected by shareholders.

Period of appointment

Non-executive Directors are appointed for an initial three-year term and, subject to re-election by shareholders at each AGM, are typically expected to serve two three-year terms. The Board may invite a Director to serve additional periods but any term beyond six years is subject to a particularly rigorous review with an explanation to be provided in the *Annual Report and Accounts*. No Directors are involved in deciding their own remuneration.

Time commitment

The terms and conditions of the appointments of non-executive Directors are set out in a letter of appointment, which includes the expectations of them and the estimated time required to perform their role. Letters of appointment of each non-executive Director are available for inspection at the registered office of HSBC Holdings plc. The current anticipated time commitment, which is subject to periodic review, is 75 days per year. Non-executive Directors who chair a Board committee are expected to devote up to 100 days per year to the Group. The Chair of the Group Risk Committee is expected to commit up to 150 days per year, reflecting the complexity of the role and responsibilities of this Committee. All non-executive Directors have confirmed they can meet this requirement, taking into account any other commitments they have at the time of appointment, and, in practice, most devote considerably more time.

Outside Directorships

During their term of appointment, non-executive Directors are expected to consult the Group Chairman or the Group Company Secretary and Chief Governance Officer if they are considering whether to accept or vary any commitments outside the Group, for which Board approval is required.

Conflicts of interest

The Board has established a policy and a set of procedures relating to Directors' conflicts of interest. Where conflicts of interest arise, the Board has the power to authorise them. A register of conflicts is maintained by the Group Company Secretary and Chief Governance Officer's office. On appointment, new Directors are advised of the process for dealing with conflicts and the process for reviewing those conflicts when they have been authorised. The terms of those authorisations of conflicts are routinely undertaken by the Board. During the year no conflicts of interest arose.

Indemnity

The Articles of Association of HSBC Holdings plc contain a qualifying third-party indemnity provision, which entitles Directors and other officers to be indemnified out of the assets of HSBC Holdings against claims from third parties in respect of certain liabilities.

HSBC Holdings plc has granted deeds of indemnity by deed poll to the Directors of the Group and associates, including the former Directors who retired during the year. The deed poll indemnity constituted 'qualifying third-party indemnity provisions' for the purposes of the Companies Act 2006 and continues to be in force. The deed poll indemnifies the Directors to the maximum extent permitted by law and was in force during the whole of the financial year or from the date of appointment in respect of the Directors appointed in 2019. Additionally, all Directors have the benefit of Directors' and officers' liability insurance. The deed poll is available for inspection at HSBC Holdings' registered office.

Qualifying pension scheme indemnities have also been granted to the Trustees of the Group's pension schemes, which were in force for the whole of the financial year and remain in force as at the date of this report.

Contracts of significance

During 2019, none of the Directors had a material interest, directly or indirectly, in any contract of significance with any HSBC company. During the year, all Directors were reminded of their obligations in respect of transacting in HSBC securities and following specific enquiry all Directors have confirmed that they have complied with their obligations.

Shareholder engagement

The Board gives a high priority to communicating with shareholders. Extensive information about HSBC and its activities is provided to shareholders in the *Annual Report and Accounts* and the *Interim Report* as well as on www.hsbc.com. To complement the regular publications provided on HSBC's website, there is regular dialogue with institutional investors.

Directors are encouraged to develop an understanding of the views of shareholders. Enquiries from individuals on matters relating to their shareholdings and HSBC's business are welcomed.

Any individual or institutional investor can make an enquiry by contacting the investor relations team, Group Chairman, Group Chief Executive, Group Chief Financial Officer and Group Company Secretary and Chief Governance Officer. Our Senior Independent Director is also available to shareholders if they have concerns that cannot be resolved or for which the normal channels would not be appropriate. He can be contacted via the Group Company Secretary and Chief Governance Officer at 8 Canada Square, London E14 5HQ.

Annual General Meeting

The AGM in 2020 will be held at the Queen Elizabeth Hall, Southbank Centre, Belvedere Road, London SE1 8XX at 11.00am on Friday, 24 April 2020 and a live webcast will be available on www.hsbc.com. A recording of the proceedings will be available on www.hsbc.com shortly after the conclusion of the AGM.

Notice of the 2020 AGM will shortly be available on www.hsbc.com/investors/shareholder-information/annual-general-meeting.

Shareholders are encouraged to attend the meeting. Shareholders may send enquiries to the Board in writing via the Group Company Secretary and Chief Governance Officer, HSBC Holdings plc, 8 Canada Square, London E14 5HQ or by sending an email to shareholderquestions@hsbc.com.

General meetings

Shareholders may require the Directors to call a general meeting other than an AGM, as provided by the UK Companies Act 2006. Requests to call a general meeting may be made by members representing at least 5% of the paid-up capital of HSBC Holdings or by at least 100 shareholders holding at least £100 of nominal capital that carry the right of voting at its general meetings (excluding any paid-up capital held as treasury shares). A request must state the general nature of the business to be dealt with at the meeting and may include the text of a resolution that may properly be moved and is intended to be moved at the meeting. A request may be in hard copy form or in electronic form, and must be authenticated by the person or persons making it. A request may be made in writing to HSBC Holdings at its UK address, referred to in the paragraph above or by sending an email to shareholderquestions@hsbc.com. At any general meeting convened on such request, no business may be transacted except that stated by the requisition or proposed by the Board.

Board development

Board induction

We provide new members of the Board with a comprehensive and bespoke induction programme that extends beyond the boardroom and considers their past experience and individual needs. Induction programmes are delivered over a number of months and normally completed prior to the commencement of the appointment. They involve site visits, technical briefings and meetings with Board members, senior management, treasury executives, auditors, tax advisers and, where relevant, regulators. This is to ensure that the Board member can contribute and add value from their appointment date. This supports good information flows within the Board and its committees and between senior management and non-executive Directors, giving a better understanding of our culture and the way things are done in practice. It also provides a sense of the experience and concerns of our people and other stakeholders. Typical induction topics include those that focus on HSBC values, culture and leadership; governance arrangements; Directors' duties; and anti-money laundering and anti-bribery training.

During 2019, we provided induction programmes to the two new Board members as well as to the new Group Company Secretary and Chief Governance Officer. The induction programme for Ewen Stevenson was conducted in 2018. The induction programmes supply the necessary knowledge and insight of the business to support them with strategic Group discussions.

Board training

To supplement the robust Director induction programme, we provide continual training and development for each Director, with the support of the Group Company Secretary and Chief Governance Officer. Non-executive Directors develop and refresh their skills and knowledge through a range of activities. This ensures Directors understand the key activities and risks involved in the business and enhance their ability to provide effective challenge to the Group's business strategy. Needs are assessed as part of regular, independent evaluation of the Board's own effectiveness and that of its committees. The training and development activities undertaken by each Director during the year are set out below.

Mandatory training

In 2019, each Director carried out mandatory training modules that mirrored the training undertaken by all employees. Training was delivered through a specially designed mobile application so Directors could access it easily. Modules included the following topics:

- the management of risk under the enterprise risk management framework, with a focus on operational risk;
- the importance of health, safety and well-being;
- data privacy and the protection of data of our customers and colleagues;
- combating financial crime, which involves understanding how we deal with money laundering, sanctions, and bribery and corruption risks; and
- the importance of our values and conduct.

Board-wide training

Directors undertook various Board and committee training during the year.

They attended deep dive sessions to develop an understanding of the Group's strategic priorities and to monitor their progress. Other reviews covered topics such as selected risk, business and governance areas, including financial crime, climate change, Cloud technology and shareholder activism.

In addition, Directors attended several meetings and forums:

- The Group Chairman hosted two Chairs Forums for the chairs of the Group's principal subsidiaries, which were attended by Directors. The awareness and discussion sessions covered strategy, the economy, regulatory matters, cyber risk and resilience, implementation of the subsidiary accountability framework and corporate governance.
- The Chairs of the Group Audit Committee and the Group Risk Committee hosted three Audit and Risk Committee Chairs Forums for the chairs of the Group's principal subsidiary audit and risk committees. These forum sessions, which took place in Hong Kong, New York and London, promoted connectivity between committees, share governance best practices and a holistic review of focus areas, including regulator priorities in the region.
- The Chair of the Group Remuneration Committee hosted a Remuneration Committee Forum for the chairs of the principal subsidiary boards and committees responsible for remuneration matters. The forum sessions promoted connectivity and encouraged consistency of approach on remuneration matters across the Group.

External consultants provided specific training to all the Group's boards and executive committees who were in scope for the Senior Manager and Certification Regime. The training comprised a refresher of the Senior Manager and Certification Regime, with practical examples of 'reasonable steps' and discussion of relevant case studies where regulatory breaches had occurred.

In 2019, a refreshed Directors' handbook was issued, which included material on Director's duties, Board and Group policies and procedures and regulatory and statutory requirements of which the Directors must be aware and follow.

Bespoke training

Non-executive Directors discuss individual development areas with the Group Chairman during performance reviews and during conversations with Group and subsidiary company secretaries. If a non-executive Director makes a request for a specific area of knowledge or understanding, the Group Company Secretary and Chief Governance Officer would make appropriate arrangements using internal resources, or otherwise, at HSBC's expense.

Subsidiaries

Laura Cha, Irene Lee and Heidi Miller – Board Directors who serve on principal subsidiary company Boards – participated in additional training and development activities specifically related to those entities.

Directors' induction and ongoing development in 2019

Director	Induction[1]	Strategy and business briefings[2]	Risk and control[3]	Corporate governance[4]	ARCC, Chairs and Remco Forum[5]	Subsidiary[6]
Mark Tucker		X	X	X	X	
Noel Quinn	X		X	X	X	
Ewen Stevenson		X	X	X	X	
Marc Moses		X	X	X	X	X
Sir Jonathan Symonds		X	X	X	X	
David Nish		X	X	X	X	
Irene Lee		X	X	X	X	X
José Antonio Meade Kuribreña	X	X	X	X	X	
Kathleen Casey		X	X	X	X	
Laura Cha		X	X	X	X	X
Henri de Castries		X	X	X		
Heidi Miller		X	X	X	X	X
Jackson Tai		X	X	X	X	
Pauline van der Meer Mohr		X	X	X	X	

1 *Noel Quinn and José Antonio Meade Kuribreña joined the Board and followed an induction plan during 2019.*
2 *All Directors, except Noel Quinn, participated in business strategy, market development and business briefings, which are global, regional and/or market-specific. Examples of specific sessions held in 2019 included 'Asia growth: build and strengthen in Hong Kong' and 'Strategic priority: growth of UK ring-fenced bank.'*
3 *All Directors received risk and control training. Examples of specific sessions held in 2019 included 'Governance of climate-related risk', 'Wholesale and retail credit risk management' and 'Forward-looking financial crime risk issues.'*
4 *All Directors received corporate governance training. Examples of specific sessions held in 2019 included 'Sustainable control environment: outcomes and learnings from the pilot of critical processes' and 'ESG Update.'*
5 *All Directors except Henri de Castries attended at least one of the following: the Principal Subsidiary Chairs Forum, the Audit and Risk Committee Chairs Forum and the Remuneration Committee Chairs Forum.*
6 *Marc Moses, Laura Cha, Irene Lee and Heidi Miller were Directors of a subsidiary company and undertook the required training for the respective entities.*

Board effectiveness

The Board is committed to regular, independent evaluation of its own effectiveness and that of its committees. At least once every three years, to ensure objectivity and fresh insights, the Board commissions an external evaluation to review the Board's performance and to identify areas for improvement. The last external evaluation was carried out in 2016.

During 2019, the Nomination & Corporate Governance Committee oversaw the process to appoint an independent service provider to evaluate the Board's performance. After the Committee invited three independent firms to participate in a tender process to conduct the Board review in 2019, it appointed Dr Tracy Long of Boardroom Review Limited. Dr Tracy Long is an independent external service provider with no connection to the Group or any individual Directors.

The methodology was customised to HSBC and included a review of corporate information, preparatory briefings and interviews with Directors, including chairs of some of the principal subsidiaries, selected executives, regulators and the external auditor. Between January and April 2019, Dr Tracy Long observed various Board meetings, committee meetings, private sessions and strategy discussions.

The review covered all aspects of the Board's *modus operandi* with a specific focus on the Board's leadership, the individual and collective contribution of Directors, the work of the Board and governance.

Findings were presented in the form of a discussion document that analysed the Board's strengths and challenges alongside specific recommendations designed to support the Board in preparing for future challenges and to help Directors optimise their contribution to the success of the Group. Findings in relation to individual performance were fed back to the Group Chairman and individual Directors.

On receipt of the report, the Group Chairman led a Board discussion on the findings. Following a constructive debate, the Board agreed the actions and priorities to be implemented.

The findings

The review identified a number of key strengths of the Board including:

- a strong focus on Board composition that provides effective leadership with a common purpose and independent mindset. Following the appointment of the Group Chairman, steps had already been taken to reduce the size of the Board, restructure the Committees and encourage better connections between Subsidiaries and the Group;
- effective communication channels and meaningful dialogue with stakeholders;
- an open and collegiate culture, which values individual contributions and lessons learned through deep dive sessions;
- a healthy diversity of perspectives and an increasing sense of team;
- a shared strategic perspective;
- a sophisticated risk management framework supported by strong and rigorous audit and risk committees;
- increased transparency in relation to issue escalation; and
- a balanced approach to remuneration and close attention to talent development.

The review explored potential longer-term challenges and suggested ways that the Board might build on its current strengths to ensure it remained effective as it progressed through a period of change. Key themes included:

Leadership

- Continue to provide strong leadership through a culture of collaboration, transparency, open communication and cooperation.

Shared perspective

- Build on the shared strategic perspective by ensuring that the Board agenda allows sufficient time and visibility of longer term strategic perspectives aligned to its appetite for business risk.

Culture

- Reflecting the improvement in corporate culture, keep culture on the agenda to ensure ongoing transparency and escalation of issues. Maintain visibility and insight into cultural initiatives and differences across global businesses.

End-to-end governance

- Maintain focus on improving the quality of information and increased communication channels with subsidiaries and other stakeholders, including the voice of the employee.

Future thinking

- Continue to develop the Board agenda to provide focus on emerging issues.

The Board has approved actions designed to implement the above, which will be monitored and addressed on an ongoing basis. In addition, a number of one-off and administrative changes designed to improve the effectiveness of Board meetings, such as the layout of the Boardroom, have already been implemented.

Board Committees

Nomination & Corporate Governance Committee

"Ensuring the Board is of the right size, structure and composition is critical to creating an effective Board that delivers for HSBC and its shareholders."

Dear Shareholder

I am pleased to present our report on the Nomination & Corporate Governance Committee's activities for 2019. This report provides an overview of the work of the Committee and its activities during the year.

The primary responsibilities of the Committee include reviewing the composition of the Board and its committees, overseeing succession planning of executive Directors, non-executive Directors and other senior appointments and monitoring the Group's corporate governance framework. The Committee also makes recommendations to the Board on governance matters and best practice.

Board composition

The Committee takes the lead on all Board and Board committee appointments, including leading the process for identifying and nominating candidates for approval. It ensures orderly succession plans are in place for both Board and senior management positions. The Committee also oversees the development of a diverse pipeline of candidates. During 2019, a number of Director changes took place:

- On 1 January, Ewen Stevenson was appointed Group Chief Financial Officer and executive Director, succeeding Iain Mackay who stepped down on 31 December 2018. The process leading to Ewen's appointment was explained in the *Annual Report and Accounts 2018*.
- On 1 March, Dr José Antonio Meade Kuribreña joined the Board as an independent non-executive Director. José has extensive experience in public administration, banking and financial policy and is currently a Commissioner of the Global Commission on Adaptation, which seeks to enhance political visibility of climate resilience.
- On 12 April, Lord Evans of Weardale retired from the Board.
- On 5 August, John Flint stepped down as Group Chief Executive and as a Director by mutual agreement with the Board. Noel Quinn was appointed as interim Group Chief Executive and executive Director, pending the appointment of a permanent successor.
- On 31 December, Marc Moses retired from the Board and his position as Group Chief Risk Officer. On 1 January 2020, Pam Kaur was appointed as the new Group Chief Risk Officer.

The Committee also has oversight of the composition of the boards of the Group's regional principal subsidiaries and approves the appointment of Directors and senior management in those subsidiaries.

Membership

	Member since	Meeting attendance in 2019
Mark Tucker (Chair)	Oct 2017	7/7
Kathleen Casey	April 2018	7/7
Laura Cha	May 2014	7/7
Henri de Castries[1]	April 2018	5/7
Lord Evans of Weardale[2]	April 2018	3/3
Irene Lee	April 2018	7/7
José Antonio Meade Kuribreña	April 2019	5/5
Heidi Miller	April 2018	7/7
David Nish	April 2018	7/7
Sir Jonathan Symonds	April 2017	7/7
Jackson Tai	April 2018	7/7
Pauline van der Meer Mohr	April 2016	7/7

1 *Henri de Castries was unable to attend two Committee meetings due to prior engagements.*
2 *Lord Evans of Weardale retired from the Board and Committee on 12 April 2019.*

Board succession

Succession planning was central to the Committee's agenda in 2019. It was discussed at each Committee meeting throughout the year and the discussions covered succession planning for the Group Chief Executive, executive Directors, non-executive Directors and senior management, which includes the 90 most senior roles across the Group.

The Committee's process for identifying – or planning for – new members to the Board considers the tenures, time commitments, skills and experience of the existing non-executive Directors. The Committee remains committed to ensuring the Board and its committees have the right balance of skills and experience to help achieve our strategic objectives.

The Committee's approach when considering the recruitment of new Board members involves the adoption of a formal and transparent procedure with due regard to the skills, knowledge and level of experience required, as well as diversity and soft skills. Soft skills include good judgement and critical assessment, openness and the ability to develop trust and forge relationships.

In July, it was announced that Sir Jonathan Symonds would retire as Deputy Group Chairman and Senior Independent Director on 18 February 2020. Jonathan will be replaced in the role of Senior Independent Director and Chair of the Group Audit Committee by David Nish. The role of Deputy Group Chairman will be considered during 2020 as part of Board succession planning. Kathleen Casey has indicated her intention to step down from the Board in April 2020 and will not stand for re-election at the AGM. I would like to thank Jonathan and Kathleen for their valued contribution.

As part of its succession planning, the Committee engaged Russell Reynolds Associates to support the search for new non-executive Directors. A sub-committee comprising five members of the Committee, supported by the Company Secretary and Chief Governance Officer, met regularly between Committee meetings to lead and progress the search.

In November, Aileen Taylor joined the Group as Group Company Secretary and Chief Governance Officer, replacing Richard Gray who served as interim Group Company Secretary from April to November 2019.

Group Chief Executive succession

In August 2019, the Committee initiated the process to identify a new Group Chief Executive to consider both internal and external candidates. The search is focused on candidates who have the relevant skills and experience required for an organisation of the scale, complexity and global nature of HSBC. The key actions undertaken by the Committee during 2019 were to: agree the profile and requirements of the role; identify the appropriate executive search firm, which after presentations from and consideration of three firms, resulted in the appointment of Egon

Zehnder; review the long list of candidates provided; discuss diversity and inclusion as part of the review process; and assess the characteristics of each candidate and provide feedback to Egon Zehnder on the proposed shortlist. Russell Reynolds and Egon Zehnder assist with senior recruitment at HSBC. They have no other connection with HSBC Holdings or any of its Directors.

Diversity

Building a more diverse and inclusive workforce is a critical component to developing a sustainable and successful business. This is informed by our deep roots in many geographical regions and our international focus. We apply these principles with regard to the composition of our Board, with consideration of a wide range of backgrounds, including the gender, ethnicity, age, geographical provenance and educational and professional backgrounds of candidates. How the Group performs against diversity targets can be found on page 19.

The Committee remains committed to delivering on the Board diversity and inclusion policy, which was approved in July 2018. The policy is a framework for ensuring, among other considerations, that the Board attracts, motivates and retains the best talent, while also setting out how to eliminate bias, prejudice or discrimination whether intentional or not.

Independence of non-executive Directors

The UK Corporate Governance Code requires the Board to identify in the *Annual Report and Accounts* each non-executive Director it considers to be independent after consideration of all relevant circumstances that are likely to impair, or could appear to impair, independence. This should include independence of character and judgement. Similarly, the Hong Kong Corporate Governance Code requires the Committee to assess the independence of the non-executive Directors.

All non-executive Directors who have submitted themselves for re-election at the AGM are considered by the Board to be independent in accordance with UK and Hong Kong requirements and they continue to make effective contributions and effectively challenge and hold management to account.

The Committee is responsible for renewal of the terms of office of independent non-executive Directors. Non-executive Directors are appointed for an initial three-year term and, subject to re-election by shareholders, on an annual basis at the Group's AGM. Non-executive Directors are typically expected to serve two three-year terms, although they may serve additional periods at the invitation of the Board. After a non-executive Director has served more than nine years on the Board, the term of appointment moves to an annual basis to ensure appropriate review and challenge.

On 1 March 2020, Laura Cha will have served on the Board for nine years from the date of her first appointment as a Director. In view of her strong contribution and constructive guidance and challenge when holding management to account, the Board has requested Laura Cha to stand for re-election at the 2020 AGM. In making its recommendation to the Board, the Committee also considered the valuable perspectives from Laura Cha's extensive regulatory and policymaking experience in Hong Kong and mainland China.

The continued service of Laura Cha beyond nine years reflects current circumstances and is in the context of the length of service of the other non-executive Directors as a whole, each of whom have served on the Board for fewer than six years. After taking into account all relevant factors, including her length of service, the Board determined that Laura Cha will continue to be independent. In making this determination, her previous role as Chair of The Hongkong and Shanghai Banking Corporation Limited, where she was a corporate relations adviser until 2011, was considered not to be material.

Governance

The Committee has continued to focus on strengthening the Group's corporate governance arrangements, including the operation of the subsidiary accountability framework and corporate governance framework.

The Financial Reporting Council's revised UK Corporate Governance Code took effect on 1 January 2019. The Committee took this opportunity to reflect on the Code's governance requirements, including on workforce engagement, to develop our governance arrangements in a manner considered most appropriate and effective. For further information on our employees, including employee development and diversity and inclusion, see pages 18 to 19 and pages 253 to 255.

Board evaluation

An independent evaluation of the Board and its committees was carried out during the year by Dr Tracy Long of Boardroom Review Limited. The Committee was involved in the appointment and overseeing certain actions arising from the evaluation. Full details can be found on page 206.

Workforce engagement

HSBC is committed to engaging meaningfully with the workforce, regardless of geographical location, to impart information and to ensure the employee voice is considered when developing its business. The Committee received updates on corporate governance developments during the year and considered how it could appropriately and effectively apply the requirements of the UK Corporate Governance Code that relate to workforce engagement within HSBC.

The Board agreed to a recommendation from the Committee that the Group would apply the 'alternative arrangements' approach to workplace engagement in the Code, as opposed to one of the three prescribed methods. The 'alternative arrangements' approach to how we engage with our employees was considered the most effective in large part due to our geographical reach.

During 2019, in response to the Code, the Board put a focus on ensuring the employee voice is heard in the boardroom while continuing the many existing procedures already in place. This enabled an increased understanding of employee concerns and issues as part of the Board's decision-making process.

Outside the normal activities of the Board, other new procedures were implemented, as follows:

- The Group Chief Executive and the Group Chief Human Resources Officer provided twice-yearly formal updates to the Board on the employee voice, including results of employee engagement surveys using benchmarked data.
- The chairs forums of the principal subsidiaries held discussions to consider feedback from the employee voice of those subsidiaries. Key issues or observations were reported to the Board at its following meeting.
- Directors attended 'open door' events and met with our employees. Directors could choose which events to attend and when. The events included town halls, employee resource group meetings, graduate intake feedback sessions, experienced hire onboarding sessions and leadership conferences for global businesses and functions. In addition, Directors are given the opportunity to set up Director-led Exchange and focus groups to engage with employees.
- Paper templates for Board meetings were altered in order to support the Board's consideration of employee and other stakeholder views when making principal decisions.

Focus for 2020

During the course of 2020, the Committee will continue to focus on succession planning and to monitor HSBC's compliance with new regulations and developments arising under best practice and from the UK Corporate Governance Code. The Committee has also commissioned a subsidiary governance review of the Group's principal and key material subsidiaries.

Mark E Tucker

Chair

Nomination & Corporate Governance Committee

18 February 2020

Group Audit Committee

"The Committee continued in 2019 to focus on an effective end-to-end control environment, the foundation of sound financial reporting and consistent customer service."

Dear Shareholder

I am pleased to introduce the Group Audit Committee ('GAC') report. The Committee had another busy year, holding 10 meetings in 2019.

There were two important additions to management relevant to the GAC. Ewen Stevenson joined as Group Chief Financial Officer on 1 January 2019 and Jonathan Calvert-Davies joined as Group Head of Internal Audit on 1 October 2019. Both bring with them significant financial services experience.

The Committee members as a whole have strong, but diverse, financial backgrounds relevant to the sector in which we operate. This was a real benefit in the understanding of the financial, operational and macroeconomic challenges facing the Group, all of which require careful thought on recognition and presentation.

After serving as Chair of the GAC for almost six years, I will be stepping down from the Board on the publication of these results. David Nish will take over as Chair of this Committee with effect from 19 February 2020. Kathleen Casey will be leaving the Board at the AGM and I would like to thank her for her tremendous support to the work of the Committee. I would also like to thank all the GAC members for their support while serving as Chair of the GAC.

Even though much work still needs to be done, an exceptional amount has been achieved. The Group's financial reporting processes, control processes and ability to forecast and react to geopolitical and macroeconomic turbulence are immeasurably better. Still more can be done to improve the robustness of end-to-end processes for the benefit of improved financial control, simpler operating processes and more consistent customer outcomes.

We continued to strengthen our relationships with the principal subsidiary audit committees through regular communication, with the escalation and cascading of information of key activities and through active participation in the Audit and Risk Committee Chairs Forum. This has been a major advance in the last few years and has brought the work of the subsidiary audit committees and the risk committees into much tighter alignment.

The Committee is also encouraged by management's efforts to enhance the Group's whistleblowing arrangements, focusing on key culture and conduct-related themes emerging from the analysis of whistleblowing cases. Critical to sustained improvement is the needed establishment of a stronger 'speak up' culture throughout the Group.

Membership

	Member since	Meeting attendance in 2019
Sir Jonathan Symonds (Chair)	**Sep 2014**	**10/10**
Kathleen Casey	**Mar 2014**	**10/10**
David Nish	**May 2016**	**10/10**
Jackson Tai[1]	**Dec 2018**	**9/10**

1 Jackson Tai was unable to attend the meeting in December 2019 due to a prior engagement.

Our external auditor, PricewaterhouseCoopers LLP ('PwC'), has now completed its fifth audit. PwC continues to provide robust challenge to management and has been a significant force in the drive to deliver a more effective control environment. PwC has given sound independent advice to the Committee on specific financial reporting and judgements.

Further details of PwC's work are contained on pages 210 to 213.

Key responsibilities

The Committee's key responsibilities are as follows:

- The Committee monitors and assesses the integrity of the financial statements, formal announcements and regulatory information in relation to the Group's financial performance as well as significant accounting judgements.
- It reviews the effectiveness of, and ensures that management has appropriate internal controls over, financial reporting.
- The Committee reviews and monitors the relationship with the external auditor and oversees its appointment, tenure, rotation, remuneration, independence and engagement for non-audit services.
- It oversees the work of Global Internal Audit and monitors and assesses the effectiveness, performance, resourcing, independence and standing of the function.

Activities in the year

In 2019, the GAC carried out the following activities:

- The Committee monitored a Group-wide programme to strengthen the control environment in a more sustainable way through improving the understanding of end-to-end processes and ownership of controls. The Committee also continued to monitor ongoing control remediation.
- It conducted a review of the enhancements to the whistleblowing arrangements to improve its effectiveness and employee confidence in the process and to encourage an improved 'speak up' culture across HSBC.
- The Committee reviewed management plans in response to regulatory changes, including the transition of interbank offered rates ('Ibors'), IFRS 17 'Insurance Contracts' and Basel III reforms.
- The Committee carried out a review of the environmental, social and governance ('ESG') disclosures and continued to monitor developments to enhance and embed controls for these disclosures.
- The Committee challenged and assessed the effectiveness of the external audit process.
- It continued to engage with Global Internal Audit's annual plan, received regular updates and invited management to discuss remediation plans on areas rated as not effective by Global Internal Audit.

Focus of future activities

The Committee will focus on the ongoing priorities that will continue into 2020. However, in light of the business update announced with the results, the GAC will provide additional scrutiny over management's assurance and execution of strategic plans, sequencing of events and the impact of these actions on financial reporting and the sustainable control environment.

Committee governance

The Committee is responsible for communicating and advising the Board on matters concerning the Group's financial reporting requirements to ensure that the Board has exercised oversight of the work carried out by management, Global Internal Audit and the external auditor.

The Group Chief Financial Officer, Head of Finance, Group Chief Accounting Officer, Group Head of Internal Audit and other members of senior management routinely attended meetings of the GAC. The external auditor attended all meetings.

The Chair held regular meetings with management to discuss agenda planning and specific issues as they arose during the year. Most meetings included *in camera* sessions with the Chief Legal Officer and the internal and external auditors.

The Committee, led by the Chair, who is also the Deputy Group Chairman and Senior Independent Director, oversaw the succession process and selection of the Group Head of Internal Audit.

The Committee Secretary regularly met with the Chair to consider input from stakeholders, including senior management, internal auditors and external auditors to finalise meeting agendas and to track progress on actions and Committee priorities.

To ensure that the Committee reports its findings and recommendations to the Board in a timely and orderly manner, it usually meets a couple of days before Board meetings.

Compliance with regulatory requirements

The Board has confirmed that each member of the Committee is independent according to the criteria from the US Securities and Exchange Commission and may be regarded as audit committee financial experts for the purposes of section 407 of the Sarbanes-Oxley Act. All Committee members have recent and relevant financial experience for the purposes of the UK and Hong Kong corporate governance codes.

The Committee assessed the adequacy of resources of the accounting and financial reporting function. It also monitored the legal and regulatory environment relevant to its responsibilities.

The GAC Chair had regular meetings with the regulators, including the UK's PRA, the FCA and the US Federal Reserve Board. These included trilateral meetings involving the Group's external auditor PwC.

Committee evaluation and effectiveness

During the year, the Committee carried out an internal review of its own effectiveness and was also subject to an externally facilitated Board effectiveness review. Further details of this can be found on page 206.

Both reviews concluded that the Committee continued to operate effectively and in line with regulatory requirements. During 2019, recommendations from the external review, including joint recommendations with the Group Risk Committee ('GRC'), were tracked and implemented.

How the Committee discharged its responsibilities

Connectivity with principal subsidiary audit committees

During the year, GAC members had regular formal and informal communication with the members of the audit committees of the Group's principal subsidiaries. Appointments to the audit committees of the principal subsidiaries were reviewed by the GAC. The GAC Chair met with the proposed new chairs of the principal subsidiaries' audit committees, as appropriate.

On a half-yearly basis, principal subsidiary audit committees provided certifications to the GAC regarding the preparation of their financial statements, adherence to Group policies and escalation of any issues that required the attention of the GAC. Where necessary, the GAC Chair attended meetings of the principal subsidiaries' audit committees to enable closer links and deeper understanding on judgements around key issues.

Financial reporting

The Committee's review of financial reporting during the year included the *Annual Report and Accounts*, *Interim Report*, quarterly earnings releases, *ESG Update*, analyst presentations and Pillar 3 disclosures.

As part of its review, the GAC evaluated management's application of key accounting policies, significant accounting judgements and compliance with disclosure requirements to ensure these were consistent, appropriate and acceptable under the relevant financial reporting requirements. In particular, the Committee gave careful consideration to the key performance metrics relating to the strategic priorities to ensure transparency and consistency throughout the financial reporting disclosures.

In conjunction with the GRC, the GAC considered the current position of the Group, along with the emerging and principal risks, and carried out a robust assessment of the Group's prospects, before making a recommendation to the Board on the Group's long-term viability statement. The GAC also undertook a detailed review before recommending to the Board that the Group continue to adopt the going concern basis in preparing the annual and interim financial statements.

Following challenge of the disclosures, the Committee recommended to the Board that the financial statements, taken as a whole, were fair, balanced and understandable. The financial statements provided the shareholders with the necessary information to assess the Group's position and performance, business model, strategy and risks facing the business.

Internal controls

The GAC assessed the effectiveness of the internal control system for financial reporting and any developments affecting it. This was in support of the Board's assessment of internal control over financial reporting, in accordance with section 404 of the Sarbanes-Oxley Act.

The Committee received regular updates and confirmations that management had taken, or was taking, the necessary actions to remediate any failings or weaknesses identified through the operation of the Group's framework of controls. Further details of how the Board reviewed the effectiveness of key aspects of internal control can be found on page 251.

External auditor

The Group's external auditor is PwC, which has held the role for five years. The senior audit partner was rotated to Scott Berryman in 2019 and the GAC oversaw the transition. The Committee reviewed the external auditor's approach, strategy for the annual audit and its findings. In 2019, the Committee reviewed auditor independence and audit quality, and GAC members routinely met audit partners in various locations of the business. Principal matters discussed with PwC are set out in its report on page 256.

The GAC is involved in audit partner rotation and succession for the Group and its principal subsidiaries. The GAC monitors the policy on hiring employees or former employees of the external auditor, including in relation to any breaches of the policy. The external auditor attended all Committee meetings and the GAC Chair maintains regular contact with the audit partner throughout the year. The GAC Chair and the senior audit partner also met jointly with the regulators during the year.

During the year, the GAC assessed the effectiveness of PwC as the Group's external auditor, using a questionnaire that focused on the overall audit process, its effectiveness and the quality of output.

The Committee also assessed any potential threats to independence that were self-identified or reported by PwC. The GAC considered PwC to be independent and PwC, in accordance with professional ethical standards, provided the GAC with written confirmation of its independence for the duration of 2019.

The Committee confirms it has complied with the provisions of the Competition and Markets Authority Order for the financial statements. The Committee acknowledges the provisions contained in the UK Corporate Governance Code in respect of audit tendering, along with European rules on mandatory audit rotation and audit tendering. In conformance with these requirements, HSBC will be required to tender for the audit for the 2025 financial year end and beyond, having appointed PwC from 1 January 2015.

The Committee believed it would not be appropriate to re-tender for the external audit after PwC has finished its first five-year rotation. As one of the largest international financial services companies in the world, it would take time for any new external auditor to develop an understanding of the business. HSBC is undergoing a period of significant strategic change and the Committee currently believes that frequent changes of auditor would be inefficient and lead to increased risk. A change in auditor has a significant impact on the organisation, including on the Finance function, and any change in auditor should be scheduled to limit operational disruption.

The Committee will consider its strategy on audit tendering in preparation for the 2025 financial year end in due course.

Therefore, the Committee has recommended to the Board that PwC should be reappointed as auditor. Resolutions concerning the reappointment of PwC and its audit fee for 2020 will be proposed to shareholders at the 2020 AGM.

Non-audit services

The Committee is responsible for setting, reviewing and monitoring the appropriateness of the provision of non-audit services to the external auditor. It also applies the Group's policy on the award of non-audit services to the external auditor. The non-audit services are carried out in accordance with the external auditor independence policy to ensure that services do not create a conflict of interest. All non-audit services are approved by the GAC.

The non-audit services carried out by PwC included 34 engagements approved during the year where the fees were over $100,000 but less than $1m. Group Finance, as a delegate of GAC, considered that it was in the best interests of the Group to use PwC for these services because they were:

- audit-related engagements that were largely carried out by members of the audit engagement team, with the work closely related to the work performed in the audit;
- engagements covered under other assurance services that require obtaining appropriate audit evidence to express a conclusion designed to enhance the degree of confidence of the intended users other than the responsible party about the subject matter information;
- tax compliance services; or
- other permitted services to advisory attestation reports on internal controls of a service organisation primarily prepared for and used by third-party end users.

Similar non-audit services to the ones outlined above included three engagements that were approved by the Committee where the fee exceeded $1m, and a further three engagements outside the scope of the pre-approved services list were approved during the year. They were extensions of work started in the previous year and consistency of methodology of these reviews was critical for the success of these engagements.

Auditors' remuneration	**2019** **$m**	2018 $m
Total fees payable	**110.7**	119.50
Fees for non-audit services	**25.50**	32.90

Internal audit

The primary role of the Global Internal Audit function is to help the Board and management protect the assets, reputation and sustainability of the Group. Global Internal Audit does this by providing independent and objective assurance on the design and operating effectiveness of the Group's governance, risk management and control framework and processes, prioritising the greatest areas of risk.

The independence of Global Internal Audit from day-to-day line management responsibility is critical to its ability to deliver objective audit coverage by maintaining an independent and objective stance. Global Internal Audit is free from interference by any element in the organisation, including on matters of audit selection, scope, procedures, frequency, timing, or internal audit report content. Global Internal Audit adheres to The Institute of Internal Auditors' mandatory guidance.

The Group Head of Internal Audit reports to the Chair of the GAC and there are frequent meetings held between them. Results of audit work, together with an assessment of the Group's overall governance, risk management and control framework and processes are reported regularly to the GAC, GRC and local audit and risk committees, as appropriate. This reporting highlights key themes identified through audit activity, business and regulatory developments, and provides an independent view of emerging and horizon risk, together with details of audit coverage.

Audit coverage is achieved using a combination of business and functional audits of processes and controls, risk management frameworks and major change initiatives as well as regulatory audits, investigations and special reviews. Key areas of focus for 2019 audit coverage were prudential soundness, operational resilience, conduct and culture, financial crime and regulatory compliance, and data management and governance. Executive management is responsible for ensuring that issues raised by the Global Internal Audit function are addressed within an appropriate and agreed timetable. Confirmation to this effect must be provided to Global Internal Audit, which validates closure on a risk basis.

Consistent with previous years, the 2020 audit planning process will include assessing the inherent risks and strength of the control environment across the audit entities representing the Group. Results of this assessment are combined with a top-down analysis of risk themes by risk category to ensure that themes identified are addressed in the plan. Risk theme categories for 2020 audit work include strategy, governance and culture; financial crime, conduct and compliance; financial resilience; and operational resilience. During 2020, a quarterly assessment of key risk themes will form the basis of thematic reporting and plan updates and will ultimately drive the 2021 planning process. The annual audit plan and material plan updates are approved by the GAC. The GAC is satisfied with the effectiveness of the Global Internal Audit function. On the appointment of Jonathan Calvert-Davies as Head of Group Internal Audit, the GAC considered and approved him joining the Group, and his independence with him being a former partner of PwC.

Global Internal Audit maintains a close working relationship with HSBC's external auditor, PwC. The external auditor is kept informed of Global Internal Audit's activities and results, and is afforded free access to all internal audit reports and supporting records.

Principal activities and significant issues considered during 2019

Collaborative oversight by GAC and GRC

The GAC and GRC worked closely to ensure there were procedures to manage risk and oversee the internal control framework. They also worked together to ensure any areas of significant overlap were appropriately addressed with inter-committee communication or joint meetings.

The Chairs are members of both committees and engage on the agendas of each other's committees to further enhance connectivity, coordination and flow of information.

In 2019, three Audit and Risk Committee Chair Forums were held in Hong Kong, New York and London with the chairs of principal and regional subsidiaries' audit and risk committees, together with senior management from these subsidiaries. The purpose of these Audit and Risk Committee Chair Forums was to discuss mutual priorities, improvement and remediation programmes and forward-looking issues in relation to the management of risk and the internal control framework.

Three areas of joint focus for the GAC and GRC during 2019 were:

Sustainable control environment

With oversight from the GAC, the Group Management Board initiated a programme to change and enhance the control environment in a way that can be sustained. The purpose of this programme is to ensure there is clear understanding, accountability and ownership for internal controls and end-to-end processes to deliver operational quality and consistent outcomes for customers and simpler operation of controls for colleagues. The GAC provided constructive challenge to management proposals and received regular progress updates on the work streams. Improvements were measured and tracked through a new enterprise-wide non-financial risk forum with escalation paths into the GAC and GRC. During 2020, the GAC will focus on the new business update and restructuring, and how they impact the control environment.

Financial reporting

The GAC reviewed and provided feedback on the assurance work and management's opinion on internal controls over financial reporting, as required by the Sarbanes-Oxley Act. In conjunction with the GRC, the GAC monitored the remediation of significant deficiencies and weaknesses in entity level controls raised by management and the external auditor. The GAC will continue to monitor the progress of remediation as well as efforts to integrate requirements of the Sarbanes-Oxley Act with the operational risk framework as part of the sustainable control environment programme.

For expected credit losses under IFRS 9, the GAC works with the GRC in reviewing and challenging the underlying economic scenarios, additional scenarios added by management and the reasonableness of the weightings applied to each scenario in order to understand the impact on the financial statements.

Monitoring changes to regulatory requirements

The GAC approved an annual priorities plan to review management's response to current and future changes in regulatory requirements affecting financial reporting. In 2019, this included changes in the UK and Hong Kong corporate governance codes, interpretation of new accounting standards, industry-wide regulatory reform programmes and their impact on accounting judgements. The GAC will continue to monitor specific accounting issues identified during the year and future regulatory items that will impact the integrity of financial reporting, the Group and its relationships with regulators.

Key financial metrics and strategic priorities

In exercising its oversight, the Committee assessed management's assurance and preparation of external financial reporting disclosures. In particular, the Committee provided feedback and challenge on the disclosures related to the monitoring and tracking of key financial metrics and strategic priorities.

In the third quarter of 2019, the Committee was involved at all stages in overseeing the disclosures that updated the market on the challenging revenue environment and the decision to update plans and set new financial targets.

Whistleblowing and 'speak up' culture

The GAC received regular updates on the status of the Group's whistleblowing arrangements, how they operated and how they were enhanced during the year. The Committee focused on the key culture- and conduct-related themes emerging from whistleblowing cases and the end-to-end control processes that deliver reliable, timely conclusions. This included feedback to management to drive a stronger 'speak up' culture as part of the Group's commitment to develop and maintain a culture where employees can raise issues and concerns without fear of punishment, embarrassment or rejection.

During the year, concerted efforts were made in many areas of the Group to build greater trust between employees and leaders and to normalise the act of airing concerns openly and directly. The Committee was kept informed of progress of the whistleblowing enhancement programme, which included the strengthening of entity level controls, the roll-out of a third-party technology solution and additional training for line managers.

Environmental, social and governance

The GAC received updates on future developments of the Group's ESG approach. The Committee monitored stakeholder feedback and reviewed management's gap analysis of Sustainalytics rating reports. The GAC considered best methods of assurance, presentation and alignment with the *Annual Report and Accounts* to allow stakeholders to gauge holistically HSBC's performance.

During the year, the Committee received reports from Global Internal Audit on the internal controls for sustainability risk.

Long-term viability statement

In accordance with the UK Corporate Governance Code, the Directors carried out a robust assessment of the principal risks of the Group and parent company. The GAC considered the statement to be made by the Directors and concluded that the Group and parent company will be able to continue in operation and meet liabilities as they fall due, and that it is appropriate that the long-term viability statement covers a period of three years.

Engagement with regulatory reform and review

The Committee held additional sessions to review and engage actively with the Competition and Markets Authority study into the statutory audit market, the Kingman review of the Financial Reporting Council and the Brydon review on the quality and effectiveness of audit. The Committee notes the importance of such reviews and proposals for reform to the work of the Committee in improving the quality of financial reporting and audit.

The Committee will continue to engage and monitor the proposals by the government to implement recommendations from these reviews.

Sir Jonathan Symonds, CBE

Chair

Group Audit Committee

18 February 2020

Significant accounting judgements considered during 2019 included:

Key area	Action taken
Goodwill	The GAC received reports on management's approach to goodwill impairment testing and challenged the approach and model used. The GAC also challenged management's key judgements on inputs to the calculations such as long-term growth rates and discount factors and the sensitivities of such judgements. A further key judgement was what cash flows were included or excluded within the goodwill tests for each cash generating unit ('CGU'), both in terms of compliance with accounting standards and also the reasonableness of the assumptions in the annual operating plan. The GAC also considered the reasonableness of the outcomes as a sense check against the annual operating plan and strategic objectives of HSBC. The GAC considered the outcomes in cases where the goodwill for a CGU was impaired and subsequently written off, and where sensitivities were tested and the CGU's goodwill was unimpaired and remained on the balance sheet.
Expected credit loss ('ECL') impairment	The GAC considered loan impairment allowances for personal and wholesale lending. Particular judgements included the effect of UK economic uncertainty, Hong Kong political uncertainty and the risk of escalation of trade tensions between the US and China on the measurement of ECL impairment. The GAC also considered disclosures relating to ECL in the year-end accounts.
Bank of Communications Co., Limited ('BoCom') impairment testing	During the year, the GAC considered the regular impairment reviews of HSBC's investment in BoCom. The GAC review included the sensitivity of the result of the impairment review to estimates and assumptions of projected future cash flows, regulatory capital assumptions and the model's sensitivity to long-term assumptions including the continued appropriateness of the discount rate.
Appropriateness of provisioning for legal proceedings and regulatory matters	The GAC received reports from management on the recognition and amounts of provisions, as well as the existence of contingent liabilities for legal proceedings and regulatory matters. Specific matters addressed included accounting judgements in relation to provisions and contingent liabilities arising out of: (a) investigations of HSBC's Swiss Private Bank by a number of tax administration, regulatory and law enforcement authorities; and (b) an FCA investigation into HSBC Bank's and HSBC UK Bank's compliance with the UK money laundering regulations and financial crime systems and controls requirements.
Valuation of defined benefit pension obligations	The valuation of defined benefit pension obligations involves highly judgemental inputs and assumptions, of which the most sensitive are the discount rate, pension payments and deferred pensions, inflation rate and changes in mortality. Different assumptions could significantly alter the defined benefit obligation and the amounts recognised in profit or loss or other comprehensive income. The GAC has considered the effect of changes in key assumptions on the HSBC UK Bank plc section of the HSBC Bank (UK) Pensions Scheme, which is the principal plan of HSBC Group.
Interest rate benchmark replacement	The GAC considered the accounting implications of benchmark interest rate replacement for hedge accounting relationships as at 31 December 2019, and management's decision to early-adopt amendments to accounting standards issued by the IASB during the year. These amendments introduced temporary exceptions from applying specific hedge accounting requirements under which interbank offered rates ('Ibors') are assumed to continue for the purposes of hedge accounting until such time as the transition uncertainty is resolved. At 31 December 2019, the uncertainty existed and therefore the temporary exceptions apply to all of the Group's hedge accounting relationships affected by the transition. The GAC also considered the expected accounting implications of the forthcoming transition to new risk free-rate benchmarks for financial instruments and noted that further amendments to accounting standards will be made dealing with transition and the resolution of uncertainty.
Quarterly and annual reporting	The GAC considered key judgements in relation to quarterly and annual reporting. It reviewed draft presentations to external analysts and key financial metrics included in HSBC's strategic actions.
Valuation of financial instruments	The GAC considered the key valuation metrics and judgements involved in the determination of the fair value of financial instruments. The GAC considered the valuation control framework, valuation metrics, significant year-end judgements and emerging valuation topics.
Tax-related judgements	The GAC considered the recoverability of deferred tax assets, in particular in the US and the UK. The GAC also considered management's judgements relating to tax positions in respect of which the appropriate tax treatment is uncertain, open to interpretation or has been challenged by the tax authority.
UK customer remediation	The GAC considered the provisions for redress for mis-selling of PPI policies in the UK and the associated redress on PPI commissions earned under certain criteria, including management's judgements regarding the effect of the time-bar for claims ending August 2019. In addition, the GAC monitored progress on the remediation of operational processes and associated customer redress.
Adjusted profit measures	Throughout the year, the GAC considered management's non-GAAP measures for adjusted profits.

Group Risk Committee

"The Group Risk Committee embraced proactive risk governance – through informed review and appropriate challenge – to reinforce effective risk management."

Dear Shareholder

I am pleased to present the Group Risk Committee ('GRC') report.

The Committee has responsibility for the oversight of enterprise risk management. Throughout 2019, the GRC embraced proactive risk governance – through informed review and appropriate challenge – to reinforce effective risk management.

During the year, the Committee strengthened its composition and skills and experience to ensure that it is well positioned to promote proactive risk governance. Dr José Antonio Meade Kuribreña joined the GRC with effect from 1 June 2019 and has brought a fresh perspective in multilateral governmental affairs and geopolitical developments from his base in Latin America. We also welcomed Kathleen Casey, who became a member of the GRC on 16 January 2020 after the Board approved the transition of financial crime risk management from the Financial System Vulnerabilities Committee ('FSVC') to the GRC. Kathy has had a long tenure as a FSVC member and brings insight into financial crime remediation as well as her regulatory and government service background to the GRC.

The Committee shaped its meeting agenda to focus on forward-looking and pressing risk issues, including credit risk; non-financial risk management; forward-looking capital and liquidity strategies; model risk management; climate-related risks; people risk and conduct; information and cybersecurity risks; and operational resilience. For each meeting, we organised 'deep dive and challenge' sessions to address one or more of the Group's top and emerging risks through active engagement from all three lines of defence: first line business owners, second line risk stewards and third line audit and assurance. Where possible, the GRC worked with senior management and subject matter experts to organise training, remedial and 'walk-through' sessions to raise the Committee's understanding of the underlying domain issues, ensuring the GRC was better prepared in its informed review and constructive challenge. Indeed, many of our 'deep dive' sessions start with the Committee's advance submission of forward-looking and strategic questions to first and second line presenters, addressing HSBC-specific challenges and cross-organisational dependencies.

Membership

	Member since	Meeting attendance in 2019
Jackson Tai (Chair)	**Sept 2016**	**11/11**
José Antonio Meade Kuribreña[1]	**May 2019**	**4/6**
Heidi Miller	**Sept 2014**	**11/11**
Sir Jonathan Symonds	**April 2018**	**11/11**
Pauline van der Meer Mohr	**April 2018**	**11/11**

1 *José Antonio Meade Kuribreña was unable to attend the meetings in July and November due to prior engagements that predated his appointment.*

The GRC continued to place high priority in engaging first line business owners in our review and challenge sessions to deepen our insight into the opportunity and attendant risks, to reaffirm ownership and accountability, and to seek resolution or close-out of issues. The participation of our senior business leaders, including the current and the former Group Chief Executive who between them attended four GRC meetings in 2019, reaffirmed the ownership and accountability of risks in the first line of defence and strengthened our holistic three lines of defence review of our most pressing risks.

The GRC also reviewed and challenged key regulatory processes, including the Group internal capital adequacy assessment process ('ICAAP'), individual liquidity adequacy assessment process ('ILAAP'), the Group recovery plan and both of the Bank of England's regulatory stress tests – the annual cyclical scenario and the biennial exploratory scenario. As a priority, the GRC engaged the Group's principal subsidiary risk committees and their chairs to form a holistic understanding of the Group's progress in these regulatory processes and concluded that they were of a satisfactory standard.

Throughout the year, we continued to advocate and support the Group's subsidiary accountability framework.

The connectivity between the GRC and the principal subsidiary risk committees continues to be strengthened through cross-attendance of meetings by the Chair and principal subsidiary risk committee chairs, a practice launched in 2017. During the year, the Chair attended principal subsidiary risk committee meetings in Hong Kong, Dubai, New York and Mexico City. We also actively encouraged the chairs of principal subsidiary risk committees to attend GRC meetings and governance events in person or electronically, and found their active participation facilitated the sharing of Committee materials, findings and best practices and enhanced the GRC's holistic oversight of risk management across the Group. (See 'Connectivity with principal subsidiary risk committees' below.)

In addition, the Chairs of the GRC and of the Group Audit Committee ('GAC') actively promoted the timely sharing of subject matter expertise and insight among principal subsidiary audit and risk committee chairs, non-executive Directors, and senior management through our three regional Audit and Risk Committee Chairs forums held in Asia, the Americas and EMEA. Besides advancing our oversight over enterprise risk management, these Audit and Risk Committee Chairs Forums also ensured stronger alignment of the priorities of the Group and of our principal subsidiaries. (See 'Audit and Risk Committee Chairs Forum' below.)

The GRC also took steps in 2019 to foster transparency and a better understanding of our risk governance progress by welcoming our principal regulator to one of our deep dive and challenge sessions and by inviting our regional regulators to address our regional Audit and Risk Committee Chairs Forums.

Key responsibilities

The GRC has non-executive responsibility for the oversight of enterprise risk management, risk governance and internal control systems. In its holistic view of risk in 2019, the Committee was supported by the FSVC, the Board sub-committee responsible for overseeing risks relating to financial crime and financial system abuse. In January 2020, the GRC assumed direct responsibility for financial crime risk oversight from the FSVC.

The Committee's key responsibilities are:

- The Committee oversees and advises the Board on all risk-related matters, including financial risks, non-financial risks and the effectiveness of the Group's conduct framework.
- It advises the Board on risk appetite-related matters, including the ICAAP and ILAAP, as well as recovery and resolution planning.
- The Committee reviews the effectiveness of the Group's enterprise risk management framework and internal controls systems (other than internal financial controls overseen by the GAC).
- It undertakes a review and challenge of the Group's stress testing exercises.

Activities in the year

In 2019, the GRC carried out the following activities:

- The Committee conducted an in-depth review and challenge on non-financial risk management and the Group's internal control environment, with deep dives into people risk and conduct, model risk management, IT resilience and governance, Cloud strategy, operational resilience, data management, end-to-end process and risk and control mapping. For the review of non-financial risks, internal controls and data management, the GRC and GAC worked closely to convene joint and coordinated review and challenge sessions. (See 'Collaborative oversight by GRC and GAC' below.)
- It reviewed the major financial risks affecting the Group, including retail and wholesale credit risk management, counterparty credit risk exposures to central clearing counterparties and climate change-related risks faced by the Group, as well as challenged management to be rigorous and forward looking in their strategies and approach, particularly in addressing horizontal dependencies for these financial risks, such as talent, data, analytics and modelling.
- It reviewed and challenged the assessment of the Group ICAAP and ILAAP programmes and engaged with Group management and principal subsidiary risk committee chairs in overseeing and evaluating the Group's forward-looking capital and liquidity strategies and capabilities, including Group liquidity risk management.
- The Committee conducted comprehensive reviews of the Group's participation in the Bank of England's annual cyclical scenario stress test and biennial exploratory scenario stress test, and provided challenges over the stress results, strategic management actions and lessons learned from the stress scenarios.
- The Committee conducted informed review and challenge of the alignment of risk and reward, satisfying itself that risk and compliance objectives and outcomes impacted the Group variable pay pool.
- It undertook its biannual risk appetite review and recommended the Group's 2020 risk appetite statement to the Board with enhancements to both financial and non-financial risk metrics.
- The Committee reviewed and challenged the 2019 Group recovery plan and satisfied itself with regards to the completeness of the plan and its consistency with the principles of the Group's risk appetite.
- It reviewed the Group's readiness to address major geopolitical developments, including the short and longer-term impact of trade tensions between the US and China on our Asia-Pacific franchise, and the contingency planning and our forward-looking business model following the UK's departure from the EU, including the migration of key client relationships and product capabilities to continental Europe. In the latter case, the Chair met with HSBC Bank plc and HSBC France leadership in Paris to understand our programme planning and risk mitigation.
- The Committee maintained throughout the year a deliberate focus on people risk, including diversity, conduct and culture issues. The GRC regularly monitored the Group's progress in remediating the market conduct issues underlying the 2018 deferred prosecution agreement with the US Department of Justice and the related 2017 Federal Reserve Bank Consent Order. The GRC also organised a Group Human Resources training session on workplace harassment.

Focus of future activities

The GRC's focus for 2020 will include the following activities:

- The Committee plans to provide robust oversight and scrutiny over the execution risk of the strategic actions and business re-profiling announced with the 2019 financial results, and the impact of these actions on the Group's risk exposure, financial resources and sustainable control environment.
- It will monitor and appropriately challenge management's plans to manage and mitigate the impacts of geopolitical risks on our operations and portfolios in Asia-Pacific, the Middle East and the rest of the world.
- The Committee will ensure the continuity in financial crime risk oversight after assuming the responsibility from the FSVC, with a focus on sanctions and transaction monitoring.
- It will continue to monitor developments and enhancements in the Group's management of conduct and culture, as well as people risk management. As a matter of priority, the GRC will oversee progress in remediating the market conduct issues underlying the 2018 deferred prosecution agreement with the US Department of Justice and the related 2017 Federal Reserve Board Consent Order.
- It will continue reviewing and challenging management's progress in developing and implementing our operational resilience strategy, the key elements of which include third-party risk management, data management, IT governance, Cloud strategy and cybersecurity risk.
- The Committee will also focus on the Group's forward-looking strategy and management actions to quantify and mitigate climate change-related risks.

Committee governance

In carrying out its responsibilities, the GRC is supported by the Group Chief Risk Officer, Group Chief Financial Officer, Group Head of Internal Audit, Group Chief Compliance Officer and Global Head of Risk Strategy, all of whom regularly attend GRC meetings to contribute their subject matter expertise and insight. They facilitate Committee members' review and challenge of current and forward-looking risk issues, working together with business, functional and regional leaders across all three lines of defence. The Chair and members of the GRC also regularly meet with the Group Chief Risk Officer, the Group Head of Internal Audit and external auditors PwC without management present.

Committee evaluation and effectiveness

The Committee is committed to regular, independent evaluation of its own effectiveness. During 2019, the GRC undertook an internal committee effectiveness exercise, which concluded that the GRC continued to operate effectively and in line with regulatory requirements.

The Committee was also subject to a wider externally facilitated Board effectiveness review during 2019. Recommendations from the review, including joint recommendations with the GAC, were tracked and implemented. Further details on this can be found on page 206.

How the Committee discharges its responsibilities

Since 2017, more than half of each Committee meeting has been dedicated to deep dives and challenge of the most pressing risks facing the Group. These sessions deepened the GRC members' understanding of the priority risks and issues and strengthened the GRC's oversight and challenge through active engagement with all three lines of defence.

As well as deep dive sessions, the GRC reviewed regular risk and independent audit reports, which provided an overview of the Group's risk profile and highlighted the material current and forward-looking risks and issues, such that the Committee could effectively identify any areas that required more of the GRC's attention.

After assuming the oversight responsibility for people risk and employee conduct in 2018, the GRC continued to exercise its governance in this area, supported by the Group Chief Human Resources Officer and Group business heads, including overseeing the effective delivery of the Global Markets conduct enhancement programme as well as the remediation plan addressing the issues set out in the 2018 FX deferred prosecution agreement with the US Department of Justice and the 2017 Consent Order with the Federal Reserve Board.

Following the assumption of the responsibility for information security and cyber risk in 2018, the Committee continued to make headway in the improvement of the Group's cybersecurity and management of cyber risks. The GRC received periodic reports from management throughout 2019 on the cyber risks facing the Group and the mitigating actions in place. Additionally, the Committee's independent cybersecurity adviser, Andrew France, was invited to attend every GRC meeting to provide his advice and insight with particular regard to cyber issues.

Activities outside formal meetings

The GRC had a number of activities outside its regular meeting cycle to facilitate more effective oversight of the risks impacting the Group. The chairs of principal subsidiary risk committees were also invited. Activities included, among others:

- a stress test tutorial focusing on material models and their limitations;
- a financial crime awareness session led by Group Chief Compliance Officer Colin Bell and the Financial Crime Compliance leadership team;
- a workplace harassment training session led by senior leaders in Human Resources; and
- quarterly cybersecurity consultation sessions and monthly written updates on cyber developments such as cyber crime, legislation and technology provided by the GRC's cybersecurity adviser, Andrew France.

Collaborative oversight by GRC and GAC

The GRC worked closely with the GAC to ensure that there are no gaps in risk oversight, and that any areas of significant overlap are appropriately addressed by inter-committee communication or joint meetings where appropriate. The GRC and GAC Chairs are members of both committees and engage on the agendas of each other's committees to further enhance connectivity, coordination and flow of information.

Three areas of collaborative oversight by the GRC and the GAC during 2019 were:

Sustainable control environment

During 2019, the GRC undertook in-depth reviews of a number of topics relating to the Group's internal controls and the necessary culture change needed to improve the control environment. Management's progress and forward-looking plan to embed non-financial risk management were reviewed and challenged by the GRC, with a focus on first line ownership and customer outcomes. The Committee also carried out an extensive review of the Group's operational resilience strategy and progress in end-to-end process, and risk and control mapping, which highlighted the importance of ensuring the resilience of our critical business services and setting impact tolerance for inevitable service disruption.

Financial risk

The GRC provided informed review and constructive challenge to the Group's regulatory submissions of ICAAP and ILAAP processes. It also proactively reviewed progress of the Group's liquidity risk management improvement plan. It continued to maintain oversight of the Group's regulatory and internal stress testing programmes with specific review and challenge of the key assumptions, strategic management actions and outcomes of the principal tests conducted. Through these reviews, the Committee assessed each risk facing the Group to determine the principal risks to its long-term viability, including those that would threaten its solvency and liquidity.

Monitoring changes to regulatory requirements

During 2019, the GRC undertook review and challenge of a number of risk areas for which the Group has regulatory obligations or is facing regulatory change. These included model risk, climate change-related risk and operational resilience. In particular, the GRC convened a models limitation tutorial session and conducted an extensive review on model risk management, which was a high priority area under regulatory scrutiny. The Committee also received periodic updates on the progress against the GRC-approved annual Compliance function strategic plan, including analysis of emerging compliance risks, compliance-related policy updates and the Group's relationship with the regulator.

Connectivity with principal subsidiary risk committees

The risk committees of principal subsidiaries provided half-yearly confirmations to the GRC. These certifications confirmed that the principal subsidiary risk committees had challenged management on the quality of the information provided, reviewed the actions proposed by management to address any emerging issues or trends indicating material divergence from the Group's risk appetite and that the risk management and internal control systems in place were operating effectively.

In 2019, the GRC proactively encouraged principal subsidiary risk committee chairs' participation in regular GRC meetings and special review or learning sessions throughout the year. As a result, there has been an improvement in the connectivity between the Group and principal subsidiary risk committees as well as within the risk committees themselves. Since 2017, the GRC Chair's attendance at principal subsidiary risk committees' meetings in Asia, UK, Europe, US, Latin America, Canada and the Middle East also furthered this information sharing and connectivity.

Audit and Risk Committee Chairs Forum

The Audit and Risk Committee Chairs Forum was held for each of the three key regions where the Group operates, of Asia, EMEA and the Americas. In 2019, it continued to be the collaborative event that shared risk and audit subject matter expertise, aligned Group and subsidiary priorities, supported the subsidiary accountability framework and promoted two-way connectivity between the Group and principal subsidiary risk and audit committees. The Audit and Risk Committee Chairs Forums were jointly hosted by the GAC and GRC Chairs and attended by members of the GAC and GRC, Group Management Board members, the chairs of principal and regional subsidiary audit and risk committees, together with non-executive Directors and senior management from these subsidiaries.

At these events, subject matter expertise was shared through interactive discussions and presentations by Group senior management. The aim was to focus on best practices among subsidiaries, promote connectivity and consistency, and reinforce a holistic view across the Group's high priority audit and risk issues. The topics covered at these forums included:

- the Group's business update from the Group Chief Executive and implications for the subsidiaries;
- the regulator's perspective on progress and challenges for the HSBC franchise;
- top risks and significant issues that were reviewed and challenged at the GRC and GAC, such as sustainable control environment, accelerating the embedding of non-financial risk management, credit risk management, capital and liquidity constraints, model risk management and operational resilience;
- regional leadership's views on improving a 'speak up culture' and on HSBC's core values, behaviour, conduct and culture; and
- the GRC's and GAC's progress in 2019 and key priorities in 2020.

The Audit and Risk Committee Chairs Forums provided an opportunity for the GRC to understand locally specific issues with potential read-across to other areas and regions of the Group. It also served to help the GRC learn from the experience and different perspectives provided by the chairs of subsidiaries' risk committees in addressing top and emerging areas of risk and agree and endorse a consistent approach to risk management across the Group.

Looking forward to 2020, the GRC will continue its progress in subsidiary risk committee connectivity and three lines of defence engagement. The GRC will further consider Libor, operational resilience, conduct issues and execution risk connected to strategic change over the course of 2020.

Jackson Tai

Chair

Group Risk Committee

18 February 2020

Financial System Vulnerabilities Committee

"Regulatory approval to demise the Committee reflected significant effort by the Committee and Group to bring about a cultural change in the awareness and remediation of financial crime risk."

Dear Shareholder

I am pleased to present the Financial System Vulnerabilities Committee ('FSVC') report.

The Committee provides oversight of matters relating to financial crime and financial system abuse, including anti-money laundering, sanctions, terrorist financing, proliferation financing and anti-bribery and corruption. It also provides advice to the Board on the Group's framework of controls and procedures that are designed to identify areas where HSBC and the financial system more broadly may become exposed to financial crime or system abuse.

Committee chair transition

On 12 April 2019, Lord Evans of Weardale resigned as a Director and I was appointed as Chair of the FSVC to ensure continuity, having been a member of the Committee since September 2016. In preparation for the transition, the Committee received reports on its achievements and areas of potential focus. The change of Chair and non-Director membership, detailed below, supported a programmed transition of financial crime oversight to the Group Risk Committee ('GRC').

Committee membership

There were several changes to the Committee's membership during 2019. Firstly, we welcomed Kathleen Casey back to the Committee's membership.

In line with the maturity of the financial crime risk agenda and the governance simplification process, we took the decision to reduce the number of advisers. Lord Hogan-Howe, John Raine, David Irvine and Dave Hartnett all stood down as non-Director members of the Committee following its meeting on 10 April 2019. They continued to work with the wider Group and maintained focus on regional financial crime risk throughout 2019.

Membership

	Member since	Meeting attendance in 2019
Non-executive Directors		
Jackson Tai (Chair)[1]	**Sept 2016**	**5/5**
Kathleen Casey[2]	**April 2019**	**4/4**
Laura Cha	**April 2018**	**5/5**
Lord Evans of Weardale[3]	**May 2014**	**2/2**
Co-opted non-Director members[4]		
Nick Fishwick CMG	**Jan 2013**	**5/5**
Dave Hartnett CB[5]	**Feb 2013**	**2/2**
Lord Hogan-Howe[5]	**Sept 2017**	**2/2**
David Irvine AO[5]	**Nov 2016**	**2/2**
John Raine[5]	**Sept 2017**	**2/2**
The Honourable Juan Zarate[6]	**Jan 2013**	**4/5**

1 *Jackson Tai was appointed as Chair of the FSVC on 12 April 2019.*
2 *Kathleen Casey also served on the FSVC from 1 March 2014 to 20 April 2018.*
3 *Lord Evans of Weardale stepped down as Chair of the FSVC on 12 April 2019.*
4 *The co-opted non-Director members support the Committee's work and among them have extensive experience in geopolitical risk, financial crime risk, international security and law enforcement matters.*
5 *Dave Hartnett CB, Lord Hogan-Howe, David Irvine AO and John Raine CMG OBE all stepped down from the FSVC on 10 April 2019.*
6 *The Honourable Juan Zarate did not attend the Committee meeting in September due to a prior engagement.*

Transition of financial crime oversight

On 18 December 2019, the UK's FCA gave formal approval for the oversight of financial crime to transition from the FSVC to the GRC. On 15 January 2020, the final FSVC meeting was held, during which the Committee discussed the handover of financial crime oversight to the GRC. Following this, a joint meeting of the FSVC and GRC was held to discuss the assumption of responsibility by the GRC.

Board approval for the transition of financial crime oversight was given on 16 January 2020 and the FSVC was formally demised. To ensure continuity in the responsibilities of financial crime oversight, Kathleen Casey became a member of the GRC on 16 January 2020. The non-Director members of the FSVC were assigned as advisers to the GRC, attending relevant financial crime remediation items on the GRC's agenda.

Financial crime will now be managed in line with other risk types managed by the GRC and appropriate coverage of financial crime will be included in its agenda.

Meetings

The Committee had five scheduled meetings during 2019. The Committee's meetings are aligned to the Board meeting cycle and occur in advance so that any updates can be made at Board meetings. The Chair of the FSVC provides updates as a standing agenda item at Board meetings.

Activities during the year

In 2019, the Committee received regular reports from management on areas within its scope, including financial crime, internal audit findings, legal matters and operational effectiveness.

Alongside these regular reports, the Committee's activities focused on other areas during the year. The Committee held 'Spotlight' sessions with relevant executives to explore these additional areas. Some of these sessions included discussion regarding:

- how governance and escalation procedures are used to mitigate financial crime risk within the Group;
- cross-border trade, finance flows and growth in digital financial services in the market and how this applies to the Group;
- how the Group manages financial crime risk and what the associated controls are in relation to multinational corporations. Where the Group has a relationship with a multinational corporation, what financial crime risk controls are in place to govern these relationships;
- financial crime risk management and supporting governance structures within HSBC UK, HSBC Bank plc, the Latin America region and the Asia-Pacific region;
- how the Group kept up to date on developments of Office of Foreign Assets Control sanctions, the broader sanctions arena and on sanctions controls across the Group's global business;
- reports from Committee advisers following their visits to various jurisdictions;
- the development of HSBC's principles, and associated governance, on the ethical use of 'Big Data' and machine learning models;
- developments related to the UK's exit from the EU, including the potential financial crime risks associated with it, and the evolving challenges around fraud;
- updates from the Skilled Person, as approved by the UK's FCA and PRA, in February and July, as part of which private sessions were held with the Committee members;
- progress regarding HSBC's transaction monitoring programme;
- updates on the governance and escalation principles in place across the Group from the Group Company Secretary;
- a review of enterprise-wide risk assessment reports on anti-money laundering, anti-bribery and corruption and sanctions; and
- a review of its own terms of reference and agreeing that no changes were required.

Activities outside formal meetings

The Committee held, or facilitated, a number of activities outside its regular meeting cycle to provide further oversight of matters relating to financial crime and financial system abuse.

The FSVC Chair, alongside senior executives, met with an FCA supervision team to discuss industry-wide topics, including financial crime remediation.

In May 2019, the Committee held joint training sessions with the GRC in preparation for the transition of financial crime oversight to the GRC. The Group Company Secretary and the Group Chief Compliance Officer respectively held workshops with country CEOs and the chairs of subsidiary risk and audit committees to discuss financial crime, conduct, behaviour and issues relating to culture.

In September 2019, the FSVC members undertook on-site visits to HSBC's Mexican operations, which included a branch visit. The purpose of these on-site visits was to review the progress and learnings of our financial crime remediation programme since 2012, and to share regional forward-looking initiatives on insider risks and fraud.

The FSVC Chair visited a number of jurisdictions, including Hong Kong and the UAE, to discuss emerging financial crime topics with country senior managers. The co-opted non-Director members and the Group's financial crime advisers met in November to discuss current trends and topics within the financial crime arena.

On 22 January 2020, the GRC Chair (following the formal demise of the FSVC on 17 January 2020) joined the Global Head of Financial Crime Compliance and Group Money Laundering Reporting Officer Ralph Nash, Global Head of Sanctions Allison Mackenzie, and advisers to the Group GRC on financial crime Juan Zarate and Nick Fishwick, in launching a full-day sanctions training event in Hong Kong for Asia-Pacific non-executive Directors, senior managers, client relationship officers and support officers.

Jackson Tai

Chair

Financial System Vulnerabilities Committee

18 February 2020

Directors' remuneration report

All disclosures in the Directors' remuneration report are unaudited unless otherwise stated. Disclosures marked as audited should be considered audited in the context of financial statements taken as a whole.

Membership

	Member since	Meeting attendance in 2019
Pauline van der Meer Mohr (Chair)	1 January 2016	7/7
Henri de Castries[1]	26 May 2017	6/7
David Nish	26 May 2017	7/7
Irene Lee	20 April 2018	7/7

1 *Henri de Castries was unable to attend the April meeting due to prior commitments.*

Dear Shareholder

I am pleased to present our 2019 Directors' remuneration report on behalf of the members of the Group Remuneration Committee.

Our new remuneration policy received strong support at the 2019 AGM, with more than 97% of the votes cast in favour of the policy. The first year of implementation of this policy was in 2019.

I have set out below a summary of our 2019 performance, key decisions made by the Committee and how the Committee has applied the new policy.

Performance and pay for 2019

In 2019, we faced a challenging business environment, with revenue growth softer than we anticipated at the start of the year. Our reported profit before tax of $13.3bn was down 33%, which included a $7.3bn goodwill impairment. Adjusted profit before tax of $22.2bn increased by 5%. Reported revenue of $56.1bn increased by 4%, while adjusted revenue of $55.4bn was 6% higher, with strong performances in our RBWM and CMB businesses, partly offset by lower revenue in GB&M. Adjusted operating expenses increased by 3%, reflecting ongoing cost discipline while continuing to invest, resulting in positive adjusted jaws of 3.1%. We delivered a return on tangible equity ('RoTE') of 8.4%, a reduction of 20 basis points compared with 2018.

The Group announced a dividend of $0.51 per ordinary share, and in 2019 returned a total of $1bn to shareholders through share buy-backs.

The Group Remuneration Committee reviewed and agreed the Group variable pay pool of $3,341m, taking into account performance against financial and non-financial metrics set out in the Group risk appetite statement, including conduct, and targets set out in our annual operating plan. This represents a 3.8% decrease on the 2018 variable pay pool.

In setting the pool, the Committee applied:

- a reduction of $206m for the fines, penalties and cost of customer redress faced by the Group; and
- a discretionary reduction of $999m taking into consideration financial performance being lower than the targets we had set at the start of the year and certain non-financial risk metrics, where performance was outside our risk appetite.

We expect all our people to reflect our values in how they behave and conduct business. We are committed to delivering fair outcomes for our customers, and to ensuring we act with integrity. The personal conduct of our people is critical to our ability to live up to these commitments. We recognise and reward exceptional conduct demonstrated by our employees. We also discourage poor conduct and inappropriate behaviour that is not in keeping with our values, or which exposes us to financial, regulatory and reputational risk. We do this through:

- the use of behaviour and performance ratings for all employees, which directly influence pay outcomes;
- positive adjustments to variable pay for individuals who have exhibited exemplary conduct and who went the extra mile to courageously do the right thing (totalling $9.2m in 2019);
- our global recognition programme, where our employees can recognise peers and reward positive behaviours in a real-time, visible way; and
- reductions in variable pay where there are cases of inappropriate individual conduct and behaviours (totalling $2.3m in 2019).

Executive Director changes

On 5 August 2019, Noel Quinn was appointed as interim Group Chief Executive after John Flint stepped down. Marc Moses stepped down as an executive Director and Group Chief Risk Officer on 31 December 2019.

All remuneration decisions made in respect of these changes were in accordance with the policy approved by the shareholders.

Noel Quinn's base salary, fixed pay allowance and cash in lieu of pension were set at the amounts approved by shareholders for the Group Chief Executive role at the 2019 AGM. He was also eligible to be considered for variable pay consisting of an annual incentive and a long-term incentive ('LTI') award.

In accordance with our approved remuneration policy and contractual terms agreed, both John Flint and Marc Moses have been designated as good leavers taking into consideration John Flint's and Marc Moses' 30 and 14 years of service with HSBC, respectively. John Flint's and Marc Moses' good leaver statuses are conditional upon satisfaction of our non-compete provisions under which they cannot take up roles with a defined list of competitor financial services firms for two years after they cease employment with HSBC. As good leavers, they were eligible to be considered for 2019 annual incentive awards based on the 2019 scorecard outcome. Their unvested awards will continue to vest on their scheduled vesting dates and the vesting of any LTI awards granted to them will be pro-rated for time spent in employment with the Group during the performance period, following the performance assessment. Neither John Flint nor Marc Moses has been granted LTI awards for 2019. Further details are set out on page 234.

Key remuneration decisions for executive Directors

In March 2019, the Committee decided to reduce the cash in lieu of pension allowance for new executive Directors from 30% of base salary to 10% of base salary. The change was made to ensure this allowance for new executive Directors, as a percentage of salary, is not more than the maximum contribution rate, as a percentage of salary, that HSBC could make for a majority of employees who are defined contribution members of the HSBC Bank (UK) Pension Scheme. The current executive Directors also voluntarily agreed to have their allowance reduced to 10% of salary with effect from 1 April 2019. This change has been positively received by our shareholders.

The annual scorecards of our executive Directors were aligned to the delivery of our strategic priorities, as set out on page 228. As we did not achieve all of our 2019 financial and strategic targets, the 2019 annual incentive scorecard outcomes for our Group Chief Executive and Group Chief Risk Officer were lower than the 2018 scorecard outcomes. The 2019 annual incentive scorecard outcome was 66.4% for Noel Quinn (2018 Group Chief Executive scorecard outcome: 75.7%), and 66.3% for Marc Moses (2018 outcome: 89.0%). For Ewen Stevenson, the scorecard outcome was 77.5% taking into account performance against the financial targets and management of the Global Finance function. The annual incentive scorecard outcome for John Flint was 61.4%, reflecting the lower outcomes on non-financial objectives in the first half of 2019. The annual incentive awards for Noel Quinn and John Flint were determined based on the outcome of the 2019 scorecard measures set for the Group Chief Executive and then pro-rated for time spent by them as Group Chief Executive during 2019. Further details are provided on page 228.

The three-year performance period for the 2016 LTI award ended on 31 December 2019. The scorecard outcome for this award was assessed at 72.7%, which included assessment of performance against return on equity, adjusted jaws and relative total shareholder returns ('TSR') targets that were set at the start of the performance period. The awards after adjustment of the performance outcome, and time spent in employment during the performance period by former executive Directors, will vest in five equal annual instalments and will be subject to a six-month post-vesting retention period.

In determining the 2019 annual incentive and the 2016 LTI outcome, the Committee also took into consideration the overall performance of the Group using a number of internal and external measures, including profit before tax, RoTE, share price and TSR, to consider if any adjustments should be made to the formulaic scorecard outcomes. The Committee determined that the scorecard outcomes appropriately reflected the financial results and determined no discretionary adjustments were required.

The Committee also granted Ewen Stevenson an LTI award for 2019, taking into consideration his 2019 performance. This award will also be subject to a three-year forward-looking performance period ending on 31 December 2022. Taking into account feedback received on our 2018 LTI scorecard and discussions with investors, we have included a relative TSR measure. The 2019 LTI scorecard will consist of RoTE, relative TSR and customer measures with each given equal weighting. We believe these measures align the reward of our executives with our financial performance and the interest of our shareholders. Details of the LTI award are set out on page 231. The Committee has not granted an LTI award to Noel Quinn given he has been in an interim capacity in the Group Chief Executive role. To meet regulatory requirements, 60% of his variable pay will be deferred and vest in equal annual instalments between the third and seventh anniversary of the grant. At least 50% of his total variable pay will be in shares, which will be subject to a one-year retention period after vesting.

We have increased the base salary of our executive Directors by 2.5%, in line with the average increase for our Group employees.

Investor consultation

Regular dialogue with our shareholders, even outside of policy vote years, is important to ensure our remuneration policy operates as intended. In 2019, we met with a number of our significant shareholders and proxy voting agencies to hear their views on the implementation of our new policy. We found this engagement useful. There was a preference towards the use of a relative measure in the LTI scorecard and the use of firm-specific environmental targets in executive Directors' scorecards. Based on this feedback, the 2019 LTI includes a TSR measure and the 2020 annual incentive scorecards of executive Directors include an environment measure linked to our commitment to reducing carbon emissions.

Review of workforce remuneration matters

Under the PRA's Senior Managers Regime, as the Chair of the Committee I have prescribed responsibilities for overseeing the development and implementation of the Group's remuneration framework. In line with these prescribed responsibilities and the provisions of the UK Corporate Governance Code in 2019, the Committee continued to review the effectiveness of the remuneration framework for our overall workforce, including through feedback received from the employee pay review survey. The survey showed that there has been an improvement in employees' understanding of how their pay is determined, both in terms of their own performance and behaviour as well as business performance. A majority of the employees who responded to the survey thought that their managers recognised positive performance and behaviour and that there is recognition for acting appropriately with regards to risk and compliance. The survey results were also used to determine the 2019 priorities, which included simplifying decision making for managers to enable them to make informed pay decisions and enhancing the frequency and quality of performance and development conversations.

As part of the year-end pay review, the Committee reviewed results of remuneration outcomes across the Group to ensure they were in line with our pay principles. These included details of outcomes by performance, behaviour ratings and a focus on diversity and outcomes for our junior employees. The Committee also reviewed variable pay adjustments. This informs the Committee on the effectiveness of our remuneration framework and whether our framework aligns rewards with our values.

An overview of our remuneration principles and the wider employee remuneration policy is set out on page 240.

Diversity and inclusion

Diversity is a critical enabler of our business strategy and all Group employees have a role to play in shaping an inclusive culture. Our approach to pay is designed to attract and motivate the very best people, regardless of gender, ethnicity, age, disability or any other factor unrelated to performance or experience.

In June, we published our 2019 UK Gender Pay Gap report and it is clear from our aggregate UK-wide median gender pay gap of 47.8% that we have more work to do. The biggest driver of our UK gender pay gap is the shape of our workforce. We have a predominance of women at the more junior levels with fewer women in senior leadership roles.

Our commitment to improving the gender balance of our workforce has resulted in the implementation of a three-part plan, which includes the following actions:

- incorporating aspirational gender diversity targets in the performance scorecards of our Group Management Board;
- requiring gender-diverse shortlists for all external senior leadership hires to support balanced hiring; and
- introducing a new framework setting out our vision and principles for flexible working.

We have updated our reward practices to increase transparency and consistency. We remain confident our approach to pay produces fair outcomes and will continue to conduct robust reviews and monitor pay data to reduce the risk of any bias impacting our processes. If pay differences are identified that are not due to an objective, tangible reason such as performance or skills and experience, we make adjustments.

Our annual report on remuneration

As Chair of the Committee, I hope you will support the 2019 Directors' remuneration report.

Pauline van der Meer Mohr

Chair

Group Remuneration Committee

18 February 2020

Group Remuneration Committee

The Group Remuneration Committee is responsible for setting the overarching principles, parameters and governance of the Group's remuneration framework for all employees, and the remuneration of executive Directors and other senior Group employees. The Committee regularly reviews the framework in the context of consistent and effective risk management, and the regulatory requirements of multiple jurisdictions.

No Directors are involved in deciding their own remuneration. All members of the Committee are independent non-executive Directors of HSBC Holdings. A copy of the Committee's terms of reference can be found on our website at www.hsbc.com/our-approach/corporate-governance/board-committees.

Activities

The Committee met seven times during 2019. The following is a summary of the Committee's key activities during 2019.

Details of the Committee's key activities

Executive Directors	All employees
• Approved Directors' remuneration report • Considered executive Director remuneration policy matters, including key principles for remuneration policy review, Directors' remuneration policy alternatives and structure • Consulted with key shareholders and proxy advisory bodies on executive Director remuneration matters, including policy and structure • Reviewed and approved executive Director remuneration matters, including departure and appointment terms • Reviewed and approved scorecards and pay proposals	• Approved 2018/2019 performance year pay review matters • Reviewed remuneration policy effectiveness • Received updates on notable events, regulatory and corporate governance matters • Reviewed and approved 2019 Material Risk Taker ('MRT') identification approach and outcomes of MRT review • Approved 2019 regulatory submissions • Reviewed attrition data and plans to address areas of concerns • Reviewed UK Gender Pay Report

Advisers

The Committee received input and advice from different advisers on specific topics during 2019. Deloitte LLP ('Deloitte') was re-appointed by the Committee in 2019 as an objective, independent adviser to support the Committee on specific remuneration matters for executive Directors. The Committee made the re-appointment after considering invited proposals from Deloitte and two other consultancy firms. Deloitte provided benchmarking data on remuneration policy matters and independent advice to the Committee. The Committee may request ad hoc assistance from Deloitte. Deloitte also provided tax compliance and other advisory services to the Group.

The Committee also received advice from Willis Towers Watson on market data and remuneration trends for senior management. Willis Towers Watson was appointed as remuneration advisers by management after considering invited proposals from similar consultancy firms. It provides actuarial support to Group Finance and benchmarking data and services related to benefits administration for our Group employees. To ensure the advice from Deloitte and Willis Towers Watson was objective, the Committee required the advice to be independent and distinct from any internal review and analysis on remuneration policy matters. The Committee was satisfied the advice provided by Deloitte and Willis Towers Watson was objective and independent in 2019. Deloitte is a founding member of the Remuneration Consultants Group and voluntarily operates under the code of conduct in relation to executive remuneration consulting in the UK.

For 2019, total fees of £194,650 and £89,251 were incurred in relation to remuneration advice provided by Deloitte and Willis Towers Watson, respectively. This was based on pre-agreed fees and a time-and-materials basis.

Attendees and interaction with other Board committees

During the year, Noel Quinn as the interim Group Chief Executive and John Flint as the former Group Chief Executive provided regular briefings to the Committee. In addition, the Committee engaged with and received updates from the following:

- Mark Tucker, Group Chairman;
- Ewen Stevenson, Group Chief Financial Officer;
- Marc Moses, Group Chief Risk Officer until 31 December 2019;
- Stuart Levey, Chief Legal Officer;
- Charlie Nunn, Chief Executive Officer, RBWM;
- Elaine Arden, Group Chief Human Resources Officer;
- Alexander Lowen, Group Head of Performance and Reward;
- Colin Bell, Group Chief Compliance Officer;
- Pam Kaur, Group Chief Risk Officer since 1 January 2020 and former Group Head of Internal Audit;
- Ruth Horgan, Global Head of Regulatory Compliance;
- Aileen Taylor, Group Company Secretary and Chief Governance Officer;
- Richard Gray, interim Group Company Secretary; and
- Ben Mathews, former Group Company Secretary.

The Committee also received feedback and input from the Group Risk Committee, the Financial System Vulnerabilities Committee and Group Audit Committee on risk, conduct and compliance-related matters relevant to remuneration.

Implementation of remuneration policy for executive Directors

The Committee reviewed and considered whether the 2019 remuneration outcomes appropriately reflected the performance achieved during 2019 and whether it should exercise any discretion to the formulaic scorecard outcomes. Taking into consideration the overall performance of the Group using a number of internal and external measures, including profit before tax, RoTE, share price and total shareholder returns, the Committee considered that our remuneration policy has operated as intended and the scorecard outcomes reflected the performance achieved. For further information of the annual incentive and LTI scorecard outcomes, see page 228.

Review of workforce remuneration and related policies

The Committee reviews the effectiveness of the remuneration framework for our overall workforce and the results of remuneration outcomes across the Group to ensure they are in line with our pay principles (as set out on page 240). These included details of variable remuneration adjustments made as well as information on reward outcomes by performance and behaviour ratings. The Committee uses this information to assess the effectiveness of our remuneration framework and whether our framework aligns employee rewards with our values.

Engagement with shareholders

During 2019, the Committee engaged with key shareholders to hear their views on implementation of our new policy. For further information, see the Chair's letter on page 220.

Our approach to Directors' remuneration

This section summarises our remuneration policy for executive and non-executive Directors. The policy was approved at the AGM on 12 April 2019 and is intended to apply for three performance years until the AGM in 2022. The full remuneration policy, including the policy on payment for loss of office, can be found on pages 175 to 184 of our *Annual Report and Accounts 2018* and the Directors' Remuneration Policy Supplement, which is available under Group Results and Reporting in the Investor Relations section of www.hsbc.com.

Remuneration policy summary – executive Directors

Elements and objectives	Operation	Implementation in 2020
Base salary To attract and retain key talent by being market competitive and rewarding ongoing contribution to role.	• Base salary is paid in cash on a monthly basis. • Other than in exceptional circumstances, the base salary for the current executive Directors will not increase by more than 15% above the level at the start of the policy period in total for the duration of the policy.	Base salary for Noel Quinn and Ewen Stevenson will increase by 2.5%, in line with the increase for Group employees. With the increase, the base salary from 1 March 2020 will be as follows: • Noel Quinn: £1,271,000 • Ewen Stevenson: £741,000
Fixed pay allowance ('FPA') To deliver a level of fixed pay required to reflect the role, skills and experience of the Directors and to maintain a competitive total remuneration package for retention of key talent.	• The FPA is granted in instalments of immediately vested shares. • On vesting, shares equivalent to the net number of shares delivered (after those sold to cover any income tax and social security) are subject to a retention period and released annually on a pro-rata basis over five years, starting from the March immediately following the end of the financial year for which the shares are granted. • Dividends are paid on the vested shares held during the retention period.	No change from 2019. FPA for 2020 will be as follows: • Noel Quinn: £1,700,000 • Ewen Stevenson: £950,000
Cash in lieu of pension To attract and retain key talent by being market competitive.	• Cash in lieu of pension is paid on a monthly basis as 10% of base salary.	• No change to percentage of base salary.
Annual incentive To drive and reward performance against annual financial and non-financial objectives that are consistent with the strategy and align to shareholder interests.	• The maximum opportunity is up to 215% of base salary. • Annual incentive performance is measured against an individual scorecard. • At least 50% of any award is delivered in shares, which are normally immediately vested. • On vesting, shares equivalent to the net number of shares that have vested (after those sold to cover any income tax and security payable) will be held for a retention period of up to one year, or such period as required by regulators. • Awards will be subject to clawback (i.e. repayment or recoupment of paid vested awards) for a period of seven years from the date of award, extending to 10 years in the event of an ongoing internal/regulatory investigation at the end of the seven-year period. Any unvested awards will be subject to malus (i.e. reduction and/or cancellation) during any applicable deferral period. • The Committee retains the discretion to: – apply a longer retention period; – increase the proportion of the award to be delivered in shares; and – defer the vesting of a portion of the award.	• See page 228 for details of performance measures.
Long-term incentive ('LTI') To incentivise sustainable long-term performance and alignment with shareholder interests.	• The maximum opportunity is up to 320% of base salary. • The LTI is granted if the Committee considers that there has been satisfactory performance over the prior year. • The LTI is subject to a forward-looking three-year performance period from the start of the financial year in which the awards are granted. • At the end of the performance period, awards will vest in five equal instalments, with the first vesting on or around the third anniversary of the grant date and the last instalment vesting on or around the seventh anniversary of the grant date. • On vesting, shares equivalent to the net number of shares that have vested (after those sold to cover any income tax and security payable) will be held for a retention period of up to one year, or such period as required by regulators. • Awards are subject to malus provisions prior to vesting. Vested shares are subject to clawback for a period of seven years from the date of award, extending to 10 years in the event of an ongoing internal/regulatory investigation at the end of the seven-year period. • Awards may be entitled to dividend equivalents during the vesting period, paid on vesting. Where awards do not receive dividend equivalents, the number of shares awarded can be determined using the share price discounted for the expected dividend yield.	• Details of performance measures and targets for awards to be made in 2020 (in respect of 2019) are set out on page 231.

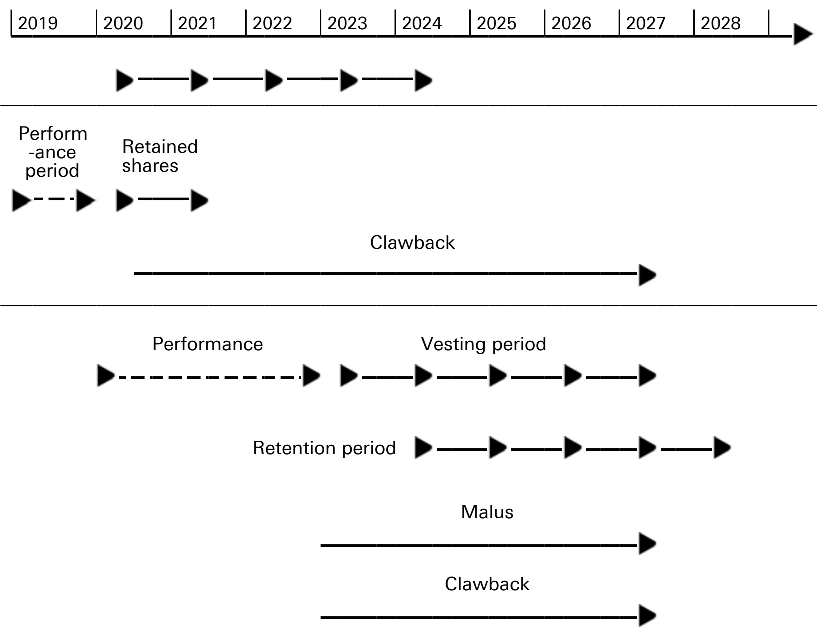
Elements and objectives	Operation	Implementation in 2020
Benefits To provide benefits in accordance with local market practice.	• Benefits include the provision of medical insurance, accommodation, car, club membership, independent legal advice in relation to a matter arising out of the performance of employment duties for HSBC, tax return assistance or preparation and travel assistance (including any associated tax due, where applicable). • Additional benefits may also be provided when an executive is relocated or spends a substantial proportion of his/her time in more than one jurisdiction for business needs.	• Benefits to be provided as per policy. Details will be disclosed in the *Annual Report and Accounts 2020* single figure of remuneration table.
Shareholding guidelines To ensure appropriate alignment with the interest of our shareholders.	Executive Directors are expected to satisfy the following shareholding requirement as a percentage of base salary within five years from the date of their appointment: • Group Chief Executive: 400% • Group Chief Financial Officer: 300%	• No change to percentage of base salary.
All employee share plans To promote share ownership by all employees.	Executive Directors are eligible to participate in all employee share plans, such as HSBC Sharesave, on the same basis as all other employees.	• Participation in any such plans will be disclosed in the *Annual Report and Accounts 2020*, as required.

Illustration of release profile

The following chart provides an illustrative release profile of remuneration for executive Directors.

Illustration of release profile

Fixed pay allowance	• Released in five equal annual instalments starting from March 2020.
Annual incentive	• Paid 50% in cash and 50% in immediately vested shares subject to a retention period of one year. • Subject to clawback provisions for seven years from grant, which may be extended to 10 years in the event of an ongoing internal/ regulatory investigation.
Long-term incentive	• Award granted taking into consideration performance over the prior year and also subject to a three-year forward-looking performance period. • Subject to performance outcome, awards will vest in five equal annual instalments starting from the third anniversary of the grant date[1]. • On vesting, shares are subject to a retention period of one year. • Unvested awards subject to malus provisions. • Subject to clawback provisions for seven years from grant, which may be extended to 10 years in the event of an ongoing internal/ regulatory investigation.



1 *The seven-year vesting period and the one-year post-vesting retention period applied to shares granted under the LTI aligns with the minimum five-year holding period expected by shareholders and under the UK Corporate Governance Code as the share awards will be released over a period of eight years with a weighted-average holding period of six years.*

The table below details how the Group Remuneration Committee addresses the principles set out in the UK Corporate Governance Code in respect of the Directors' remuneration policy.

Provision	Approach
Clarity Remuneration arrangements should be transparent and promote effective engagement with shareholders and the workforce.	• The Committee regularly engages and consults with key shareholders to take into account shareholder feedback and to ensure there is transparency on our policy and its implementation. • Our employees were informed about the Directors' remuneration policy approved by our shareholders at our 2019 AGM. Details of our remuneration practices and our remuneration policy for Directors are published and available to all our employees.
Simplicity Remuneration structures should avoid complexity and their rationale and operation should be easy to understand.	• Our Directors' remuneration policy has been designed to achieve simplicity while complying with the provisions set out in the UK Corporate Governance Code and the remuneration rules of the UK's Prudential Regulation Authority and Financial Conduct Authority, as well as meeting the expectations of our shareholders. The objective of each remuneration element is explained and the amount paid in respect of each element of pay is clearly set out.
Risk Remuneration structures should identify and mitigate against reputational and other risks from excessive rewards, as well as behavioural risks that can arise from target-based incentive plans.	• In line with regulatory requirements, our remuneration practices promote sound and effective risk management while supporting our business objectives (see page 207). • Risk and conduct considerations are taken into account in setting the variable pay pool, from which any executive Director variable pay is funded. • Executive Directors' annual and LTI scorecards include a mix of financial and non-financial measures. Financial measures in the scorecards are subject to a CET1 underpin to ensure CET1 remains within risk tolerance levels while achieving financial targets. In addition, the overall scorecard outcome is subject to a risk and compliance underpin. • The deferred portion of any awards granted to executive Directors is subject to a seven-year deferral period during which our malus policy can be applied. All variable pay awards that have vested are subject to our clawback policy for a period of up to seven years from the award date (extending to 10 years where an investigation is ongoing).
Predictability The range of possible values of rewards to individual Directors and any other limits or discretions should be identified and explained at the time of approving the policy.	• The charts set out on page 7 of our Directors' remuneration policy show how the total value of remuneration and its composition vary under different performance scenarios for executive Directors. The Directors' remuneration policy can be found at www.hsbc.com/our-approach/corporate-governance/remuneration.
Proportionality The link between individual awards, the delivery of strategy and the long-term performance of the Group should be clear and outcomes should not reward poor performance.	• The annual incentive scorecard rewards achievement of our annual operating targets and the LTI scorecard rewards achievement of long-term financial and shareholder value creation targets. • The Committee retains the discretion to reduce (to zero if appropriate) the annual incentive and LTI payout based on the outcome of the relevant scorecards, if it considers that the payout determined does not appropriately reflect the overall position and performance of the Group during the performance period.
Alignment with culture Incentive schemes should drive behaviours consistent with the Group's purpose, values and strategy.	• In order for any annual incentive award to be made, each executive Director must achieve a required behaviour rating, which is assessed by reference to the HSBC Values. • Annual incentive and LTI scorecards contain non-financial measures linked to our wider social obligations. This includes measures related to reducing the environmental impact of our operations, improving customer satisfaction, diversity and employee engagement.

Remuneration policy – non-executive Directors

Non-executive Directors are not employees. They receive base fees for their service and further fees for additional Board duties, including but not limited to chairmanship, membership of a committee, or acting as the Senior Independent Director and/or Deputy Chairman.

Non-executive Directors also receive a travel allowance of £4,000 towards the additional time commitment required for travel.

Any other taxable or other expenses incurred in performing their role are reimbursed, as well as any related tax cost on such reimbursement.

All non-executive Directors are expected to satisfy a shareholding guideline of 15,000 shares within five years of their appointment.

There have been no changes to the non-executive Directors' fees from the remuneration policy approved at the AGM in 2019, except for the Senior Independent Director. Following Sir Jonathan Symond's decision to retire from the Board, David Nish has been appointed as Senior Independent Director. The Committee considered the fee for the role of Senior Independent Director in the context of the demands and expectations of the role, including responsibilities related to the ongoing strategic review. Given the increased time commitment for this role, the Remuneration Committee approved a fee of £200,000 per annum. This compares with the amount of £375,000, which was previously payable in respect of the combined role of Deputy Group Chairman and Senior Independent Director. The following table sets out the fees for 2020.

Position		2020 fees £
Non-executive Group Chairman[1]		**1,500,000**
Non-executive Director (base fee)		**127,000**
Senior Independent Director[2]		**200,000**
Group Risk Committee	Chair	**150,000**
	Member	**40,000**
Group Audit Committee, Group Remuneration Committee and Financial System Vulnerabilities Committee	Chair	**75,000**
	Member	**40,000**
Nomination & Corporate Governance Committee	Chair	**—**
	Member	**33,000**

1 Group Chairman does not receive a base fee or any other fee in respect of chairing of any other committee.
2 For the period to 18 February 2020, a fee of £375,000 was paid in respect of the combined role of Deputy Group Chairman and Senior Independent Director.

Service contracts

Executive Directors

The length of service and notice periods of executive Directors are set at the discretion of the Committee, taking into account market practice, governance considerations, and the skills and experience of the particular candidate at that time.

	Contract date (rolling)	Notice period (Director and HSBC)
Noel Quinn	5 August 2019	12 months
John Flint[1]	21 February 2018	12 months
Ewen Stevenson	1 December 2018	12 months
Marc Moses[2]	27 November 2014	12 months

1 *John Flint stepped down from the Board on 5 August 2019.*
2 *Marc Moses stepped down from the Board on 31 December 2019.*

Service agreements for each executive Director are available for inspection at HSBC Holdings' registered office. Consistent with the best interests of the Group, the Committee will seek to minimise termination payments. Directors may be eligible for a payment in relation to statutory rights. The Directors' biographies are set out on pages 194 to 199, and include those directorships provided for under the Capital Requirements Regulation II.

Non-executive Directors

Non-executive Directors are appointed for fixed terms not exceeding three years, which may be renewed subject to their re-election by shareholders at AGMs. Non-executive Directors do not have service contracts, but are bound by letters of appointment issued for and on behalf of HSBC Holdings, which are available for inspection at HSBC Holdings' registered office. There are no obligations in the non-executive Directors' letters of appointment that could give rise to remuneration payments or payments for loss of office.

Non-executive Directors' current terms of appointment will expire as follows:

2020 AGM	2021 AGM	2022 AGM
Kathleen Casey	Mark Tucker	Henri de Castries
Laura Cha	Heidi Miller	Irene Lee
David Nish		José Antonio Meade Kuribreña
Jackson Tai		Pauline van der Meer Mohr

Annual report on remuneration

This section sets out how our approved Directors' remuneration policy was implemented during 2019.

Single figure of remuneration

(Audited)

The following table shows the single figure of total remuneration of each executive Director for 2019, together with comparative figures for 2018.

Single figure of remuneration

	Noel Quinn[1]		John Flint[2]		Ewen Stevenson		Marc Moses[3]	
(£000)	**2019**	2018	**2019**	2018	**2019**	2018	**2019**	2018
Base salary	**503**	—	**730**	1,028	**719**	—	**719**	700
Fixed pay allowance	**695**	—	**1,005**	1,459	**950**	—	**950**	950
Cash in lieu of pension	**50**	—	**134**	308	**107**	—	**107**	210
Taxable benefits[4]	**41**	—	**91**	40	**16**	—	**40**	13
Non-taxable benefits[4]	**23**	—	**31**	28	**28**	—	**33**	38
Total fixed	**1,312**	—	**1,991**	2,863	**1,820**	—	**1,849**	1,911
Annual incentive[5]	**665**	—	**891**	1,665	**1,082**	—	**926**	1,324
AML DPA award[6]	—	—	—	—	—	—	—	695
LTI[7]	—	—	—	—	—	—	**1,709**	—
Replacement award[8]	—	—	—	—	**1,974**	—	—	—
Notional returns[9]	—	—	**40**	54	—	—	**17**	33
Total variable	**665**	—	**931**	1,719	**3,056**	—	**2,652**	2,052
Total fixed and variable	**1,977**	—	**2,922**	4,582	**4,876**	—	**4,501**	3,963

1 *Noel Quinn succeeded John Flint as interim Group Chief Executive with effect from 5 August 2019 and the remuneration included in the single figure table above is in respect of services provided as an executive Director.*

2 *John Flint stepped down as an executive Director and Group Chief Executive on 5 August 2019. His remuneration details for 2019 are in respect of services provided as an executive Director. Details of John Flint's departure terms are provided on page 234.*

3 *Marc Moses stepped down as an executive Director and Group Chief Risk Officer on 31 December 2019. Details of Marc Moses' departure terms are provided on page 234.*

4 *Taxable benefits include the provision of medical insurance, car and tax return assistance (including any associated tax due, where applicable). Non-taxable benefits include the provision of life assurance and other insurance cover.*

5 *To meet regulatory deferral requirements for 2019, 60% of the annual incentive award for John Flint and Marc Moses will be deferred in awards linked to HSBC's shares and will vest in five equal instalments between the third and seventh anniversary of the grant date. On vesting, the shares will be subject to a one-year retention period. The deferred awards are subject to the executive Director maintaining good leaver status during the deferral period. Noel Quinn will have 60% of his annual incentive award deferred, and in line with regulatory requirements it will be split equally between cash and shares subject to the same vesting and retention conditions.*

6 *The 2012 annual incentive for Marc Moses had a 60% deferral. The vesting of this deferred award was subject to a service condition and satisfactory completion of the five-year deferred prosecution agreement ('AML DPA') with the US Department of Justice. The AML DPA condition was satisfied in March 2018 and the awards were released. The value of Marc Moses' award in the table above reflects his time as an executive Director between 1 January 2014 and the vesting date.*

7 *An LTI award was made in February 2017 (in respect of 2016) at a share price of £6.503 for which the performance period ended on 31 December 2019. The value has been computed based on a share price of £5.896, the average share price during the three-month period to 31 December 2019. This includes dividend equivalents of £237,030, equivalent to 40,202 shares at a share price of £5.896. See the following section for details of the assessment outcomes.*

8 *As set out in the 2018 Directors' remuneration report, in 2019 Ewen Stevenson was granted replacement awards to replace unvested awards, which were forfeited as a result of him joining HSBC. The awards, in general, match the performance, vesting and retention periods attached to the awards forfeited, and will be subject to any performance adjustments that would otherwise have been applied. The values included in the table relate to Ewen Stevenson's 2015 and 2016 LTI awards granted by The Royal Bank of Scotland Group plc ('RBS') for performance years 2014 and 2015, respectively, and replaced with HSBC shares when Ewen Stevenson joined HSBC. These awards are not subject to further performance conditions and commenced vesting in March 2019. The total value is an aggregate of £1,121,308 for the 2015 LTI and £852,652 for the 2016 LTI. The 2016 LTI award value has been determined by applying the performance assessment outcome of 27.5% as disclosed in RBS's* Annual Report and Accounts 2018 *(page 70) to the maximum number of shares subject to performance conditions.*

9 *'Notional returns' refers to the notional return on deferred cash for awards made in prior years. The deferred cash portion of the annual incentive granted in prior years includes a right to receive notional returns for the period between grant date and vesting date, which is determined by reference to the dividend yield on HSBC shares, calculated annually. A payment of notional return is made annually in the same proportion as the vesting of the deferred awards on each vesting date. The amount is disclosed on a paid basis in the year in which the payment is made. No deferred cash awards have been made to executive Directors for their services as an executive Director since the 2016 financial year.*

Determining executive Directors' performance

(Audited)

Awards made to executive Directors reflected the Committee's assessment of each of their performance against scorecard objectives, and reflect the Group's strategic priorities and risk appetite. For the risk and compliance and personal objectives, this involved making a qualitative assessment of the extent of progress achieved, where applicable. This was then applied to the weighting of each objective to determine the outcome percentage. As part of this assessment, the Committee also consulted the Group Risk Committee and Financial System Vulnerabilities Committee, and took into consideration their feedback in determining the scorecard outcomes for the executive Directors against risk and compliance measures.

In order for any annual incentive award to be made, each executive Director must achieve a required behaviour rating, which is assessed by reference to the HSBC Values. For 2019, all executive Directors achieved the required behaviour rating.

The maximum 2019 annual incentive opportunity for Noel Quinn and John Flint was set at 198% of salary and for Ewen Stevenson and Marc Moses at 193% of salary. Noel Quinn's and John Flint's 2019 scorecard outcomes were assessed by taking into consideration the Group's performance against the 2019 scorecard measures for the Group Chief Executive, as set out in the *Annual Report and Accounts 2018*. The outcomes for these measures have been pro-rated for the time spent by Noel Quinn and John Flint in the Group Chief Executive role during 2019 to determine their annual incentive awards. Based on input received from the Group Risk Committee, there was a difference in the Group's performance against the risk and compliance measure during Noel Quinn's and John Flint's tenures, and this has been reflected in their overall scorecard outcomes and annual incentive awards as noted in the following tables.

Annual assessment

	Group Chief Executive			Group Chief Financial Officer			Group Chief Risk Officer		
	Weighting (%)	Assessment (%)	Outcome (%)	Weighting (%)	Assessment (%)	Outcome (%)	Weighting (%)	Assessment (%)	Outcome (%)
Profit before tax[1]	10.0	92.5	9.3	10.0	92.5	9.3	10.0	92.5	9.3
Positive jaws	5.0	100.0	5.0	10.0	100.0	10.0	—	—	—
Revenue growth	10.0	79.4	7.9	—	—	—	—	—	—
RoTE	5.0	48.7	2.4	8.3	48.7	4.0	3.3	48.7	1.6
Capital metrics	5.0	62.5	3.1	16.7	62.5	10.4	6.7	62.5	4.2
Strategic priorities	30.0	39.3	11.8	20.0	68.8	13.8	15.0	41.7	6.3
Risk and compliance	25.0	77.5	19.4	25.0	90.0	22.5	45.0	63.9	28.7
Personal objectives	10.0	75.0	7.5	10.0	75.0	7.5	20.0	81.3	16.2
Total	100.0		66.4	100.0		77.5	100.0		66.3
Maximum annual incentive opportunity (£000)			£2,451			£1,396			£1,396
Annual incentive (£000)						£1,082			£926
– Noel Quinn[2]			£665						
– John Flint[3]			£891						

Financial performance

Annual assessment

	Minimum (25% payout)	Maximum (100% payout)	Performance	Assessment (%)
Measure				
Profit before tax ($bn)[1]	$21.3	$24.3	$24.0	92.5
Positive jaws (%)	Positive	2.5	3.0	100.0
Deliver mid-single digit revenue growth (%)	3.0	7.0	5.9	79.4
Reported RoTE (%)	7.8	9.7	8.4	48.7
Capital metrics[4]	Various (see following notes and performance assessment)			
Strategic priorities[5]				

1 *Profit before tax, as defined for Group annual bonus pool calculation. This definition excludes business disposal gains and losses, debt valuation and goodwill adjustments and variable pay expense. However, it takes into account fines, penalties and costs of customer redress, including provisions, which are excluded from the adjusted profit before tax. Other significant items are included or excluded in line with the principles underpinning the definition. The adjusted profit before tax as per adjusted results is found on page 2.*

2 *Noel Quinn performed the Group Chief Executive role from 5 August 2019 to 31 December 2019. The performance assessment for Noel Quinn against the risk and compliance measure was 77.5%, resulting in an outcome of 19.4% against this measure. This results in an overall scorecard outcome of 66.4% for him. His annual incentive award has been determined based on 40.8% of the performance outcome to reflect the time spent by him in the Group Chief Executive role during 2019.*

3 *John Flint performed the Group Chief Executive role from 1 January 2019 to 4 August 2019. The performance assessment for John Flint against the risk and compliance measure was 57.5%, resulting in an outcome of 14.4% against this measure. This results in an overall scorecard outcome of 61.4% for him. His annual incentive award has been determined based on 59.2% of this performance outcome to reflect the time spent by him in the Group Chief Executive role during 2019.*

4 *Maintaining and improving Group capital measures, primarily equity measures, in line with our intent to maintain a CET1 ratio of more than 14%.*

5 *Strategic priorities measures include: accelerate revenue growth from our Asian franchise, grow international revenue, turn around the US business, improve customer service, strengthen external relationships and employee engagement.*

Non-financial performance

Group Chief Executive (Noel Quinn and John Flint)

Objectives	Performance
Strategic priorities • Accelerate revenue growth from our Asia franchise • Deliver revenue growth from our international network • Turn around the US business • Improve customer satisfaction	• The full-year revenue growth of 7.1% in Asia, 11.6% in Asia wealth management, 6.6% in Hong Kong and 5.4% in the ASEAN region were all within their respective target ranges but below the maximum targets set for these measures. Growth of 9.8% in the Pearl River Delta was below the target range. This measure carried a 15% weighting, with a performance assessment of 54%, resulting in an overall scorecard outcome of 8.05%. • Revenue growth from international clients of 2.0% was below the full-year target range of 3.5 to 7.5%. This measure carried a 5% weighting and has not resulted in any payout. • The lower interest rate environment and challenging conditions, particularly in capital markets, impacted the US RoTE target, with the full-year RoTE of 1.8%, below the 2% to 4% target range for 2019. This measure carried a 5% weighting and has not resulted in any payout. • Customer service in RBWM in six out of eight scale markets was ranked in the top three, or improved from 2018. In CMB, four out of eight scale markets were within the top-three rankings. The GB&M customer engagement score was ahead of the competition, despite having decreased by 2 points since 2018. In GPB, the overall satisfaction score increased from a mean score of 7.6 out of 10 in 2018 to 8.0 in 2019. Initiatives for continual improvement of customer satisfaction remain a high priority. This measure carried a 5% weighting, with a performance assessment of 75% and a scorecard outcome of 3.75%.
Risk and compliance • Achieve and deliver sustainable global conduct outcomes and effective financial crime risk management • Effectively manage material operational risks	The assessment has been based on the management of financial crime risk, delivery of conduct outcomes and management of the Group's operational risk profile. There was a firm commitment to the compliance agenda and a strong tone from the top that contributed towards: • improvement in the management of financial crime risks through increased effectiveness of the financial crime risk management committees, proactive management of data quality, a more robust financial crime risk control environment and conduct outcomes across the Group; • the encouragement of a 'speak up' culture; and • the acceleration of the full adoption of the operational risk management framework across the first and second lines of defence to manage non-financial risk more effectively. There was a slower pace of progress on operational risk matters in the first half of 2019 and this was reflected in the lower outcome assessed for John Flint.
Personal objectives • Strengthen the Group's external relationships • Improve employee engagement • Improve diversity in senior management	• Interactions with investors and regulators received positive feedback. They were described as professional, competent and embodying trust, respect and transparency. • Employer advocacy, as a measure of employee engagement, remained stable at 66%, although below the target of 69%. Efforts to improve engagement continue. • Female representation in senior leadership roles at 29.4% exceeded the target of 29%, and is on track towards the aspirational target of 30% female leaders in senior positions by 2020.

Group Chief Financial Officer (Ewen Stevenson)

Objectives	Performance
Strategic priorities • Turn around the US business • Improve Finance function support to global businesses through investment in digital capabilities • Simplify the organisation and deliver cost savings	• The lower interest rate environment and challenging conditions, particularly in capital markets, impacted the US RoTE target, with the full-year RoTE of 1.8%, below the 2% to 4% 2019 target range. This measure carried a 5% weighting and has not resulted in any payout. • The deployment of Cloud technologies for regulatory liquidity reporting was executed to plan, with migration to Cloud infrastructure by the year-end. Full migration to Cloud technology for the Finance function has focused on three key areas: Finance operating model, people skills and regulatory engagement. This measure carried a 5% weighting and 75% performance outcome. • Simplification of the Finance function's structure led to more effective management of the function. Finance launched a 'Stop and Simplify' campaign to implement initiatives, leading to greater efficiencies. Other initiatives continue to target enhanced employee engagement, skills development and advocacy. This measure carried a 10% weighting and was assessed as fully met.
Risk and compliance • Achieve and deliver sustainable global conduct outcomes and effective financial crime risk management • Effectively manage material operational risks • Deliver commitments to regulators, including the successful delivery of the Bank of England and other stress tests	• The assessment has been based on the management of financial crime risk, delivery of conduct outcomes, management of the Group's operational risk profile, delivery of stress tests and other commitments to the regulators. • Processes for monitoring and reporting conduct outcomes were enhanced and overseen by senior governance structures. No significant conduct issues, breaches or reportable events were identified. Internal review of conduct and controls, including governance, were rated as effective. • Progress is underway to embed the risk management framework to manage non-financial risks more effectively. There is robust stewardship of financial reporting risk across the Group with a strong tone from the top supported by senior governance forums. • Regulatory stress test updates were delivered on time and to the required standard, with regulator queries addressed in a timely manner.
Personal objectives • Strengthen the Group's external relationships • Improve employee engagement • Improve diversity in senior management	• The investor relations strategy was fulfilled, covering all key regions and strengthening the Group's relationships with key stakeholders. Effective interactions helped to gain considerable traction with key regulators in core markets. • Employer advocacy, as a measure of employee engagement, remained stable at 66%, although below the target of 69%. Efforts to improve engagement continue. • Female representation in senior leadership roles in the Global Finance function at 29.6% exceeded the target of 29.2%, primarily due to the recruitment of women in key senior leadership roles. Sponsorship of the Global Disability Confidence Programme, female development programmes, parental transition coaching, and PRIDE (LBGTQ) sensitisation training all supported diversity and inclusion in the function.

Group Chief Risk Officer (Marc Moses)

Objectives	Performance
Strategic priorities • Turn around the US business • Improve customer satisfaction • Simplify the organisation and deliver cost savings	• The lower interest rate environment and challenging conditions, particularly in capital markets has impacted the US RoTE target, with the full-year RoTE of 1.8%, below the 2% to 4% 2019 target range. This measure carried a 5% weighting and has not resulted in any payout. • The focus on customer satisfaction continued across markets, with improvements identified for action. • Targeted cost savings in the function were achieved through consolidation of work, simplification of structures and centres of excellence.
Risk and compliance • Achieve and deliver sustainable global conduct outcomes and effective financial crime risk management • Effectively manage material operational risks • Deliver commitments to regulators, including the successful delivery of the Bank of England and other stress tests • Successfully enhance model risk management	• The assessment has been based on the management of financial crime risk, delivery of conduct outcomes, management of the Group's operational risk profile, delivery of stress tests and other commitments to the regulators and model risk management. • The 2019 conduct agenda continued to drive forward by maintaining a strong tone from the top, fostering a 'speak up' culture and targeting ongoing monitoring. • The Group's top non-financial risks remained broadly unchanged in 2019, with a focus on model risk and resilience risk stewardship. There was an increased focus to fully adopt the operational risk management framework and to manage non-financial risks more effectively. • Progress is underway to embed the operational risk management framework to manage non-financial risks more effectively, with robust stewardship of financial reporting risk across the Group and a strong tone from the top. • The 2019 annual cyclical scenario was successfully delivered to the PRA and the CCAR submission was delivered to the US Federal Reserve Board. • The enhancement of model risk management is underway through staff appointments, training and the delivery of the model ownership framework.
Personal objectives • Support innovation • Strengthen the Group's external relationships • Improve employee engagement • Improve diversity in senior management	• The education of Global Risk employees in innovation continues, with increasing deployment of Cloud technologies and Agile methodologies. • There were successful and regular interactions with stakeholders. Regulators repeatedly highlighted the excellence of financial risk management. The improvement of non-financial risk management remains a continued focus. • Employer advocacy, as a measure of employee engagement, remained stable at 66%, although below the target of 69%. Initiatives to improve engagement continue. • Female representation in senior leadership roles at 25.6% exceeded the target of 24%.

2016 long-term incentive performance

The 2016 LTI award was granted to Marc Moses, Stuart Gulliver (former Group Chief Executive) and Iain Mackay (former Group Finance Director). The awards that will vest for Stuart Gulliver and Iain Mackay will be determined after applying the performance outcome below to their 2016 LTI award and pro-rating for time in employment during the performance period of 1 January 2017 to 31 December 2019 (as disclosed in the *Annual Report and Accounts 2018*).

Assessment of the LTI award in respect of 2016 (granted in 2017)

Measures (with weighting)	Minimum (25% payout)	Target (50% payout)	Maximum (100% payout)	Actual	Assessment	Outcome
Average return on equity[1] (20.00%)	7.00%	8.50%	10.00%	8.33%	47.17%	9.43%
Cost efficiency (adjusted jaws) (20.00%)	Positive	1.50%	3.00%	3.10%	100.00%	20.00%
Relative total shareholder return[2] (20.00%)	At median of the peer group.	Straight-line vesting between minimum and maximum.	At upper quartile of the peer group.	Rank 5th	68.00%	13.60%
Global Standards including risk and compliance						
• Status of AML DPA (10.00%)	Not applicable	Not applicable	Met all commitments to achieve closure of the AML DPA and protect HSBC from further regulatory censure for financial crime compliance failings.	Met	100.00%	10.00%
• Achieve and sustain compliance with Global Financial Crime Compliance policies and procedures[3] (15.00%)	Performance assessed by the Committee based on a number of qualitative and quantitative inputs such as feedback from the Financial System Vulnerabilities Committee, Group Financial Crime Risk assessment against Financial Crime Compliance objectives, outcome of assurance and audit reviews, and achievement of the long-term Group objectives and priorities during the performance period.			75.00%	75.00%	11.25%
Strategy						
• International client revenues (Share of revenue supported by international network) (3.75%)	50.00%	51.00%	52.00%	53.00%	100.00%	3.75%
• Revenue synergies (Share of revenues supported by universal banking model) (3.75%)	22.00%	23.00%	24.00%	31.00%	100.00%	3.75%
• Employee[4] (Results of employee survey) (3.75%)	65.00%	67.00%	70.00%	58.00%	0.00%	0.00%
• Customer (Based on customer recommendation in home country markets) (3.75%)	Rank within top three in at least two of the four RBWM and CMB customer segments in home country markets.	Rank within top three in three of the four RBWM and CMB customer segments in home country markets.	Rank within top three in all four RBWM and CMB customer segments in home country markets.	Ranked within top three in two customer segments	25.00%	0.94%
Total[5]						**72.72%**

1 *Significant items are excluded from the profit attributable to ordinary shareholders of the company for the purpose of computing adjusted return on equity.*
2 *The peer group for the 2016 award is: Australia and New Zealand Banking Group, Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse Group, DBS Group Holdings, Deutsche Bank, J.P. Morgan Chase & Co., Lloyds Banking Group, Standard Chartered and UBS Group.*
3 *The performance outcome was reviewed and approved by the Group Risk Committee and the Financial System Vulnerabilities Committee. The performance assessment was based on qualitative and quantitative factors, which evidenced an improvement in financial crime risk-related audit outcomes, an overall reduction of residual risk for anti-money laundering and sanctions as assessed by our enterprise-wide risk assessment, improvement of financial crime risk control effectiveness during the performance period and strong financial crime governance.*
4 *Assessed based on results of the latest employee Snapshot survey question: 'I am seeing the positive impact of our strategy'.*
5 *Assessment determined on a straight-line basis for performance between the minimum, target and maximum levels of performance set in this table.*

Long-term incentive awards

(Audited)

For the 2019 performance year, the Committee determined to grant Ewen Stevenson an LTI award of £2,094,400, after taking into consideration performance achieved for the financial year ended 31 December 2019. The award will be subject to a three-year performance period starting 1 January 2020. As the award is not entitled to dividend equivalents per regulatory requirements, the number of shares to be awarded will be adjusted to reflect the expected dividend yield of the shares over the vesting period. The Committee has not granted an LTI award to Noel Quinn given he has been in an interim capacity in the Chief Executive role.

Taking into account feedback we received from proxy voting agencies on the 2018 LTI scorecard, we have introduced a relative performance measure in our LTI scorecard. We believe a relative measure along with an absolute financial metric will provide a more complete view of overall performance.

Based on this feedback, the 2019 LTI scorecard gives equal weighting to RoTE, relative TSR and customer measures. The RoTE measure will ensure the payout of LTI awards is aligned with value creation. The relative TSR measure will ensure LTI payout realised by our executive Directors is aligned with shareholder experience.

We are putting customer feedback at the centre of decision making and are in the process of implementing a new customer centricity framework, which is designed to inspire us to do what is right for customers. It will help us to share feedback directly with our people and allow them to take immediate action to improve customer experiences. The customer measure in the 2019 LTI scorecard will reward our executive Directors for improvement in customer experience and satisfaction in our key home and scale markets.

RoTE targets for the LTI award have been set in line with targets included in our business update. For the relative TSR measure, in line with our shareholders' expectation, the minimum performance has been set at the median of the peer group. For maximum payout, our TSR performance over the three-year performance period will need to be in the upper quartile of our peer group.

For the customer measure, performance will be assessed based on improvements made in our customer satisfaction scores in home and scale markets and the progress we make during the three-year performance period in meeting the customer-linked business objectives.

The LTI is also subject to a risk and compliance underpin, which gives the Committee the discretion to adjust down the overall scorecard outcome to ensure that the Group operates within risk and/or compliance tolerance when achieving its financial targets. For this purpose, the Committee will receive information including any risk thresholds outside of tolerance for a significant period of time and any risk management failures that have resulted in significant customer detriment, reputational damage and/or regulatory censure.

The measures and weighting that will be used to assess performance and payout are described in the following table.

To the extent performance conditions are satisfied at the end of the three-year performance period, the awards will vest in five equal annual instalments commencing from around the third anniversary of the grant date. On vesting, shares equivalent to the net number of shares that have vested (after those sold to cover any income tax and security payable) will be held for a retention period of up to one year, or such period as required by regulators.

Performance conditions for LTI awards in respect of 2019

Measures	Minimum (25% payout)	Target (50% payout)	Maximum (100% payout)	Weighting %
RoTE (with CET1 underpin)[1, 2]	10.0%	11.0%	12.0%	33.3
Relative TSR[3]	At median of the peer group	Straight-line vesting between minimum and maximum	At upper quartile of peer group	33.3
Customers	Performance will be assessed by the Committee taking into consideration: • customer satisfaction scores at the start and end of the three-year performance period for our global businesses in home and scale markets as per data provided by an independent third party on HSBC's performance across our products and services; and • progress against customer objectives linked to our strategy over the next three years.			33.3

1 *To be assessed based on RoTE in the 2022 financial year. The measure will also be subject to a CET1 underpin. If the CET1 ratio at the end of performance period is below the CET1 risk tolerance level set in the risk appetite statement, then the assessment for this measure will be reduced to nil.*

2 *Awards will vest on a straight-line basis for performance between the minimum, target and maximum levels of performance set in this table.*

3 *The peer group for the 2019 award is: Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse Group, DBS Group Holdings, Deutsche Bank, J.P. Morgan Chase & Co., Lloyds Banking Group, Morgan Stanley, Standard Chartered and UBS Group.*

Scheme interests awarded during 2019

(Audited)

The table below sets out the scheme interests awarded to Directors in 2019, as disclosed in the 2018 Directors' remuneration report. No non-executive Directors received scheme interests during the financial year.

Scheme awards in 2019

(Audited)

	Type of interest awarded	Basis on which award made	Date of award	Face value awarded[1] £000	Percentage receivable for minimum performance	Number of shares awarded	End of performance period
Marc Moses	LTI deferred shares[2]	% of salary[3]	**25 February 2019**	**2,859**	**25**	**458,567**	**31 December 2021**
John Flint (stepped down on 5 August 2019)	LTI deferred shares[2]	% of salary[3]	**25 February 2019**	**4,919**	**25**	**788,933**	**31 December 2021**
Ewen Stevenson (appointed 1 January 2019)	Deferred shares	Replacement award (2018 performance period)[4]	**28 May 2019**	**1,509**	**—**	**241,988**	**31 December 2018**
	Deferred shares	Replacement award[5]	**28 May 2019**	**561**	**—**	**84,397**	**31 December 2017**
	Deferred shares	Replacement award[6]	**28 May 2019**	**851**	**—**	**128,045**	**31 December 2018**
	Deferred shares	Replacement award[7]	**28 May 2019**	**2,083**	**—**	**313,608**	**31 December 2019**
	Deferred shares	Replacement award[8]	**28 May 2019**	**1,181**	**—**	**177,883**	**31 December 2020**
Noel Quinn (appointed 5 August 2019)	Deferred shares[9]	Annual incentive	**25 February 2019**	**877**	**—**	**140,585**	**31 December 2018**
	Deferred cash[9]	Annual incentive	**25 February 2019**	**684**	**—**	N/A	**31 December 2018**

1 *The face value of the award has been computed using HSBC's closing share price of £6.235 taken on 24 February 2019 for Marc Moses, John Flint, Noel Quinn and Ewen Stevenson's 2018 replacement award. Ewen Stevenson's other replacement awards were calculated using a closing share price of £6.643 taken on 30 November 2018.*

2 *LTI awards are subject to a three-year forward-looking performance period and vest in five equal annual instalments, subject to performance achieved. On vesting, awards will be subject to a one-year retention period. Awards are subject to malus during the vesting period and clawback for a maximum period of 10 years from the date of the award.*

3 *In line with regulatory requirements, scheme interests awarded during 2019 were not eligible for dividend equivalents. In accordance with the remuneration policy approved by shareholders at the 2016 AGM, the LTI award was determined at 320% of salary for John Flint and 319% of salary for Marc Moses and the number of shares to be granted was determined by taking into account a share price discounted based on HSBC's expected dividend yield of 5% per annum for the vesting period (i.e. £4.867).*

4 *Deferred award made in lieu of a variable pay award Ewen Stevenson would have otherwise received from The Royal Bank of Scotland Group plc ('RBS') for the 2018 performance year. The award was determined based on the pre-grant assessment disclosed by RBS for the performance year 2018 long-term incentive awards. The deferred shares will vest in five equal annual instalments commencing from March 2022 and will be subject to a one-year retention period post vest. Awards will be subject to our malus and clawback policy and any future vesting adjustment that may be applied and disclosed by RBS in their Directors' remuneration report (or that we have been made aware of by RBS).*

5 *Deferred award granted in lieu of awards granted by RBS in March 2015 and which were not subject to any further performance conditions at the time of forfeiture by RBS. The deferred shares will vest in March 2020 and will be subject to a six-month retention period.*

6 *Deferred awards granted in lieu of awards granted by RBS in March 2016 and adjusted for the performance outcome as disclosed in RBS's* Annual Report and Accounts 2018*. The deferred shares will vest in two equal annual instalments in March 2020 and March 2021, and on vesting, the shares will be subject to a six-month retention period.*

7 *Deferred award granted in lieu of awards granted by RBS in March 2017. These awards will be subject to performance adjustment as applied and disclosed in RBS's* Annual Report and Accounts 2019*. The deferred shares will vest in annual instalments between March 2021 and March 2024. On vesting, the shares will be subject to a six-month retention period.*

8 *Deferred award granted in lieu of awards granted by RBS in March 2018. These awards will be subject to any 'pre-vest performance test' assessed and disclosed by RBS in its* Annual Report and Accounts 2020*. The deferred shares will vest in equal annual instalments between March 2021 and March 2025. On vesting the shares will be subject to a one-year retention period.*

9 *Noel Quinn was not an executive Director at the date of these awards. These awards were part of his discretionary annual incentive award for performance achieved during the period to 31 December 2018. The awards will vest in five equal annual instalments between the third and seventh anniversary of the award date. On vesting, the deferred shares will be subject to a one-year retention period. As the deferred share awards are not eligible for dividend equivalents, the number of shares to be granted was determined by taking into account a share price discounted based on HSBC's expected dividend yield of 5% per annum for the vesting period (i.e. £4.867).*

The above table does not include details of shares issued as part of the fixed pay allowance and shares issued as part of the 2019 annual incentive award that vested on grant and were not subject to any further service or performance conditions. Details of the performance measures and targets for the LTI award in respect of 2018 are set out on the following page.

Performance conditions for LTI awards in respect of 2018 (granted in 2019)

Measures	Minimum (25% payout)	Target (50% payout)	Maximum (100% payout)	Weighting %
Average RoTE (with CET1 underpin)[1]	10.0%	11.0%	12.0%	75.0
Employer advocacy[2]	65.0%	70.0%	75.0%	12.5
Environmental, social and governance rank[3]	Score to achieve an 'average performer' rating	Mid-point score between average and outperformer threshold scores	Score required to achieve an 'outperformer' rating	12.5
Total[4]				**100.0**

1 *If the CET1 ratio at the end of performance period is below the CET1 risk tolerance level set in the risk appetite statement, then the assessment for this measure will be reduced to nil.*
2 *To be assessed based on results of the latest employee Snapshot survey question: 'I would recommend this company as a great place to work'.*
3 *To be assessed based on results of the latest rating issued by Sustainalytics. In the event that Sustainalytics changes its approach to provide the ratings during the performance period, this may impact the assessment of the performance condition. To ensure that the performance targets/ assessment approach achieves its original purpose (i.e. are no less or more difficult than when the original targets were set) the Committee retains the discretion to review and where appropriate modify the targets once further details on any updated Sustainalytics ratings approach is published.*
4 *Awards will vest on a straight-line basis for performance between the minimum, target and maximum levels of performance set in this table.*

Total pension entitlements

(Audited)

No employees who served as executive Directors during the year have a right to amounts under any HSBC final salary pension scheme for their services as executive Directors or are entitled to additional benefits in the event of early retirement. There is no retirement age set for Directors, but the normal retirement age for employees is 65.

Payments to past Directors

(Audited)

Details of payments John Flint and Marc Moses received and/or will receive after they stepped down as executive Directors are set out in the following section.

No other payments were made to, or in respect of, former Directors in the year in excess of the minimum threshold of £50,000 set for this purpose.

Payments for loss of office

Departure terms for John Flint

(Audited)

John Flint stepped down as an executive Director and Group Chief Executive on 5 August 2019. His 12-month notice period expires on 4 August 2020.

In accordance with the approved Directors' remuneration policy and contractual terms agreed with him, he is being paid his fixed pay during his notice period. For the period between 5 August 2019 and 31 December 2019, he received a salary of £503,333, a fixed pay allowance ('FPA') of £694,840, cash in lieu of pension allowance of £50,333, and benefits totalling £42,190. The value of benefits includes medical and insurance related benefits of £25,940 and tax return and legal assistance of £16,250. As per the shareholder approved policy, John Flint will also receive cash in lieu of unused holiday totalling £306,400 on expiry of his notice period.

In accordance with the contractual terms agreed and our approved Directors' remuneration policy, John Flint was granted good leaver status in respect of outstanding unvested share awards. Good leaver status was determined taking into consideration his 30 years of service with HSBC and is conditional upon satisfaction of non-compete provisions under which he cannot undertake a role with a defined list of competitor financial services firms for two years after his employment ceases with HSBC. As a good leaver, John Flint has been made eligible to receive:

- an annual incentive award for 2019, pro-rated for the time spent in the Group Chief Executive role, as set out on page 228);
- his unvested awards that are due to vest after his employment with the Group ceases, on the scheduled vesting dates, subject to the relevant terms (including post-vest retention periods, malus and, where applicable, clawback) and the achievement of any required performance condition. For the purpose of his 2018 LTI award, performance will be measured at the end of the original performance period (31 December 2021), with the maximum number of shares available pro-rated for his time in employment with the Group during the performance period (which is 416,381 shares after pro-ration through to the end of his notice period); and
- certain post-departure benefits for a period of up to seven years after his employment ceases.

It is not expected that John Flint will receive an annual incentive award in respect of 2020, and he will not receive an LTI award for 2019 or 2020, nor any compensation or payment for the termination of his service contract or his ceasing to be a Director of any Group company.

Departure terms for Marc Moses

(Audited)

Marc Moses stepped down as executive Director and Group Chief Risk Officer on 31 December 2019 and will continue to provide support to the Group Chief Executive during his 12-month notice period until he formally retires on 9 December 2020.

During his notice period, he will continue to receive his base salary, FPA, cash in lieu of pension allowance and other benefits as per our approved Directors' remuneration policy. He will also be eligible to receive an annual incentive award for 2020 based on his contribution.

In accordance with the approved Directors' remuneration policy and taking into consideration his 14 years of service with HSBC, Marc Moses will be considered as a good leaver on his retirement from HSBC on 9 December 2020. The good leaver status will be conditional upon satisfaction of non-compete provisions under which he cannot undertake a role with a defined list of competitor financial services firms for two years after his employment ceases with HSBC. As a good leaver, he has been made eligible to receive:

- an annual incentive award for 2019 (details are provided on page 228);
- his unvested awards that are due to vest after he ceases employment, on the scheduled vesting dates, subject to the relevant terms (including post-vest retention periods, malus and, where applicable, clawback) and the achievement of any required performance condition. For this purpose, his 2017 and 2018 LTI awards will be pro-rated for the period he was employed by the Group during the performance period with the maximum number of shares being 384,405 and 292,973, respectively; and
- certain post-departure benefits for a period of up to seven years after he ceases employment.

Marc Moses will not receive an LTI award for 2019 or 2020, nor any compensation or payment for the termination of his service contract or his ceasing to be a Director of any Group company.

External appointments

During 2019, executive Directors did not receive any fees from external appointments.

Executive Directors' interests in shares

(Audited)

The shareholdings of all persons who were executive Directors in 2019, including the shareholdings of their connected persons, at 31 December 2019 (or the date they stepped down from the Board, if earlier) are set out below. The following table shows the comparison of shareholdings with the company shareholding guidelines. There have been no changes in the shareholdings of the executive Directors from 31 December 2019 to the date of this report.

Individuals are given five years from their appointment date to build up the recommended levels of shareholding. Unvested share-based incentives are not normally taken into consideration in assessing whether the shareholding requirement has been met.

The Committee reviews compliance with the shareholding requirement and has full discretion in determining if any unvested shares should be taken into consideration for assessing compliance with this requirement, taking into account shareholder expectations and guidelines. The Committee also has full discretion in determining any penalties for non-compliance.

With regard to the post-employment shareholding requirement, we believe that our remuneration structure achieves the objective of ensuring there is ongoing alignment of executive Directors' interests with shareholder experience post-cessation of their employment due to the following features of the policy:

- Shares delivered to executive Directors as part of the FPA have a five-year retention period, which continues to apply following a departure of an executive Director.
- Shares delivered as part of an annual incentive award are subject to a one-year retention period, which continues to apply following a departure of an executive Director.
- When an executive Director ceases employment as a good leaver under our policy, any LTI awards granted will continue to be released over a period of up to eight years, subject to the outcome of performance conditions.

An executive Director who ceases employment as a good leaver after a tenure of five years will have share interests not subject to further performance conditions equivalent in value to more than 400% of salary assuming they receive a target payout of 50% for LTI awards.

HSBC operates an anti-hedging policy under which individuals are not permitted to enter into any personal hedging strategies in relation to HSBC shares subject to a vesting and/or retention period.

Shares

(Audited)

		At 31 Dec 2019, or date stepped down from the Board, if earlier				
				Scheme interests		
					Shares awarded subject to deferral[1]	
	Shareholding guidelines (% of salary)	Shareholding at 31 Dec 2019, or date stepped down from the Board, if earlier[2] (% of salary)	Share interests (number of shares)	Share options[3]	without performance conditions[4]	with performance conditions[5]
Executive Directors						
Noel Quinn (appointed 5 August 2019)	400%	**210%**	**441,925**	**–**	**390,806**	**–**
John Flint (stepped down on 5 August 2019)	400%	**504%**	**1,060,599**	**5,505**	**372,335**	**788,933**
Ewen Stevenson (appointed 1 January 2019)	300%	**191%**	**233,972**	**–**	**945,921**	**–**
Marc Moses	300%	**1,450%**	**1,777,688**	**–**	**569,173**	**1,252,464**
Group Managing Directors[6]	250%	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**

1 *The gross number of shares is disclosed. A portion of these shares will be sold at vesting to cover any income tax and social security that falls due at the time of vesting.*
2 *The value of the shareholding is calculated using an average of the daily closing share prices in the three months to 31 December 2019 (£5.896).*
3 *All share options are unexercised.*
4 *Includes Group Performance Share Plan ('GPSP') awards, which were made following an assessment of performance over the relevant period ending on 31 December before the grant date, but are subject to a five-year vesting period.*
5 *LTI awards granted in February 2017 are subject to the performance conditions as set out in the 'Determining executive Directors' performance' section on page 228. LTI awards granted in February 2018 are subject to the performance conditions as disclosed in the* Annual Report and Accounts 2017. *LTI awards granted in February 2019 are subject to the performance conditions as set out on page 233.*
6 *All Group Managing Directors are expected to meet their shareholding guidelines within five years of the date of their appointment. The shareholding guidelines for Group Managing Directors have been updated from 250,000 shares to 250% of reference salary from 1 January 2019 to align with the approach used for executive Directors.*

Share options

(Audited)

	Date of award	Exercise price	Exercisable					
		£	from	until	At 1 Jan 2019	Granted in year	Exercised in year[1]	At 5 August 2019 (date stepped down)
John Flint	21 Sep 18	5.4490	1 Nov 23	30 Apr 24	**5,505**	**–**	**–**	**5,505**
	22 Sep 15	4.0472	1 Nov 18	30 Apr 19	**4,447**	–	**4,447**	**0**

1 *John Flint exercised 4,447 Sharesave options on 13 March 2019. The HSBC closing price on this date was £6.201.*

The above awards were made under HSBC UK Sharesave, an all-employee share plan under which eligible employees may be granted options to acquire HSBC Holdings ordinary shares. The exercise price is determined by reference to the average market value of HSBC Holdings ordinary shares on the five business days immediately preceding the invitation date, then applying a discount of 20%. Employees may make contributions of up to £500 each month over a period of three or five years. The market value per ordinary share at 31 December 2019 was £5.919. Market value is the mid-market price derived from the London Stock Exchange Daily Official List on the relevant date. Under the Securities and Futures Ordinance of Hong Kong, the options are categorised as unlisted physically settled equity derivatives.

Summary of shareholder return and Group Chief Executive remuneration

The following graph shows the TSR performance against the FTSE 100 Total Return Index for the 10-year period that ended on 31 December 2019. The FTSE 100 Total Return Index has been chosen as this is a recognised broad equity market index of which HSBC Holdings is a member. The single figure remuneration for the Group Chief Executive over the past 10 years, together with the outcomes of the respective annual incentive and long-term incentive awards, is presented in the following table.

HSBC TSR and FTSE 100 Total Return Index

	2010	2011	2012	2013	2014	2015	2016	2017	2018		**2019**	
Group Chief Executive	Michael Geoghegan	Stuart Gulliver	Stuart Gulliver	Stuart Gulliver	Stuart Gulliver	Stuart Gulliver	Stuart Gulliver	Stuart Gulliver	Stuart Gulliver	John Flint	**John Flint**	**Noel Quinn**
Total single figure £000	7,932	8,047	7,532	8,033	7,619	7,340	5,675	6,086	2,387	4,582	**2,922**	**1,977**
Annual incentive[1] (% of maximum)	82%	58%	52%	49%	54%	45%	64%	80%	76%	76%	**61%**	**66%**
Long-term incentive[1,2,3] (% of maximum)	19%	50%	40%	49%	44%	41%	—%	—%	100%	—%	**—%**	**—%**

1 *The 2012 annual incentive figure for Stuart Gulliver used for this table includes 60% of the annual incentive disclosed in the 2012 Directors' remuneration report, which was deferred for five years and subject to service conditions and satisfactory completion of the five-year deferred prosecution agreement with the US Department of Justice, entered into in December 2012 ('AML DPA') as determined by the Committee. The AML DPA performance condition was met and the award vested in 2018. The value of the award at vesting was included in the 2018 single figure of remuneration and included as long-term incentive for 2018.*

2 *Long-term incentive awards are included in the single figure for the year in which the performance period is deemed to be substantially completed. For GPSP awards, this is the end of the financial year preceding the date of grant. GPSP awards shown in 2011 to 2015 are therefore related to awards granted in 2012 to 2016. For performance share awards that were awarded before introduction of GPSP, the value of awards that vested, subject to satisfaction of performance conditions attached to those awards, are included at the end of the third financial year following the date of grant. For example, performance share awards shown in 2010 relates to awards granted in 2008.*

3 *The GPSP was replaced by the LTI in 2016 and the value for GPSP is nil for 2016 as no GPSP award was made for 2016. LTI awards have a three-year performance period and the first LTI award was made in February 2017. The value of the LTI awards expected to vest will be included in the total single figure of remuneration of the year in which the performance period ends. John Flint and Noel Quinn did not receive the 2016 LTI award for which the performance period ended on 31 December 2019.*

Comparison of Group Chief Executive and employee pay

The following table compares the changes in Group Chief Executive pay to changes in employee pay between 2018 and 2019.

Percentage change in remuneration between 2018 and 2019

	Group Chief Executive	Employee group
Base salary[1]	3%	6%
Benefits[2, 3]	34%	2%
Annual incentive[4]	-20%	-4%

1 *Employee group consists of local full-time UK employees as representative of employees from different businesses and functions across the Group. The change for the Group Chief Executive is based on the annualised base salary for the Group Chief Executive role to provide a meaningful comparison.*
2 *The change in the value of the benefit is due to the change in the value of the benefit as reported in the single figure table for the Group Chief Executive role.*
3 *For benefits, the employee group consists of UK employees, which was deemed the most appropriate comparison for the Group Chief Executive given varying local requirements.*
4 *For annual incentive, the employee group consists of all employees globally. The change is based on an annual incentive pool, as disclosed on page 44, and staff numbers are based on full-time equivalents at the financial year-end. The percentage change in annual incentive award of the Group Chief Executive is primarily driven by the difference in the 2018 and 2019 scorecard outcome, reflecting performance achieved in those years, and change in annual incentive maximum opportunity following reduction in cash in lieu of pension allowance. Details of the 2019 total single figure of remuneration for the Group Chief Executive are on page 227.*

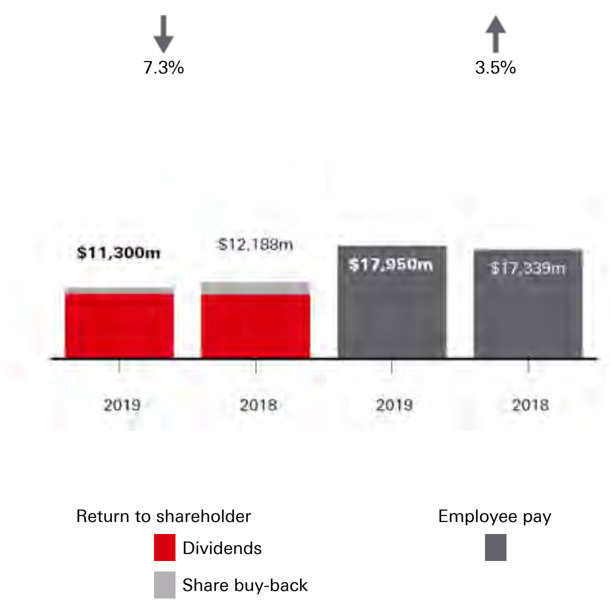
Relative importance of spend on pay

The following chart shows the change in:

- total staff pay between 2018 and 2019; and
- dividends paid out in respect of 2018 and 2019.

In 2019 and 2018, we returned a total of $1bn and $2bn, respectively, to shareholders through share buy-backs.

Relative importance of spend on pay



Pay ratio

The following table shows the ratio between the total pay of the Group Chief Executive and the lower quartile, median and upper quartile pay of our UK employees.

Total pay ratio

	Method	Lower quartile	Median	Upper quartile
2019	A	169 : 1	105 : 1	52 : 1

Total pay and benefits amounts used to calculate the ratio

		Lower quartile		Median		Upper quartile	
(£)	Method	Total pay and benefits	Total salary	Total pay and benefits	Total salary	Total pay and benefits	Total salary
2019	A	28,920	24,235	46,593	41,905	93,365	72,840

Our ratios have been calculated using the option ‘A’ methodology prescribed under the UK Companies (Miscellaneous Reporting) Regulations 2018. Under this option, the ratios are computed using full-time equivalent pay and benefits of all employees providing services in the UK at 31 December 2019. We believe this approach provides accurate information and representation of the ratios. The ratio has been computed taking into account the pay and benefits of over 40,000 UK employees, other than the individuals performing the role of Group Chief Executive. We calculated our lower quartile, median and upper quartile pay and benefits information for our UK employees using:

- full-time equivalent annualised fixed pay, which includes salary and allowances, at 31 December 2019;
- variable pay awards for 2019, including notional returns paid during 2019;
- gains realised from exercising awards from taxable employee share plans; and
- full-time equivalent value of taxable benefits and pension contributions.

For this purpose, full-time equivalent fixed pay and benefits for each employee have been computed by using each employee’s fixed pay and benefits at 31 December 2019. Where an employee works part-time, fixed pay and benefits are grossed up, where appropriate, to full-time equivalent. One-off benefits provided on a temporary basis to employees on secondment to the UK have not been included in calculating the ratios above as these are not permanent in nature and in some cases, depending on individual circumstances, may not truly reflect a benefit to the employee.

Total pay and benefits for the Group Chief Executive have been calculated as the amounts in the single figure of remuneration table for both John Flint, who served as Group Chief Executive until 4 August 2019, and Noel Quinn, who served from 5 August 2019. The total remuneration does not include an LTI award as neither John Flint nor Noel Quinn received an LTI award that had a performance period that ended during 2019. In a year in which a value of an LTI is included in the single figure table of remuneration, the above ratios could be higher.

Given the different business mix, size of the business, methodologies for computing pay ratios, estimates and assumptions used by other companies to calculate their respective pay ratios, as well as differences in employment and compensation practices between companies, the ratios reported above may not be comparable to those reported by other listed peers on the FTSE 100 and our international peers.

In the *Annual Report and Accounts 2018*, we voluntarily disclosed a median pay ratio of 118:1. The decrease in median ratio is primarily driven by a lower annual incentive outcome for the Group Chief Executive (a 66.4% outcome in 2019 compared with 75.7% outcome in 2018) and a reduction in the cash in lieu of pension allowance for the executive Directors.

Total pay and benefits for the median employee for 2019 was4% higher at £46,593 compared with 2018.

Our UK workforce comprises a diverse mix of employees across different businesses and levels of seniority, from junior cashiers in our retail branches to senior executives managing our global business units. We aim to deliver market competitive pay for each role, taking into consideration the skills and experience required for the business. Our approach to pay is designed to attract and motivate the very best people, regardless of gender, ethnicity, age, disability or any other factor unrelated to performance or experience. We actively promote learning and development opportunities for our employees to provide them a framework to develop their career. As an individual progresses in their career we would expect their total compensation opportunity to also increase, reflecting their role and responsibilities.

Pay structure varies across roles in order to deliver an appropriate mix of fixed and variable pay. Junior employees have a greater portion of their pay delivered in a fixed component, which does not vary with performance and allows them to predictably meet their day-to-day needs. Our senior management, including executive Directors, generally have a higher portion of their total compensation opportunity structured as variable pay and linked to the performance of the Group, given their role and ability to influence the strategy and performance of the Group. Executive Directors also have a higher proportion of their variable pay delivered in shares, which vest over a period of seven years with a post-vesting retention period of one year. During this deferral and retention period, the awards are linked to the share price so the value of award realised by them after the vesting and retention period will be aligned to the performance of the firm.

We are satisfied that the median pay ratio is consistent with the pay, reward and progression policies for our UK workforce, taking into account the diverse mix of our UK employees, the compensation structure mix applicable to each role and our objective of delivering market competitive pay for each role subject to Group, business and individual performance.

Non-executive Directors

(Audited)

The following table shows the total fees and benefits of non-executive Directors for 2019, together with comparative figures for 2018.

Fees and benefits

(Audited)		Fees[1]		Benefits[2]		Total	
(£000)	*Footnotes*	**2019**	2018	**2019**	2018	**2019**	2018
Kathleen Casey	*3*	**223**	171	**9**	23	**232**	194
Henri de Castries		**194**	161	**4**	4	**198**	165
Laura Cha	*4*	**298**	255	**—**	13	**298**	268
Lord Evans of Weardale (retired on 12 April 2019)		**55**	200	**24**	2	**79**	202
Irene Lee	*5*	**454**	361	**3**	5	**457**	366
José Antonio Meade Kuribreña	*6*	**157**	—	**2**	—	**159**	—
Heidi Miller	*7*	**625**	573	**2**	9	**627**	582
David Nish		**230**	187	**16**	11	**246**	198
Sir Jonathan Symonds		**638**	653	**21**	1	**659**	654
Jackson Tai	*8*	**398**	228	**57**	47	**455**	275
Mark Tucker	*9*	**1,500**	1,500	**231**	97	**1,731**	1,597
Pauline van der Meer Mohr		**265**	239	**8**	17	**273**	256
Total		**5,037**	4,528	**377**	229	**5,414**	4,757
Total ($000)		**6,425**	6,039	**481**	305	**6,906**	6,344

1 *The Director's remuneration policy was approved at the 2019 AGM and the new fees became effective from 13 April 2019. Fees include a travel allowance of £4,000 for non-UK based non-executive Directors and for all non-executive Directors effective from 1 June 2019.*
2 *Benefits include taxable expenses such as accommodation, travel and subsistence relating to attendance at Board and other meetings at HSBC Holdings' registered office. Amounts disclosed have been grossed up using a tax rate of 45%, where relevant.*
3 *Reappointed as a member of the Financial System Vulnerabilities Committee on 12 April 2019.*
4 *Includes fees of £104,000 in 2019 (2018: £80,000) as a Director, Deputy Chairman and member of the Nomination Committee of The Hongkong and Shanghai Banking Corporation Limited.*
5 *Includes fees of £260,000 in 2019 (2018: £210,000) as a Director, Chair of the Remuneration Committee, and member of the Audit Committee and the Risk Committee of The Hongkong and Shanghai Banking Corporation Limited and as a Director, Chair of the Risk Committee and member of the Audit Committee of Hang Seng Bank Limited.*
6 *Appointed as a member of the Board and the Nomination & Corporate Governance Committee on 1 March 2019, and as a member of the Group Risk Committee on 1 June 2019.*
7 *Includes fees of £431,000 in 2019 (2018: £412,000) as Chair of HSBC North American Holdings Inc.*
8 *Appointed as a Chair of the Financial System Vulnerabilities Committee on 12 April 2019.*
9 *The Group Chairman's benefits in 2019 included £13,020 in respect of life assurance and £19,126 in respect of healthcare insurance, as approved by the Group Remuneration Committee.*

Non-executive Directors' interests in shares

(Audited)

The shareholdings of persons who were non-executive Directors in 2019, including the shareholdings of their connected persons, at 31 December 2019, or date of cessation as a Director if earlier, are set out below. Non-executive Directors are expected to meet the shareholding guidelines within five years of the date of their appointment. All non-executive Directors who had been appointed for five years or more at 31 December 2019 met the guidelines.

Shares

	Shareholding guidelines (number of shares)	**Share interests (number of shares)**
Kathleen Casey	15,000	**15,125**
Laura Cha	15,000	**16,200**
Henri de Castries	15,000	**19,251**
Lord Evans of Weardale (retired on 12 April 2019)	15,000	**12,892**
Irene Lee	15,000	**11,904**
José Antonio Meade Kuribreña (appointed on 1 March 2019)	15,000	**—**
Heidi Miller	15,000	**15,700**
David Nish	15,000	**50,000**
Sir Jonathan Symonds	15,000	**43,821**
Jackson Tai	15,000	**66,515**
Mark Tucker	15,000	**307,352**
Pauline van der Meer Mohr	15,000	**15,000**

Voting results from Annual General Meeting

2019 Annual General Meeting voting results

	For	**Against**	**Withheld**
Remuneration report (votes cast)	**96.81%**	**3.19%**	**—**
	9,474,837,851	**312,644,682**	**44,564,150**
Remuneration policy (votes cast)	97.36%	2.64%	—
	9,525,856,097	258,383,075	47,468,297

2020 annual incentive scorecards

The weightings and performance measures for the 2020 annual incentive award for executive Directors are disclosed below. The performance targets for the annual incentive measures are commercially sensitive and it would be detrimental to the Group's interests to disclose them at the start of the financial year. Subject to commercial sensitivity, we will disclose the targets for a given year in the *Annual Report and Accounts* for that year in the Directors' remuneration report.

Executive Directors will be eligible for an annual incentive award of up to 215% of base salary.

2020 annual incentive scorecards measures and weightings

Measures	**Group Chief Executive %**	**Group Chief Financial Officer %**
Grow profit before tax	**30.0**	**20.0**
RWA optimisation	**20.0**	**20.0**
Customer satisfaction	**10.0**	**10.0**
Employee experience	**10.0**	**10.0**
Environment[1]	**10.0**	**10.0**
Risk and compliance	**10.0**	**10.0**
Personal objectives	**10.0**	**20.0**
Total	**100.0**	**100.0**

1 *Environment measure will assess performance against reduction in carbon emissions, financing and investment of sustainable businesses and projects and improvement in climate risk management and organisational behaviours.*

The 2020 annual incentive is subject to a risk and compliance underpin, which gives the Committee the discretion to adjust down the overall scorecard outcome to ensure that the Group operates within risk and/or compliance tolerance when achieving its financial targets. For this purpose, the Committee will receive information including any risk thresholds outside of tolerance for a significant period of time and any risk management failures that have resulted in significant customer detriment, reputational damage and/or regulatory censure.

Long-term incentives

Details of the performance measures and targets for LTI awards to be made in 2020, in respect of 2019, are provided on page 231.

The performance measures and targets for awards to be made in respect of 2020, granted in 2021, will be provided in the *Annual Report and Accounts 2020*.

Workforce remuneration

Remuneration principles

Our pay and performance strategy is designed to reward competitively the achievement of long-term sustainable performance and attract and motivate the very best people, regardless of gender, ethnicity, age, disability or any other factor unrelated to performance or experience with the Group, while performing their role in the long-term interests of our stakeholders.

With this in mind, the key principles that underpin the performance and pay decisions for our workforce are outlined below.

Principle	Our approach in 2019
Fair, appropriate and free from bias	• We increased the use of simplified or guided decision making to support managers, particularly the less experienced ones, to make informed, consistent and fair pay decisions. Managers of 96% of our junior employees are now supported by simplified or guided decision making. • Our simpler and more transparent framework for determining variable pay awards for our junior employees has streamlined the parameters and principles that managers are asked to consider and apply when making fixed and variable pay recommendations. • Managers in similar roles come together to review the performance and behaviour ratings of their team and make any necessary adjustments based on that review of the peer group to mitigate the risk of bias and take a broader view of team performance. • As part of our annual pay review we undertake analytical reviews to check and identify for bias and provide these reports to our senior management and Group Remuneration Committee as part of their review of annual pay review outcomes. • We review our pay practices regularly and also work with independent third parties to review equal pay. If pay differences are identified that are not due to an objective reason such as performance or skills and experience, we make adjustments. • We make pay and performance reporting tools available to our managers for the purpose of undertaking an analytical review of pay decisions for their team.
Reward and recognise sustainable performance and values-aligned behaviour	• We have a robust performance management process that underpins our approach and aligns reward with sustainable Group, business and individual performance, and drives clear pay differentiation. • Group and business unit performance is used in determining the Group variable pay pool and its allocation to each business unit. Where performance in a year is weak, as measured by both financial and non-financial metrics, this will have a direct and proportionate impact on the relevant pool. • Assessment of individual performance is made with reference to a balanced scorecard of clear and relevant financial and non-financial objectives, including appropriate risk and compliance objectives. • We believe it is important to recognise our people not just for results, but also for upholding our values. As such, subject to local law, employees receive a behaviour rating as well as a performance rating, which ensures performance is assessed not only on what is achieved but also on how it is achieved. Our leaders set the tone by valuing the behaviours that get a job done as much as the outcome. • We also undertake analytical reviews to ensure there is clear pay differentiation across both performance and behaviour ratings, which are provided to senior management and the Group Remuneration Committee as part of their oversight of the remuneration outcomes for the Group's workforce. • We recognise examples of exceptional positive conduct through an increase in variable pay, and apply a reduction in variable pay for misconduct or inappropriate behaviour that exposes us to financial, regulatory or reputational risk. • Our global 'At Our Best' recognition programme allows our people to award recognition points to their colleagues that can be redeemed against a wide range of goods. In 2019, under this programme, we ran a special 'Spotlight on customer service' campaign, which resulted in 65,500 recognitions over a three-month period, and our GB&M business ran a special campaign recognising outstanding examples of good conduct. • We promote employee share ownership through variable pay deferral or voluntary enrolment in an all-employee share plan, which assists with incentivising long-term sustainable performance.
Competitive, simple and transparent total compensation packages	• We maintain an appropriate balance between fixed pay, variable pay and employee benefits, taking into consideration an employee's seniority, role, individual performance and the market. • We ensure fixed pay increases are consistently targeted towards our junior population where fixed pay represents a higher proportion of total compensation. • We continue to embed our simpler and more transparent framework for determining variable pay awards for our junior employees, launched in 2018, with a view to ensuring employees have more visibility and clarity on the factors that influence their total remuneration. • We offer employee benefits that are valued by a diverse workforce, appropriate at the local market level and support HSBC's commitment to employee well-being. • We are informed, but not driven, by market position and practice. • We apply the legal minimum wage in all countries and territories where we operate. In 2014, HSBC in the UK was formally accredited by the Living Wage Foundation for having adopted the 'Living Wage' and the 'London Living Wage'.
Supporting a culture of continuous feedback through manager and employee empowerment	• We seek to create a culture where our people can fulfil their potential, gain new skills and develop their careers for the future. • To support this, we promote a continuous feedback culture, Everyday Performance and Development, and encourage all our people to have regular conversations with their line managers about their performance, pay, development and well-being throughout the year, in addition to their formal annual review discussions. • We also encourage them to use our online career planning tools to help them with their thinking about future roles and the capabilities they require. • Line managers are provided with clear guidance materials to support them in making fair and appropriate decisions at key stages in the performance and pay decision-making process. • Employees also receive notifications and guidance throughout the performance and pay review period to support their understanding of what is expected of them and what they can expect.
Compliance with regulations	• We comply with relevant regulations and ensure this applies at a high standard, taking into account the spirit of the regulations across all of our countries and territories.

Payments on loss of office

The table below sets out the basis on which payments on loss of office may be made. Other than as set out in the table, there are no further obligations which could give rise to remuneration payments or payments for loss of office.

Payments on loss of office

Component of remuneration	Approach taken
Fixed pay and benefits	Executive Directors may be entitled to payments in lieu of: • notice, which may consist of base salary, FPA, pension entitlements and other contractual benefits, or an amount in lieu of; and/or • accrued but untaken holiday entitlement. Payments may be made in instalments or a lump sum, and may be subject to mitigation, and subject to applicable tax and social security deductions.
Annual incentive and LTI	In exceptional circumstances, as determined by the Committee, an executive Director may be eligible for the grant of annual and/or long-term incentives under the HSBC Share Plan based on the time worked in the performance year and on the individual's contribution.
Unvested awards	All unvested awards will be forfeited when an executive Director ceases employment voluntarily and is not deemed a good leaver. An executive Director may be considered a good leaver, under the HSBC Share Plan, if their employment ceases in specified circumstances which includes: • ill health, injury or disability, as established to the satisfaction of the Committee; • retirement with the agreement and approval of the Committee; • the employee's employer ceasing to be a member of the Group; • redundancy with the agreement and approval of the Committee; or • any other reason at the discretion of the Committee. If an executive Director is considered a good leaver, unvested awards will normally continue to vest in line with the applicable vesting dates, subject to performance conditions, the share plan rules, and malus and clawback provisions. In the event of death, unvested awards will vest and will be released to the executive Director's estate as soon as practicable. In respect of outstanding unvested awards, the Committee may determine that good leaver status is contingent upon the Committee being satisfied that the executive has no current or future intention at the date of leaving HSBC of being employed by any competitor financial services firm. The Committee determines the list of competitor firms from time to time, and the length of time for which this restriction applies. If the Committee becomes aware of any evidence to the contrary before vesting, the award will lapse.
Post-departure benefits	Executive Directors can be provided certain benefits for up to a maximum of seven years from date of departure for those who depart under good leaver provisions under the HSBC Share Plan, in accordance with the terms of the policy. Benefits may include, but are not limited to, medical coverage, tax return preparation assistance and legal expenses. The Committee also has the discretion to extend the post-departure benefit of medical coverage to former executive Directors, up to a maximum of seven years from their date of departure.
Other	Where an executive Director has been relocated as part of their employment, the Committee retains the discretion to pay the repatriation costs. This may include, but is not restricted to, airfare, accommodation, shipment, storage, utilities, and any tax and social security that may be due in respect of such benefits. Except in the case of gross misconduct or resignation, an executive Director may also receive retirement gifts.
Legal claims	The Committee retains the discretion to make payments (including professional and outplacement fees) to mitigate against legal claims, subject to any such payments being made in accordance with the terms of an appropriate settlement agreement waiving all claims against the Group.
Change of control	In the event of a change of control, outstanding awards will be treated in line with the provisions set out in the respective plan rules.

Remuneration structure

Total compensation, which comprises fixed and variable pay, is the key focus of our remuneration framework, with variable pay differentiated by performance and adherence to the HSBC Values.

We set out below the key features and design characteristics of our remuneration framework, which apply on a Group-wide basis, subject to compliance with local laws:

Overview of remuneration structure for employees

Remuneration components and objectives	Application
Fixed pay Attract and retain employees by paying market competitive pay for the role, skills and experience required for the business.	• Fixed pay may include salary, fixed pay allowance, cash in lieu of pension and other cash allowances in accordance with local market practices. These pay elements are based on predetermined criteria, are non-discretionary, are transparent and are not reduced based on performance. • Fixed pay represents a higher proportion of total compensation for more junior employees. • Elements of fixed pay may change to reflect an individual's position, role or grade, cost of living in the country, individual skills, competencies, capabilities and experience. • Fixed pay is generally delivered in cash on a monthly basis.
Benefits Provided in accordance with local market practice.	• Benefits may include, but are not limited to, the provision of a pension, medical insurance, life insurance, health assessment and relocation support.
Annual incentive[1] Incentivise and reward performance based on annual financial and non-financial measures consistent with the medium- to long-term strategy, stakeholder interests and adherence to HSBC Values.	• All employees are eligible to be considered for a discretionary variable pay award. Individual awards are determined on the basis of individual performance against a balanced scorecard. • Annual incentives represent a higher proportion of total compensation for more senior employees and will be more closely aligned to Group and business performance as seniority increases. • Variable pay awards for all Group employees identified as MRTs under European Union Regulatory Technical Standard ('RTS') 604/2014 are limited to 200% of fixed pay.[2] • Awards are generally paid in cash and shares. For MRTs, at least 50% of the awards are in shares and/or where required by regulations, in units linked to asset management funds. • A portion of the annual incentive award may be deferred and vest over a period of three, five or seven years.
Deferral Alignment with the medium- to long-term strategy, stakeholder interests and adherence to the HSBC Values.	• A Group-wide deferral approach is applicable to all employees. A portion of annual incentive awards above a specified threshold is deferred in shares vesting annually over a three-year period with 33% vesting on the first and second anniversaries of grant and 34% on the third anniversary. Local employees in France are granted deferred awards that vest 66% on the second anniversary and 34% on the third anniversary. • For MRTs identified in accordance with the UK's PRA and FCA remuneration rules, awards are generally subject to a minimum 40% deferral (60% for awards of £500,000 or more) over a minimum period of three years[3]. A longer deferral period is applied for certain MRTs as follows: – five years for individuals identified in a risk-manager MRT role under the PRA and FCA remuneration rules. This reflects the deferral period prescribed by both the PRA and the European Banking Authority for individuals performing key senior roles with the Group; or – seven years for individuals in PRA-designated senior management functions, being the deferral period mandated by the PRA as reflecting the typical business cycle period. • Individuals based outside the UK who have not been identified at the Group level as an MRT, but who are identified as MRTs under local regulations, are generally subject to a three-year deferral period. In Germany, a deferral period of up to eight years is applied for members of the local management board and individuals in managerial roles reporting into the management board. In Malta, a five-year deferral period is applied for executive committee members. In Australia, local MRTs are subject to a four-year deferral period in respect of deferred cash awards. Local MRTs are also subject to the minimum deferral rates discussed above, except in China (where a minimum deferral rate of 50% is applied for the Chief Executive Officer), Germany (where a minimum deferral rate of 60% is applied for members of the local management board and individuals in managerial roles reporting into the management board) and Oman (where a minimum deferral rate of 45% is applied). • Where an employee is subject to more than one regulation, the requirement that is specific to the sector and/or country in which the individual is working is applied, subject to meeting the minimum requirements applicable under each regulation. • All deferred awards are subject to malus provisions, subject to compliance with local laws. Awards granted to MRTs on or after 1 January 2015 are also subject to clawback. • HSBC operates an anti-hedging policy for all employees, which prohibits employees from entering into any personal hedging strategies in respect of HSBC securities.
Deferral instruments Alignment with the medium- to long-term strategy, stakeholder interests and adherence to the HSBC Values.	• Generally, the underlying instrument for all deferred awards is HSBC shares to ensure alignment between the long-term interest of our employees and shareholders. • For Group and local MRTs, excluding executive Directors where deferral is typically in the form of shares only, a minimum of 50% of the deferred awards is in HSBC shares and the balance is deferred into cash. In accordance with local regulatory requirements, local MRTs in Brazil and Oman, 100% of the deferred amount is delivered in shares or linked to the value of shares. • For some employees in our asset management business, where required by the regulations applicable to asset management entities within the Group, at least 50% of the deferred awards is linked to fund units reflective of funds managed by those entities, with the remaining portion of deferred awards being in the form of deferred cash awards.

Overview of remuneration structure for employees (continued)

Remuneration components and objectives	Application
Post-vesting retention period Ensure appropriate alignment with shareholders.	• Variable pay awards made in HSBC shares or linked to relevant fund units granted to MRTs are generally subject to a one-year retention period post-vesting. Local MRTs (except those in Brazil, France, Oman and Russia) are also generally subject to a one-year retention period post-vesting. For local MRTs in Brazil, France and Russia, a six-month retention period is applied. No retention period is applied for local MRTs in Oman. • MRTs who are subject to a five-year deferral period, except senior management or individuals in PRA- and FCA-designated senior management functions, have a six-month retention period applied to their awards.
Buy-out awards Support recruitment of talent.	• Buy-out awards may be offered if an individual holds any outstanding unvested awards that are forfeited on resignation from the previous employer. • The terms of the buy-out awards will not be more generous than the terms attached to the awards forfeited on cessation of employment with the previous employer.
Guaranteed variable remuneration Support recruitment of talent.	• Guaranteed variable remuneration is awarded in exceptional circumstances for new hires, and is limited to the individual's first year of employment only. • The exceptional circumstances where HSBC would offer guaranteed variable remuneration would typically involve a critical new hire and would also depend on factors such as the seniority of the individual, whether the new hire candidate has any competing offers and the timing of the hire during the performance year.
Severance payments Adhere to contractual agreements with involuntary leavers.	• Where an individual's employment is terminated involuntarily for gross misconduct then, subject to compliance with local laws, the Group's policy is not to make any severance payment in such cases. For such individuals, all outstanding unvested awards are forfeited. • For other cases of involuntary termination of employment the determination of any severance will take into consideration the performance of the individual, contractual notice period, applicable local laws and circumstances of the case. • Generally, all outstanding unvested awards will normally continue to vest in line with the applicable vesting dates. Where relevant, any performance conditions attached to the awards, and malus and clawback provisions, will remain applicable to those awards. • Severance amounts awarded to MRTs are considered as fixed pay where such amounts include: (i) payments of fixed remuneration that would have been payable during the notice and/or consultation period; (ii) statutory severance payments; (iii) payments determined in accordance with any approach applicable in the relevant jurisdictions; and (iv) payments made to settle a potential or actual dispute.

1 *Executive Directors are also eligible to be considered for a long-term incentive award. See details on page 223.*
2 *Shareholders approved the increase in the maximum ratio between the fixed and variable components of total remuneration from 1:1 to 1:2 at the 2014 AGM held on 23 May 2014 (98% in favour). The Group has also used the discount rate of 14.8% for individuals with seven-year deferral period and 7.2% for individuals with five-year deferral period. This discount rate was used for one MRT in the UK and one MRT in the US.*
3 *In accordance with the terms of the PRA and FCA remuneration rules, and subject to compliance with local regulations, the deferral requirement for MRTs is not applied to individuals where their total compensation is £500,000 or less and variable pay is not more than 33% of total compensation. For these individuals, the Group standard deferral applies.*

Link between risk, performance and reward

Our remuneration practices promote sound and effective risk management while supporting our business objectives.

We set out below the key features of our remuneration framework, which help enable us to achieve alignment between risk, performance and reward, subject to compliance with local laws and regulations:

Alignment between risk and reward

Framework elements	Application
Variable pay pool and individual performance scorecard	The Group variable pay pool is expected to move in line with Group performance. We also use a countercyclical funding methodology, with both a floor and a ceiling, with the payout ratio generally reducing as performance increases to avoid pro-cyclicality. The floor recognises that even in challenging times, remaining competitive is important. The ceiling recognises that at higher levels of performance it is not always necessary to continue to increase the variable pay pool, thereby limiting the risk of inappropriate behaviour to drive financial performance. The main quantitative and qualitative performance and risk metrics used for assessment of performance include: • Group and business unit financial performance; • current and future risks, taking into consideration performance against the risk appetite statement ('RAS'), annual operating plan and global conduct outcomes; • fines, penalties and provisions for customer redress, which are automatically included in the Committee's definition of profit; and • assessment of individual performance with reference to a balanced scorecard of clear and relevant objectives. Risk and compliance objectives are included in the performance scorecard of senior management and a mandatory global risk objective is included in the scorecard of all other employees. All employees receive a behaviour rating as well as a performance rating, which ensures performance is assessed not only on what is achieved but also on how it is achieved.
Remuneration for control function staff	• The performance and reward of individuals in control functions, including risk and compliance employees, are assessed according to a balanced scorecard of objectives specific to the functional role they undertake. This is to ensure their remuneration is determined independent of the performance of the business areas they oversee. • The Committee is responsible for approving the remuneration recommendations for the Group Chief Risk Officer and senior management in control functions. • Group policy is for control functions staff to report into their respective function. Remuneration decisions for senior functional roles are led by, and must carry the approval of, the global function head. • Remuneration is carefully benchmarked with the market and internally to ensure it is set at an appropriate level.
Variable pay adjustments and conduct recognition	• Variable pay awards may be adjusted downwards in circumstances including: – detrimental conduct, including conduct that brings HSBC into disrepute; – involvement in events resulting in significant operational losses, or events that have caused or have the potential to cause significant harm to HSBC; and – non-compliance with the HSBC Values and other mandatory requirements or policies. • Rewarding positive conduct may take the form of use of our global recognition programme, At Our Best, or positive adjustments to variable pay awards.
Malus	Malus can be applied to unvested deferred awards granted in prior years in circumstances including: • detrimental conduct, including conduct that brings the business into disrepute; • past performance being materially worse than originally reported; • restatement, correction or amendment of any financial statements; and • improper or inadequate risk management.
Clawback	Clawback can be applied to vested or paid awards granted to MRTs on or after 1 January 2015 for a period of seven years, extended to 10 years for employees under the PRA's Senior Managers Regime in the event of ongoing internal/regulatory investigation at the end of the seven-year period. Clawback may be applied in circumstances including: • participation in, or responsibility for, conduct that results in significant losses; • failing to meet appropriate standards and propriety; • reasonable evidence of misconduct or material error that would justify, or would have justified, summary termination of a contract of employment; and • a material failure of risk management suffered by HSBC or a business unit in the context of Group risk-management standards, policies and procedures.
Sales incentives	• We generally do not operate commission-based sales plans.
Identification of MRTs	• We identify individuals as MRTs based on the qualitative and quantitative criteria set out in the RTS. We also identify MRTs based on additional criteria developed internally. The following key principles underpin HSBC's identification process: – MRTs are identified at Group, HSBC Bank (consolidated) and HSBC UK Bank level. – MRTs are also identified at other solo regulated entity level as required by the regulations. – When identifying an MRT, HSBC considers an employee's role within its matrix management structure. The global business and function that an individual works within takes precedence, followed by the geographical location in which they work. • In addition to applying the qualitative and quantitative criteria specified in the RTS, we also identify additional MRTs based on our own internal criteria, which included compensation thresholds and individuals in certain roles and grades who otherwise would not be identified as MRTs under the criteria prescribed in the RTS. • The list of MRTs, and any exclusions from it, is reviewed by chief risk officers and chief operating officers of the relevant global businesses and functions. The overall results are reviewed by the Group Chief Risk Officer. • The Group Remuneration Committee reviews the methodology, key decisions regarding identification, and the results of the identification exercise, including proposed MRT exclusions.

Additional remuneration disclosures

This section provides disclosures required under the Hong Kong Ordinances, Hong Kong Listing Rules and the Pillar 3 remuneration disclosures.

For the purpose of the Pillar 3 remuneration disclosures, executive Directors and non-executive Directors are considered to be members of the management body. Members of the Group Management Board other than the executive Directors are considered as senior management.

MRT remuneration disclosures

The following tables set out the remuneration disclosures for individuals identified as MRTs for HSBC Holdings. Remuneration information for individuals who are only identified as MRTs at HSBC Bank plc, HSBC UK Bank plc or other solo-regulated entity levels is included, where relevant, in those entities' disclosures.

The 2019 variable pay information included in the following tables is based on the market value of awards granted to MRTs. For share awards, the market value is based on HSBC Holdings' share price at the date of grant (unless indicated otherwise). For cash awards, it is the value of awards expected to be paid to the individual over the deferral period.

Remuneration – fixed and variable amounts (REM1)

	Fixed ($m)				Variable[2] ($m)							
	Number of MRTs	Cash-based[1]	Share-based	Total	Cash-based	*Of which: deferred*	Share-based[3]	*Of which: deferred*	Other forms	*Of which: deferred*	Total	Total ($m)
Executive Directors	4	5.9	5.5	11.4	3.1	*1.2*	8.6	*6.6*	—	—	11.7	23.1
Non-executive Directors	12	6.9	—	6.9	—	—	—	—	—	—	—	6.9
Senior management	18	33.6	—	33.6	20.8	*12.6*	24.4	*16.2*	—	—	45.2	78.8
Investment banking	585	360.9	—	360.9	159.0	*81.3*	168.3	*91.5*	—	—	327.3	688.2
Retail banking	155	86.5	—	86.5	36.3	*18.0*	41.8	*23.9*	—	—	78.1	164.6
Asset management	26	18.1	—	18.1	6.3	*2.8*	3.8	*2.1*	2.6	*1.6*	12.7	30.8
Corporate functions	151	78.9	—	78.9	33.0	*15.5*	32.9	*17.3*	—	—	65.9	144.8
Independent control functions	135	62.3	—	62.3	21.5	*8.7*	21.4	*11.0*	0.1	—	43.0	105.3
All other	73	51.7	—	51.7	20.6	*11.2*	22.9	*12.9*	—	—	43.5	95.2
Total	**1,159**	**704.8**	**5.5**	**710.3**	**300.6**	***151.3***	**324.1**	***181.5***	**2.7**	***1.6***	**627.4**	**1,337.7**

1 *Cash-based fixed remuneration is paid immediately.*
2 *Variable pay awarded in respect of 2019. In accordance with shareholder approval received on 23 May 2014 (98% in favour), for each MRT the variable component of remuneration for any one year is limited to 200% of fixed component of the total remuneration.*
3 *Share-based awards are made in HSBC shares. Vested shares are subject to a retention period of up to one year.*

Guaranteed bonus, sign-on and severance payments (REM2)

	Guaranteed bonus and sign-on payments[1]		Severance payments[2]				
	Made during year ($m)	Number of beneficiaries	Awarded during year ($m)	Number of beneficiaries	Highest such award to a single person ($m)	Paid during year ($m)	Number of beneficiaries
Executive Directors	—	—	—	—	—	—	—
Senior management	6.0	3	1.8	1	1.8	1.8	1
Investment banking	7.3	9	19.9	31	3.1	15.6	23
Retail banking	—	—	2.4	6	0.7	1.7	5
Asset management	—	—	0.2	1	0.2	0.2	1
Corporate functions	2.3	4	11.0	14	2.7	6.5	12
Independent control functions	—	—	1.2	3	0.6	1.1	2
All other	—	—	1.6	2	0.9	1.6	2
Total	**15.6**	**16**	**38.1**	**58**		**28.5**	**46**

1 *No sign-on payments were made in 2019. A guaranteed bonus is awarded in exceptional circumstances for new hires, and in the first year only. The circumstances where HSBC would offer a guaranteed bonus would typically involve a critical new hire, and would also depend on factors such as the seniority of the individual, whether the new hire candidate has any competing offers and the timing of the hire during the performance year.*
2 *Includes payments such as payment in lieu of notice, statutory severance, outplacement service, legal fees, ex-gratia payments and settlements (excludes pre-existing benefit entitlements triggered on terminations).*

Deferred remuneration at 31 December[1] (REM3)

$m	Total outstanding[2]	*Of which: unvested*	*Of which: total outstanding deferred and retained exposed to ex post explicit and/or implicit adjustment*	Total amount of amendment during the year due to ex post implicit adjustment	Total amount of amendment during the year due to ex post explicit adjustment[3]	Total amount of deferred paid out in the financial year[4]
Cash						
Executive Directors	4.6	4.6	4.6	–	–	0.7
Senior management	35.4	35.4	35.4	–	–	4.7
Investment banking	185.8	185.8	185.8	–	–	66.4
Retail banking	38.4	38.4	38.4	–	–	12.2
Asset management	8.4	8.4	8.4	–	–	4.3
Corporate functions	30.7	30.7	30.7	–	–	10.4
Independent control functions	19.6	19.6	19.6	–	–	4.9
All other	23.2	23.2	23.2	–	–	8.3
Shares						
Executive Directors	37.9	33.8	37.9	(2.9)	–	2.0
Senior management	53.8	43.1	53.8	(4.2)	–	7.3
Investment banking	251.8	208.7	251.8	(17.7)	–	101.5
Retail banking	53.3	44.2	53.3	(3.7)	–	20.5
Asset management	6.7	5.1	6.7	(0.5)	–	3.5
Corporate functions	52.1	42.5	52.1	(3.9)	–	18.6
Independent control functions	25.4	23.5	25.4	(1.8)	–	15.5
All other	34.9	26.9	34.9	(2.4)	–	12.1
Other forms						
Executive Directors	–	–	–	–	–	–
Senior management	–	–	–	–	–	–
Investment banking	–	–	–	–	–	–
Retail banking	–	–	–	–	–	–
Asset management	7.5	6.1	7.5	1.0	–	1.9
Corporate functions	–	–	–	–	–	–
Independent control functions	0.1	0.1	0.1	–	–	–
All other	–	–	–	–	–	–

1 *This table provides details of balances and movements during performance year 2019. For details of variable pay awards granted for 2019, refer to the 'Remuneration – fixed and variable pay amounts' table. Deferred remuneration is made in cash and/or shares. Share-based awards are made in HSBC shares.*
2 *Includes unvested deferred awards and vested deferred awards subject to retention period at 31 December 2019.*
3 *Includes any amendments due to malus or clawback. Page 242 provides details of in-year variable pay adjustments.*
4 *Shares are considered as paid when they vest. Vested shares are valued using the sale price or the closing share price on the business day immediately preceding the vesting day.*

MRTs' remuneration by band[1]

	Management body	All other	Total
€0 – 1,000,000	11	728	739
€1,000,000 – 1,500,000	–	244	244
€1,500,000 – 2,000,000	–	83	83
€2,000,000 – 2,500,000	1	31	32
€2,500,000 – 3,000,000	–	18	18
€3,000,000 – 3,500,000	1	11	12
€3,500,000 – 4,000,000	–	10	10
€4,000,000 – 4,500,000	–	6	6
€4,500,000 – 5,000,000	1	5	6
€5,000,000 – 6,000,000	–	3	3
€6,000,000 – 7,000,000	2	2	4
€7,000,000 – 8,000,000	–	1	1
€8,000,000 – 9,000,000	–	–	–
€9,000,000 – 10,000,000	–	1	1

1 *Table prepared in euros in accordance with Article 450 of the European Union Capital Requirements Regulation, using the exchange rates published by the European Commission for financial programming and budget for December of the reported year as published on its website.*

Directors' emoluments

The details of compensation paid to executive and non-executive Directors for the year ended 31 December 2019 are set out below.

Emoluments

	Noel Quinn		John Flint		Ewen Stevenson		Marc Moses		Non-executive Directors	
	2019	2018	**2019**	2018	**2019**	2018	**2019**	2018	**2019**	2018
	£000	£000	**£000**	£000	**£000**	£000	**£000**	£000	**£000**	£000
Basic salaries, allowances and benefits	**1,312**	—	**1,991**	2,863	**1,820**	—	**1,849**	1,911	**5,414**	4,757
Pension contributions	**—**	—	**—**	—	**—**	—	**—**	—	**—**	—
Performance-related pay paid or receivable[1]	**665**	—	**891**	5,505	**3,176**		**926**	3,556	**—**	—
Inducements to join paid or receivable	**—**	—	**—**	—	**1,974**	—	**—**	—	**—**	—
Compensation for loss of office	**—**	—	**—**	—	**—**	—	**—**	—	**—**	—
Notional return on deferred cash	**—**	—	**40**	54	**—**	—	**17**	33	**—**	—
Total	**1,977**	—	**2,922**	8,422	**6,970**	—	**2,792**	5,500	**5,414**	4,757
Total ($000)	**2,522**	—	**3,727**	11,232	**8,890**	—	**3,561**	7,335	**6,906**	6,344

1 *Includes the value of the deferred and LTI awards at grant.*

The aggregate amount of Directors' emoluments (including both executive Directors and non-executive Directors) for the year ended 31 December 2019 was $26m. As per our policy, benefits in kind may include, but are not limited to, the provision of medical insurance, income protection insurance, health assessment, life assurance, club membership, tax assistance, car benefit, travel assistance and relocation costs (including any tax due on these benefits, where applicable). Post-employment medical insurance benefit was provided to former Directors, including Douglas Flint valued at £5,201 ($6,634), Alexander Flockhart valued at £1,621 ($2,068), Stuart Gulliver valued at £5,201 ($6,634) and Iain Mackay at £998 ($1,273) during the year ended 31 December 2019. Tax support fees of £10,440 ($13,316) were also provided for Iain Mackay during this period. The aggregate value of Director retirement benefits for current Directors is nil. Amounts are converted into US dollars based on the average year-to-date exchange rates for the respective year.

There were payments under retirement benefit arrangements with former Directors of $404,037. The provision at 31 December 2019 in respect of unfunded pension obligations to former Directors amount to $7,727,021.

Emoluments of senior management and five highest paid employees

The following table sets out the details of emoluments paid to senior management, which in this case comprises executive Directors and members of the Group Management Board, for the year ended 31 December 2019, or for the period of appointment in 2019 as a Director or member of the Group Management Board. Details of the remuneration paid to the five highest paid employees, comprising one executive Director and four Group Managing Directors, for the year ended 31 December 2019, are also presented.

Emoluments

	Five highest paid employees	**Senior management**
	£000	**£000**
Basic salaries, allowances and benefits in kind	**13,100**	**38,459**
Pension contributions	**18**	**168**
Performance-related pay paid or receivable[1]	**16,834**	**40,746**
Inducements to join paid or receivable	**13,987**	**14,253**
Compensation for loss of office	**—**	**1,415**
Total	**43,939**	**95,041**
Total ($000)	**56,044**	**121,224**

1 *Includes the value of deferred shares awards at grant.*

Emoluments by bands

Hong Kong dollars	US dollars	**Number of highest paid employees**	**Number of senior management**
$7,500,001 – $8,000,000	$957,200 – $1,021,013	**—**	**2**
$9,000,001 – $9,500,000	$1,148,640 – $1,212,453	**—**	**1**
$22,000,001 – $22,500,000	$2,807,786 – $2,871,599	**—**	**1**
$25,500,001 – $26,000,000	$3,254,479 – $3,318,292	**—**	**1**
$27,500,001 – $28,000,000	$3,509,732 – $3,573,545	**—**	**1**
$28,000,001 – $28,500,000	$3,573,546 – $3,637,359	**—**	**1**
$28,500,001 – $29,000,000	$3,637,359 – $3,701,172	**—**	**1**
$30,000,001 – $30,500,000	$3,828,799 – $3,892,612	**—**	**1**
$33,000,001 – $33,500,000	$4,211,679 – $4,275,492	**—**	**1**
$33,500,001 – $34,000,000	$4,275,492 – $4,339,305	**—**	**2**
$37,000,001 – $37,500,000	$4,722,185 – $4,785,998	**—**	**1**
$37,500,001 – $38,000,000	$4,785,998 – $4,849,812	**—**	**1**
$46,500,001 – $47,000,000	$5,934,638 – $5,998,451	**—**	**1**
$47,500,001 – $48,000,000	$6,062,265 – $6,126,078	**—**	**1**
$52,500,001 – $53,000,000	$6,700,398 – $6,764,211	**—**	**1**
$63,500,001 – $64,000,000	$8,104,291 – $8,168,104	**1**	**1**
$70,500,001 – $71,000,000	$8,997,677 – $9,061,490	**1**	**1**
$74,000,001 – $74,500,000	$9,444,370 – $9,508,183	**1**	**1**
$112,500,001 – $113,000,000	$14,357,995 – $14,421,808	**1**	**1**
$117,000,001 – $117,500,000	$14,932,315 – $14,996,128	**1**	**1**

Share capital and other disclosures

Share buy-back programme

On 6 August 2019, HSBC Holdings commenced a share buy-back to purchase its ordinary shares of $0.50 each up to a maximum consideration of $1.0bn. This programme concluded on 26 September 2019, after the purchase and cancellation of 135,776,994 ordinary shares. The purpose of the buy-back programme was to reduce HSBC's number of outstanding ordinary shares.

The nominal value of shares purchased during 2019 was $67,888,497 and the aggregate consideration paid by HSBC was £817,587,930.

The table that follows outlines details of the shares purchased on a monthly basis during 2019. The total number of shares purchased during the year was 135,776,994, representing 0.66% of the shares in issue and 0.67% of the shares in issue, excluding treasury shares.

Month	Number of shares	Highest price paid per share £	Lowest price paid per share £	Average price paid per share £	Aggregate price paid £
Share buy-back of 2019					
Aug-19	**93,613,105**	**6.3790**	**5.7830**	**6.0033**	**561,986,347**
Sep-19	**42,163,889**	**6.2810**	**5.8630**	**6.0621**	**255,601,583**
	135,776,994				**817,587,930**

Dividends

Dividends for 2019

First, second and third interim dividends for 2019, each of $0.10 per ordinary share, were paid on 5 July 2019, 26 September 2019 and 20 November 2019, respectively. Note 8 on the financial statements gives more information on the dividends declared in 2019. On 18 February 2020, the Directors declared a fourth interim dividend for 2019 of $0.21 per ordinary share in lieu of a final dividend, which will be payable on 14 April 2020 in cash in US dollars, or in sterling or Hong Kong dollars at exchange rates to be determined on 30 March 2020, with a scrip dividend alternative. As the fourth interim dividend for 2019 was declared after 31 December 2019, it has not been included in the balance sheet of HSBC as a liability. The reserves available for distribution at 31 December 2019 were $31.7bn.

A quarterly dividend of $15.50 per 6.20% non-cumulative US dollar preference share, Series A ('Series A dollar preference share'), (equivalent to a dividend of $0.3875 per Series A American Depositary Share ('ADS'), each of which represents 1/40th of a Series A dollar preference share), and £0.01 per Series A sterling preference share was paid on 15 March, 17 June, 16 September and 16 December 2019.

Dividends for 2020

Quarterly dividends of $15.50 per Series A dollar preference share (equivalent to a dividend of $0.3875 per Series A ADS, each of which represents 1/40th of a Series A dollar preference share) and £0.01 per Series A sterling preference share were declared on 3 February 2020 for payment on 16 March 2020.

Share capital

Issued share capital

The nominal value of HSBC Holdings' issued share capital paid up at 31 December 2019 was $10,319,276,773 divided into 20,638,524,545 ordinary shares of $0.50 each, 1,450,000 non-cumulative preference shares of $0.01 each and one non-cumulative preference share of £0.01, representing approximately 99.9999%, 0.0001%, and 0% respectively of the nominal value of HSBC Holdings' total issued share capital paid up at 31 December 2019.

Rights, obligations and restrictions attaching to shares

The rights and obligations attaching to each class of ordinary and non-cumulative preference shares in our share capital are set out in full in our Articles of Association. The Articles of Association may be amended by special resolution of the shareholders and can be found on our website at www.hsbc.com/our-approach/corporate-governance/board-responsibilities.

Ordinary shares

HSBC Holdings has one class of ordinary share, which carries no right to fixed income. There are no voting restrictions on the issued ordinary shares, all of which are fully paid. On a show of hands, each member present has the right to one vote at general meetings. On a poll, each member present or voting by proxy is entitled to one vote for every $0.50 nominal value of share capital held. There are no specific restrictions on transfers of ordinary shares, which are governed by the general provisions of the Articles of Association and prevailing legislation.

At the 2019 AGM, shareholders gave authority to the Directors to offer a scrip dividend alternative on any dividend (including interim dividends) declared up to the conclusion of the AGM in 2022.

Information on the policy adopted by the Board for paying interim dividends on the ordinary shares may be found on page 354, under the heading 'Shareholder information'.

Dividend waivers

HSBC Holdings' employee benefit trusts, which hold shares in HSBC Holdings in connection with the operation of its share plans, have lodged standing instructions to waive dividends on shares held by them that have not been allocated to employees. The total amount of dividends waived during 2019 was $3.4m.

Preference shares

The preference shares, which have preferential rights to income and capital, do not, in general, confer a right to attend and vote at general meetings.

There are three classes of preference shares in the share capital of HSBC Holdings: 6.20% non-cumulative US dollar preference shares, Series A of $0.01 each ('dollar preference shares'); non-cumulative preference shares of £0.01 each ('sterling preference shares'); and non-cumulative preference shares of €0.01 ('euro preference shares'). The dollar preference shares in issue are Series A dollar preference shares and the sterling preference share in issue is a Series A sterling preference share. There are no euro preference shares in issue.

Information on dividends declared for 2019 and 2020 may be found on page 292, under the heading 'Dividends' and in Note 8 on the financial statements.

Further details of the rights and obligations attaching to the HSBC Holdings' issued share capital may be found in Note 31 on the financial statements.

Compliance with Hong Kong Listing Rule 13.25A(2)

HSBC Holdings has been granted a waiver from strict compliance with Rule 13.25A(2) of the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong.

Under this waiver, HSBC's obligation to file a Next Day Return following the issue of new shares, pursuant to the vesting of share awards granted under its share plans to persons who are not Directors, would only be triggered where it falls within one of the circumstances set out under Rule 13.25A(3).

Share capital changes in 2019

The following events occurred during the year in relation to the ordinary share capital of HSBC Holdings:

Scrip dividends

	HSBC Holdings ordinary shares issued		Aggregate nominal value	Market value per share	
	on	number	$	$	£
Issued in lieu of					
Fourth interim dividend for 2018	8 Apr 2019	140,792,298	70,396,149	8.2417	6.1984
First interim dividend for 2019	5 Jul 2019	45,113,398	22,556,699	8.3022	6.5516
Second interim dividend for 2019	26 Sep 2019	109,720,334	54,860,167	7.2477	5.9748
Third interim dividend for 2019	20 Nov 2019	46,245,981	23,122,991	7.7133	6.0444

All-employee share plans

	Number	Aggregate nominal value	Exercise price	
			from	to
		$	£	£
HSBC Holdings savings-related share option plan				
HSBC ordinary shares issued in £	11,805,554	5,902,777	4.0472	5.9640
Options over HSBC ordinary shares lapsed	12,328,937	6,164,469		
Options over HSBC ordinary shares granted in response to approximately 23,220 applications from HSBC employees in the UK on 20 September 2019	32,129,659	16,064,830		

	HSBC Holdings ordinary shares issued	Aggregate nominal value	Market value per share	
			from	to
		$	£	£
HSBC International Employee Share Purchase Plan	607,478	303,739	5.8090	6.7090

HSBC share plans

	HSBC Holdings ordinary shares issued	Aggregate nominal value	Market value per share	
			from	to
		$	£	£
Vesting of awards under the HSBC Share Plan 2011	59,175,000	29,587,500	5.8640	6.7150

Authorities to allot and to purchase shares and pre-emption rights

At the AGM in 2019, shareholders renewed the general authority for the Directors to allot new shares up to 13,357,820,350 ordinary shares, 15,000,000 non-cumulative preference shares of £0.01 each, 15,000,000 non-cumulative preference shares of $0.01 each and 15,000,000 non-cumulative preference shares of €0.01 each. Shareholders also renewed the authority for the Directors to make market purchases of up to 2,003,673,053 ordinary shares. The Directors exercised this authority during the year and purchased 135,776,994 ordinary shares.

In addition, shareholders gave authority for the Directors to grant rights to subscribe for, or to convert any security into, no more than 4,007,346,106 ordinary shares in relation to any issue by HSBC Holdings or any member of the Group of contingent convertible securities that automatically convert into or are exchanged for ordinary shares in HSBC Holdings in prescribed circumstances. Further details about the issue of contingent convertible securities may be found in Note 31 on the financial statements.

Other than as disclosed in the tables above headed 'Share capital changes in 2019', the Directors did not allot any shares during 2019.

Debt securities

In 2019, HSBC Holdings issued the equivalent of $10.97bn of debt securities in the public capital markets in a range of currencies and maturities in the form of senior securities to ensure it meets the current and proposed regulatory rules, including those relating to the availability of adequate total loss-absorbing capacity. For additional information on capital instruments and bail-inable debt, refer to Notes 28 and 31 on pages 326 and 336.

Treasury shares

In accordance with the terms of a waiver granted by the Hong Kong Stock Exchange on 19 December 2005, HSBC Holdings will comply with the applicable law and regulation in the UK in relation to the holding of any shares in treasury and with the conditions of the waiver in connection with any shares it may hold in treasury. At 31 December 2019, pursuant to Chapter 6 of the UK Companies Act 2006, 325,273,407 ordinary shares were held in treasury. This was the maximum number of shares held at any time during 2019, representing 1.58% of the shares in issue as at 31 December 2019. The nominal value of shares held in treasury was $162,636,704.

Notifiable interests in share capital

At 31 December 2019, HSBC Holdings had received the following notification of major holdings of voting rights pursuant to the requirements of Rule 5 of the Disclosure, Guidance and Transparency Rules:

- BlackRock, Inc. gave notice on 15 October 2019 that on 14 October 2019 it had the following: an indirect interest in HSBC Holdings ordinary shares of 1,038,312,888; qualifying financial instruments with 244,560,589 voting rights that may be acquired if the instruments are exercised or converted; and financial instruments with a similar economic effect to qualifying financial instruments, which refer to 5,848,899 voting rights, representing 5.12%, 1.20% and 0.02%, respectively, of the total voting rights at that date.

No further notifications had been received pursuant to the requirements of Rule 5 of the Disclosure, Guidance and Transparency Rules between 31 December 2019 and 12 February 2020.

At 31 December 2019, according to the register maintained by HSBC Holdings pursuant to section 336 of the Securities and

Futures Ordinance of Hong Kong:

- BlackRock, Inc. gave notice on 4 January 2020 that on 31 December 2019 it had the following interests in HSBC Holdings ordinary shares: a long position of 1,414,136,299 shares and a short position of 14,651,147 shares, representing 6.96% and 0.07%, respectively, of the ordinary shares in issue at that date. Since 31 December 2019, BlackRock, Inc. gave notice on 9 January 2020 that on 6 January 2020 it had the following interests in HSBC Holdings ordinary shares: a long position of 1,423,358,955 shares and a short position of 14,825,645 shares, representing 7.01% and 0.07%, respectively, of the ordinary shares in issue at that date.
- Ping An Asset Management Co., Ltd, gave notice on 2 November 2018 that on 1 November 2018 it had a long position of 1,418,925,452 in HSBC Holdings ordinary shares, representing 7.01% of the ordinary shares in issue at that date.

Sufficiency of float

In compliance with the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited, at least 25% of the total issued share capital has been held by the public at all times during 2019 and up to the date of this report.

Dealings in HSBC Holdings listed securities

The Group has policies and procedures that, except where permitted by statute and regulation, prohibit specified transactions in respect of its securities listed on The Stock Exchange of Hong Kong Limited. Except for dealings as intermediaries or as trustees by subsidiaries of HSBC Holdings, neither HSBC Holdings nor any of its subsidiaries has purchased, sold or redeemed any of its securities listed on The Stock Exchange of Hong Kong Limited during the year ended 31 December 2019.

Directors' interests

Pursuant to the requirements of the UK Listing Rules and according to the register of Directors' interests maintained by HSBC Holdings pursuant to section 352 of the Securities and Futures Ordinance of Hong Kong, the Directors of HSBC Holdings at 31 December 2019 had certain interests, all beneficial unless otherwise stated, in the shares or debentures of HSBC Holdings and its associated corporations. Save as stated in the following table, no further interests were held by Directors, and no Directors or their connected persons were awarded or exercised any right to subscribe for any shares or debentures in any HSBC corporation during the year.

No Directors held any short position as defined in the Securities and Futures Ordinance of Hong Kong in the shares or debentures of HSBC Holdings and its associated corporations.

Directors' interests – shares and debentures

			At 31 Dec 2019, or date of cessation, if earlier				
	Footnotes	At 1 Jan 2019, or date of appointment, if later	Beneficial owner	Child under 18 or spouse	Jointly with another person	Trustee	Total interests
HSBC Holdings ordinary shares							
Kathleen Casey	1	**9,635**	**15,125**	–	–	–	**15,125**
Laura Cha		**10,200**	**16,200**	–	–	–	**16,200**
Henri de Castries		**18,064**	**19,251**	–	–	–	**19,251**
Lord Evans of Weardale (retired from the Board on 12 April 2019)		**12,892**	**12,892**	–	–	–	**12,892**
John Flint (stepped down from the Board on 5 August 2019)		**827,691**	**1,055,160**	–	**5,439**	–	**1,060,599**
Irene Lee		**11,172**	**11,904**	–	–	–	**11,904**
José Antonio Meade Kuribreña (appointed to the Board on 1 March 2019)		–	–	–	–	–	–
Heidi Miller	1	**4,420**	**15,700**	–	–	–	**15,700**
Marc Moses	2	**1,533,039**	**1,777,688**	–	–	–	**1,777,688**
David Nish		**50,000**	–	**50,000**	–	–	**50,000**
Noel Quinn (appointed to the Board on 5 August 2019)	2	**380,095**	**441,925**	–	–	–	**441,925**
Ewen Stevenson (appointed to the Board on 1 January 2019)	2	**6,420**	**233,972**	–	–	–	**233,972**
Sir Jonathan Symonds		**43,821**	**38,823**	**4,998**		–	**43,821**
Jackson Tai	1, 3	**56,075**	**32,800**	**11,965**	**21,750**	–	**66,515**
Mark Tucker		**288,381**	**307,352**	–	–	–	**307,352**
Pauline van der Meer Mohr		**15,000**	**15,000**	–	–	–	**15,000**

1 *Kathleen Casey has an interest in 3,025, Heidi Miller has an interest in 3,140 and Jackson Tai has an interest in 13,303 listed ADS, which are categorised as equity derivatives under Part XV of the Securities and Futures Ordinance of Hong Kong. Each ADS represents five HSBC Holdings ordinary shares.*

2 *Executive Directors' other interests in HSBC Holdings ordinary shares arising from the HSBC Holdings savings-related share option plans and the HSBC Share Plan 2011 are set out in the Scheme interests in the Directors' remuneration report on page 220. At 31 December 2019, the aggregate interests under the Securities and Futures Ordinance of Hong Kong in HSBC Holdings ordinary shares, including interests arising through employee share plans and the interests above were: Noel Quinn – 832,731; Marc Moses – 3,599,325; and Ewen Stevenson – 1,179,893. Each Director's total interests represents less than 0.02% of the shares in issue and 0.02% of the shares in issue excluding treasury shares.*

3 *Jackson Tai has a non-beneficial interest in 11,965 shares of which he is custodian.*

There have been no changes in the shares or debentures of the Directors from 31 December 2019 to the date of this report.

Listing Rule 9.8.4

The Report of the Directors comprises sections of the *Annual Report and Accounts* incorporated by cross-reference, where applicable, under Listing Rule 9.8.4.

Content	Page references
Long-term incentives	231
Dividend waivers	248
Dividends	248
Change of control	251

Events after the balance sheet date

For details on events after the balance sheet date, see Note 36 on the financial statements.

Change of control

The Group is not party to any significant agreements that take effect, alter or terminate following a change of control of the Group. The Group does not have agreements with any Director or employee that would provide compensation for loss of office or employment resulting from a takeover bid.

Branches

The Group provides a wide range of banking and financial services through branches and offices in the UK and overseas.

Research and development activities

During the ordinary course of business the Group develops new products and services within the global businesses.

Political donations

HSBC does not make any political donations or incur political expenditure within the ordinary meaning of those words. We have no intention of altering this policy. However, the definitions of political donations, political parties, political organisations and political expenditure used in the UK Companies Act 2006 (the 'Act') are very wide. As a result, they may cover routine activities that form part of the normal business activities of the Group and are an accepted part of engaging with stakeholders. To ensure that neither the Group nor any of its subsidiaries inadvertently breaches the Act, authority is sought from shareholders at the AGM to make political donations.

HSBC provides administrative support to two political action committees ('PACs') in the US funded by voluntary political contributions by eligible employees. We do not control the PACs, and all decisions regarding the amounts and recipients of contributions are directed by the respective steering committee of each PAC, which are comprised of eligible employees. The PACs recorded combined political donations of $119,600 during 2019 (2018: $179,200).

Charitable donations

For details of charitable donations, see page 20.

Internal control

The Board is responsible for maintaining and reviewing the effectiveness of risk management and internal control systems, and for determining the aggregate level and types of risks the Group is willing to take in achieving its strategic objectives.

To meet this requirement and to discharge its obligations under the FCA Handbook and the PRA Handbook, procedures have been designed: for safeguarding assets against unauthorised use or disposal; for maintaining proper accounting records; and for ensuring the reliability and usefulness of financial information used within the business or for publication.

These procedures provide reasonable assurance against material misstatement, errors, losses or fraud. They are designed to provide effective internal control within the Group and accord with the Financial Reporting Council's guidance for Directors issued in 2014, on risk management, internal control and related financial and business reporting. The procedures have been in place throughout the year and up to 18 February 2020, the date of approval of this *Annual Report and Accounts 2019.*

The key risk management and internal control procedures include the following:

Global principles

The Group's Global Principles set an overarching standard for all other policies and procedures and are fundamental to the Group's risk management structure. They inform and connect our purpose, values, strategy and risk management principles, guiding us to do the right thing and treat our customers and our colleagues fairly at all times.

Enterprise risk management framework

The enterprise risk management framework provides an effective and efficient approach to how we govern and oversee the organisation as well as how we monitor and mitigate risks to the delivery of our strategy. It applies to all categories of risk, covering core governance, standards and principles that bring together all of the Group's risk management practices into an integrated structure.

Delegation of authority within limits set by the Board

Subject to certain matters reserved for the Board, the Group Chief Executive has been delegated authority limits and powers within which to manage the day-to-day affairs of the Group, including the right to sub-delegate those limits and powers. Each relevant Group Managing Director or executive Director has delegated authority within which to manage the day-to-day affairs of the business or function for which he or she is accountable. Delegation of authority from the Board requires those individuals to maintain a clear and appropriate apportionment of significant responsibilities and to oversee the establishment and maintenance of systems of control that are appropriate to their business or function. Authorities to enter into credit and market risk exposures are delegated with limits to line management of Group companies. However, credit proposals with specified higher-risk characteristics require the concurrence of the appropriate global function. Credit and market risks are measured and reported at subsidiary company level and aggregated for risk concentration analysis on a Group-wide basis.

Risk identification and monitoring

Systems and procedures are in place to identify, assess, control and monitor the material risk types facing HSBC as set out in the enterprise-wide risk framework. The Group's risk measurement and reporting systems are designed to help ensure that material risks are captured with all the attributes necessary to support well-founded decisions, that those attributes are accurately assessed and that information is delivered in a timely manner for those risks to be successfully managed and mitigated.

Changes in market conditions/practices

Processes are in place to identify new risks arising from changes in market conditions/practices or customer behaviours, which could expose the Group to heightened risk of loss or reputational damage. The Group employs a top and emerging risks framework, which contains an aggregate of all current and forward-looking risks and enables it to take action that either prevents them materialising or limits their impact.

Responsibility for risk management

All employees are responsible for identifying and managing risk within the scope of their role as part of the three lines of defence model, which is an activity-based model to delineate management accountabilities and responsibilities for risk management and the control environment. The second line of defence sets the policy and guidelines for managing specific risk areas, provides advice and guidance in relation to the risk, and challenges the first line of defence (the risk owners) on effective risk management.

The Board delegated authority to the Group Audit Committee ('GAC') and it reviewed the independence, autonomy and effectiveness of the firm's policies and procedures on whistleblowing, including the procedures for the protection of staff who raise concerns of detrimental treatment.

Strategic plans

Strategic plans are prepared for global businesses, global functions and geographical regions within the framework of the Group's overall strategy. Annual operating plans, informed by detailed analysis of risk appetite describing the types and quantum of risk that the Group is prepared to take in executing its strategy, are prepared and adopted by all major Group operating companies and set out the key business initiatives and the likely financial effects of those initiatives.

The effectiveness of the Group's system of risk management and internal control is reviewed regularly by the Board, the Group Risk Committee ('GRC') and the GAC.

During 2019, the Group continued to focus on operational resilience and invest in the non-financial risk infrastructure. There was a particular focus on material and emerging risks with significant progress made enhancing the end-to-end risk and control assessment process.

The GRC and the GAC received confirmation that executive management has taken or is taking the necessary actions to remedy any failings or weaknesses identified through the operation of the Group's framework of controls.

Internal control over financial reporting

HSBC is required to comply with section 404 of the US Sarbanes-Oxley Act of 2002 and assess its effectiveness of internal control over financial reporting at 31 December 2019. In 2014, the GAC endorsed the adoption of the COSO 2013 framework for the monitoring of risk management and internal control systems to satisfy the requirements of section 404 of the Sarbanes-Oxley Act.

The key risk management and internal control procedures over financial reporting include the following:

Entity level controls

The primary mechanism through which comfort over risk management and internal control systems is achieved is through assessments of the effectiveness of entity level controls, and the reporting of risk and control issues on a regular basis through the various risk management and risk governance forums. Entity level controls are internal controls that have a pervasive influence over the entity as a whole. They include controls related to the control environment, such as the Group's values and ethics, the promotion of effective risk management and the overarching governance exercised by the Board and its non-executive committees. The design and operational effectiveness of entity level controls are assessed annually as part of the assessment of the effectiveness of internal controls over financial reporting. If issues are significant to the Group, they are escalated to the GAC if concerning financial reporting matters and/or the GRC for all other risk types. HSBC is simplifying the suite of entity level controls relied on to meet the principles of the COSO framework, which is expected to complete in 2020.

Process level transactional controls

Key process level controls that mitigate the risk of financial misstatement are identified, recorded and monitored in accordance with the risk framework. This includes the identification and assessment of relevant control issues against which action plans are tracked through to remediation. Further details on HSBC's approach to risk management can be found on page 95. The GAC has continued to receive regular updates on HSBC's ongoing activities for improving the effective oversight of end-to-end business processes and management continued to identify opportunities for enhancing key controls, such as through the use of automation technologies.

Financial reporting

The Group's financial reporting process is controlled using documented accounting policies and reporting formats, supported by detailed instructions and guidance on reporting requirements, issued to all reporting entities within the Group in advance of each reporting period end. The submission of financial information from each reporting entity is supported by a certification by the responsible financial officer and analytical review procedures at reporting entity and Group levels.

Disclosure Committee

Chaired by the Group Chief Financial Officer, the Disclosure Committee supports the discharge of the Group's obligations under relevant legislation and regulation including the UK and Hong Kong listing rules, the Market Abuse Regulation and US Securities and Exchange Commission rules. In so doing, the Disclosure Committee is empowered to determine whether a new event or circumstance should be disclosed, including the form and timing of such disclosure, and review all material disclosures made or to be made by the Group. The membership of the Disclosure Committee includes the Group Chief Financial Officer, Group Chief Risk Officer, Chief Legal Officer, Group Chief Accounting Officer, Global Head of Investor Relations, Group Chief of Staff, Group Company Secretary and Chief Governance Officer and Group Head of Finance. The Group's brokers, external auditors and its external legal counsel also attend as required. The integrity of disclosures is underpinned by structures and processes within the Global Finance and Global Risk functions that support rigorous analytical review of financial reporting and the maintenance of proper accounting records. As required by the Sarbanes-Oxley Act, the Group Chief Executive and the Group Chief Financial Officer have certified that the Group's disclosure controls and procedures were effective as of the end of the period covered by this *Annual Report and Accounts 2019*.

The annual review of the effectiveness of the Group's system of risk management and internal control over financial reporting was conducted with reference to the COSO 2013 framework. Based on the assessment performed, the Directors concluded that for the year ended 31 December 2019, the Group's internal control over financial reporting was effective.

PwC has audited the effectiveness of HSBC's internal control over financial reporting and has given an unqualified opinion.

Going concern

The Directors considered it appropriate to prepare the financial statements on the going concern basis.

In making the going concern assessment, the Directors have considered a wide range of detailed information relating to present and potential conditions, including projections for profitability, cash flows, capital requirements and capital resources.

In carrying out their assessment of the principal risks, the Directors considered a wide range of information including:

- details of the Group's business and operating models, and strategy;
- details of the Group's approach to managing risk and allocating capital;
- a summary of the Group's financial performance, and its capital position and annual operating plan;
- enterprise risk reports, including the Group's risk appetite profile (see page 95) and top and emerging risks (see page 103).
- reports and updates regarding regulatory and internal stress testing exercises (see page 98). In 2019, the published Bank of England ('BoE') stress test results for HSBC showed that our capital ratios after taking account of CRD IV restrictions and strategic management actions exceeded the BoE's requirements. The results for HSBC assumed no dividend payments in the first two years of the severe stress projection period;
- reports and updates from management on risk-related issues selected for in-depth consideration;
- reports and updates on the Group's compliance-related initiatives in its Global Markets business as required under the January 2018 deferred prosecution agreement with the US Department of Justice;
- reports and updates on regulatory developments; and
- legal reports.

Employees

At 31 December 2019, HSBC had a total workforce equivalent to 235,000 full-time employees compared with 235,000 at the end of 2018 and 229,000 at the end of 2017. Our main centres of employment were the UK with approximately 40,000 employees, India with 40,000, Hong Kong with 31,000, mainland China with 28,000, Mexico with 16,000, the US with 10,000 and France with 8,000.

Our people span many cultures, communities and continents. By focusing on employee well-being, diversity, inclusion and engagement, as well as building our peoples' skills and capabilities for now and for the future, we aim to create an environment where our people can fulfil their potential. We use confidential surveys to assess progress and make changes. We want to have an open culture where our people feel connected, supported to speak up and where our leaders encourage feedback. Where we make organisational changes, we support our people throughout the change and in particular where there are job losses.

Employee relations

We consult with and, where appropriate, negotiate with employee representative bodies where we have them. It is our policy to maintain well-developed communications and consultation programmes with all employee representative bodies. There have been no material disruptions to our operations from labour disputes during the past five years.

We are committed to complying with the applicable employment laws and regulations in the jurisdictions in which we operate. HSBC's global employment practices and relations policy provides the framework and controls through which we seek to uphold that commitment.

Diversity and inclusion

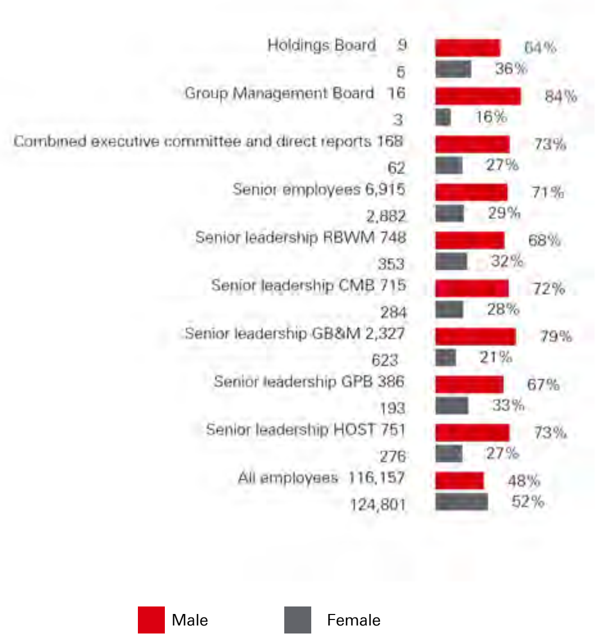
Our Group People Committee, which is made up of Group Management Board members, governs our diversity and inclusion agenda.

We are committed to a company-wide approach to diversity and inclusion. We want to embrace our people's diverse ideas, styles and perspectives to reflect and understand our customers, communities, suppliers and investors. Our actions are focused on ensuring our people are valued, respected and supported to fulfil their potential and thrive. We want them to bring the best of themselves to work to help deliver more sustainable outcomes for all of our stakeholders.

Our Global Principles outline that our people must treat each other with dignity and respect, creating an inclusive culture to support equal opportunities. We do not tolerate discrimination, bullying, harassment and victimisation on any grounds as policy.

More information about our diversity and inclusion activity and our UK Gender Pay Gap Report is available at www.hsbc.com/our-approach.

Gender diversity statistics[1, 2]



1 *Combined executive committee and direct reports includes HSBC executive Directors, Group Managing Directors, Group Company Secretary and Chief Governance Officer and their direct reports (excluding administrative staff).*

2 *Senior leadership refers to employees performing roles classified as 0, 1, 2 and 3 in our global career band structure.*

Employment of people with a disability

We believe in providing equal opportunities for all employees. The employment of people with a disability is included in this commitment. The recruitment, training, career development and promotion of people with a disability are based on the aptitudes and abilities of the individual. Should employees become disabled during their employment with us, efforts are made to continue their employment and, if necessary, appropriate training and reasonable equipment and facilities are provided.

Employee development

We understand that to have a skilled and capable workforce for today and the future, we must invest in our people at all stages of their careers. We measure our success through our retention, engagement scores, internal mobility and from external awards.

We provide training through HSBC University, our online learning portal and global network of training centres, which we launched in 2017. We target a 97% completion rate for formal training on our values, strategy and approach to risk management. This helps keep our people aware of the risks we face so they can make better decisions to grow our business in a safe way.

Our training has a strong foundation in good conduct, with topics including managing non-financial risk, data privacy, cybersecurity, anti-money laundering, sanctions, anti-bribery and corruption, insider risk, competition law, raising concerns and well-being.

We also have programmes to develop and advance our diverse workforce, including programmes for ethnic minority employees, people with disabilities, women, veterans and LGBT+ colleagues in some regions.

Building for the future

Through HSBC University, we provide training to support our people to develop technical and role-based skills, as well as personal skills. We put a strong emphasis on leadership skills to foster a culture of curiosity, innovation, collaboration and performance.

We have introduced new programmes to develop digital skills and understanding of sustainable finance and environmental sustainability. We created online training to improve personal skills, such as novel and adaptive thinking, design mindset, social intelligence, curiosity and creativity. We also introduced a range of self-directed resources and workshops to improve team cohesion and performance.

Leadership development

Over 16,000 of our people participated in HSBC University's management and leadership programmes. These included an online course for new managers or those returning to management after a break. We also launched a new risk management curriculum and an executive development curriculum, which are designed to support our most senior leaders with their approach to protect and grow the organisation.

We engage proactively in succession planning and understand the importance of ensuring we have a diverse talent pipeline for senior roles. In 2019, 67% of our most critical roles were filled by internal talent, with 33% of those placements being female. We realise the importance of accelerating the progress of our women to strengthen the leadership pipeline. We have a number of programmes to equip talented female staff with the skills and networks necessary to make the leap to management.

Nurturing talent

We promote a continuous feedback culture and so encourage all our people to have regular performance conversations with their line managers throughout the year, in addition to their formal annual discussions. We also encourage them to use our online career planning tool to help them with their thinking on future roles and the capabilities they require.

Managers are encouraged to have open dialogue with our people through feedback sessions. In addition to access to HSBC University, all employees have access to other experiences, such as volunteering and sustainability opportunities, participation in our employee resource groups, mentoring and sponsorship programmes.

In 2019, we launched a portal that provides access to career development resources and tools for all our people. Its features include guidance to help our people have conversations about their careers with their line managers by focusing on strengths and aspirations.

We also created a new and more inclusive approach to identify potential future leaders by enabling our people to self-elect into an assessment and development process, which examines learning agility, leadership ability and aspiration.

Internship, graduate and international manager programme

We recognise that to be prepared for the future, we need to build talent from the earliest stages of careers. Our global intern and graduate programme in 2019 had more than 80,000 applicants, from which we recruited 860 graduates, of which 45% were female. Once hired, our graduates go through several rotations during a two-year period before being placed in their destination roles. Some of our highest-performing graduates continue into our international manager programme, a fast-track career path for future leaders of our business. We currently have 271 individuals across 46 countries and territories on the scheme.

Health and safety

We are committed to providing a healthy and safe working environment for our employees, contractors, customers and visitors on our premises, and where impacted by our operations.

We aim to be compliant with all applicable health and safety legal requirements, and to ensure that best practice health and safety management standards are implemented and maintained across the Group.

Everyone at HSBC has a responsibility for helping to create a healthy and safe working environment. Employees are expected to take ownership of their safety, and are encouraged and empowered to report any concerns.

Chief operating officers have overall responsibility for ensuring that the correct policies, procedures and safeguards are put into practice. This includes making sure that everyone in HSBC has access to appropriate information, instruction, training and supervision.

Putting our commitment into practice, we delivered a range of programmes in 2019 to help us understand and manage effectively the risks we face and improve the buildings in which we operate:

- We continued to deliver improvements in health and safety culture, through more than 2,000 hours of education and awareness programmes targeted at our areas of highest risk, which are construction and facilities management. This has helped to deliver continued reductions in the numbers of injuries, with HSBC's injury rate for facilities management approximately one-tenth of the industry rate, according to the US Occupational Safety and Health Administration.
- We developed and implemented an improved health and safety training and awareness programme for all employees globally, ensuring roles and responsibilities were clear and understood. The programme, which included a new section for branch managers and staff, was completed by over 250,000 of our employees.
- We implemented improved systems and processes for hazard identification and remediation. We also updated our suite of management information dashboards to continually improve our awareness and management of our key risks.
- An independent subject matter expert assessed our health and safety management system against the new international standard ISO 45001. The expert confirmed the robustness of our policies, procedures and processes, while identifying areas for continual improvement.
- Our global safety management system was subjected to an extensive third line of defence review and resulted in zero high risk items being identified.
- We continue to focus on enhancing the safety culture in our supply chain through our SAFER Together programme, building the awareness and capability to act and behave in the safest ways.

Employee health and safety

	Footnotes	**2019**	2018	2017
Number of workplace fatalities	*1*	**1**	1	2
Number of major injuries to employees	*2*	**29**	27	33
All injury rate per 100,000 employees		**189**	189	209

1 2019: Contractor fatality (cleaning accident).
2 Fractures, dislocation, concussion and loss of consciousness.

Remuneration

HSBC's pay and performance strategy is designed to reward competitively the achievement of long-term sustainable performance and attract and motivate the very best people, regardless of gender, ethnicity, age, disability or any other factor unrelated to performance or experience with the Group, while performing their role in the long-term interests of our stakeholders.

The quality and commitment of our employees is fundamental to our success and, accordingly, the Board aims to attract, retain and motivate the very best people. As trust and relationships are vital in our business, our goal is to recruit those who are committed to a long-term career with the Group.

Further information on the Group's approach to remuneration is given on page 240.

Employee share plans

Share options and discretionary awards of shares granted under HSBC share plans align the interests of employees with the creation of shareholder value. The following table sets out the particulars of outstanding options, including those held by employees working under employment contracts that are regarded as 'continuous contracts' for the purposes of the Hong Kong

Employment Ordinance. The options were granted at nil consideration. No options have been granted to substantial shareholders and suppliers of goods or services, nor in excess of the individual limit for each share plan. No options were cancelled by HSBC during the year.

A summary for each plan of the total number of the options that were granted, exercised or lapsed during 2019 is shown in the following table. Further details required to be disclosed pursuant to Chapter 17 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited are available on our website at www.hsbc.com/our-approach/corporate-governance/remuneration and on the website of The Stock Exchange of Hong Kong Limited at www.hkex.com.hk, or can be obtained upon request from the Group Company Secretary and Chief Governance Officer, 8 Canada Square, London E14 5HQ.

Particulars of options held by Directors of HSBC Holdings are set out on page 235.

Note 5 on the financial statements gives details of share-based payments, including discretionary awards of shares granted under HSBC share plans.

All-employee share plans

HSBC operates all-employee share option plans under which options are granted over HSBC ordinary shares. Subject to leaver provisions, options are normally exercisable after three or five years. During 2019, options were granted by reference to the average market value of HSBC Holdings ordinary shares on the five business days immediately preceding the invitation date, then applying a discount of 20%. The mid-market closing price for HSBC Holdings ordinary shares quoted on the London Stock Exchange, which, as derived from the Daily Official List on 19 September 2019, the day before the options were granted, was £6.1600.

The UK HSBC Holdings Savings-Related Share Option Plan will expire on 23 May 2025. A resolution will be proposed at the 2020 AGM to extend the plan to 24 April 2030, unless the Directors resolve to terminate the plans at an earlier date.

The HSBC International Employee Share Purchase Plan was introduced in 2013 and now includes employees based in 27 jurisdictions, although no options are granted under this plan.

HSBC Holdings Share Option Plans

Dates of awards		Exercise price		Usually exercisable			HSBC Holdings ordinary shares				
from	to	from	to	from	to	*Footnotes*	**At 1 Jan 2019**	**Granted during year**	**Exercised during year**	**Lapsed during year**	**At 31 Dec 2019**
Savings-Related Share Option Plan						*1*					
		(£)	(£)								
20 Sep 2013	20 Sep 2019	4.0472	5.9640	1 Nov 2018	30 Apr 2025		**57,065,513**	**32,129,659**	**11,805,554**	**12,328,937**	**65,060,681**

1 *The weighted average closing price of the shares immediately before the dates on which options were exercised was £6.0088.*

Statement of compliance

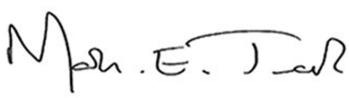
The statement of corporate governance practices set out on pages 192 to 256 and the information referred to therein constitutes the 'Corporate governance report' of HSBC Holdings. The websites referred to do not form part of this report.

Relevant corporate governance codes, role profiles and policies

UK Corporate Governance Code	www.frc.org.uk
Hong Kong Corporate Governance Code (set out in Appendix 14 to the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited)	www.hkex.com.hk
Descriptions of the roles and responsibilities of the: – Group Chairman – Group Chief Executive – Deputy Group Chairman and Senior Independent Director – Board	www.hsbc.com/our-approach/corporate-governance/board-responsibilities
Board and senior management	www.hsbc.com/who-we-are/leadership
Roles and responsibilities of the Board's committees	www.hsbc.com/our-approach/corporate-governance/board-committees
Board's policies on: – diversity and inclusion – shareholder communication – human rights – remuneration practices and governance	www.hsbc.com/our-approach/corporate-governance/board-responsibilities
Global Internal Audit Charter	www.hsbc.com/our-approach/corporate-governance/corporate-governance-codes/internal-control

HSBC is subject to corporate governance requirements in both the UK and Hong Kong. During 2019, HSBC complied with the provisions and requirements of both the UK and Hong Kong Corporate Governance Codes.

Under the Hong Kong Code, the audit committee should be responsible for the oversight of all risk management and internal control systems. HSBC's Group Risk Committee is responsible for oversight of internal control, other than internal control over financial reporting, and risk management systems. This is permitted under the UK Corporate Governance Code. HSBC Holdings has codified obligations for transactions in Group securities in accordance with the requirements of the Market Abuse Regulation and the rules governing the listing of securities on HKEx, save that the HKEx has granted waivers from strict compliance with the rules that take into account accepted practices in the UK, particularly in respect of employee share plans. During the year, all Directors were reminded of their obligations in respect of transacting in HSBC Group securities and following specific enquiry all Directors have confirmed that they have complied with their obligations.



On behalf of the Board

Mark E Tucker

Group Chairman

HSBC Holdings plc

Registered number 617987

18 February 2020

Report of the Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of HSBC Holdings plc

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of HSBC Holdings plc and its subsidiaries (the "Company") as of 31 December 2019 and 31 December 2018, and the related consolidated income statements, consolidated statements of comprehensive income, consolidated statements of cash flows, and consolidated statements of changes in equity for each of the three years in the period ended 31 December 2019, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of 31 December 2019, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of 31 December 2019 and 31 December 2018, and the results of its operations and its cash flows for each of the three years in the period ended 31 December 2019 in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board and in conformity with International Financial Reporting Standards as adopted by the European Union. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of 31 December 2019, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company changed the manner in which it accounts for financial instruments in 2018.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in management's assessment of internal controls over financial reporting on page 85 of the *Form 20-F*. Our responsibility is to express opinions on the Company's financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorisations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorised acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (i) relate to accounts or disclosures that are material to the financial statements and (ii) involved especially challenging, subjective, or complex judgements. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Impairment assessment of investment in Bank of Communications Co., Limited ('BoCom')

As described in Notes 1.2a and 18 to the financial statements, $19.0bn of the Company's $24.5bn investment in associates and joint ventures represents BoCom's carrying value. At 31 December, the fair value based on the listed share price, was $8.9bn lower than carrying value. An impairment test was performed by management using a value in use ('VIU') model to estimate the recoverable amount. This VIU model used discounted cash flow projections based on management's estimates of future earnings available to ordinary shareholders. The VIU was higher than the carrying value. Significant management judgement was required in arriving at the estimate, including key assumptions relating to BoCom's long-term profit growth rate, long-term asset growth rate, ratio of risk-weighted assets to total assets and cost income ratio. Other management assumptions include the discount rate, expected credit losses as a percentage of customer advances, the long-term effective tax rate, capital and tier 1 capital adequacy ratios.

The principal consideration for our determination that performing procedures relating to the impairment assessment of the investment in BoCom is a critical audit matter was the significant judgement used by management when developing the VIU of BoCom. This in turn led to a high degree of auditor judgement, subjectivity, and effort in performing procedures to evaluate management's estimates of future earnings and significant assumptions, including BoCom's long-term profit growth rate, long-term asset growth rate, discount rate, expected credit losses as a percentage of customer advances and long-term effective tax rate. In addition, the audit effort involved the use of professionals with specialised skill and knowledge to assist in developing an independent range for discount rates and evaluating expected credit losses as a percentage of customer advances and long-term effective tax rates.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the financial statements. These procedures included testing the effectiveness of controls relating to management's impairment testing process, which included controls over the model, data inputs and key assumptions. These procedures also included, among others, i) evaluating management's VIU determination and underlying significant assumptions, including discount rates and the long-term profit and asset growth rates; ii) the involvement of professionals with specialised skills and knowledge to assist in developing an independent range for discount rates and evaluating expected credit losses and long-term effective tax rates; iii) testing the inputs used in the determination of expected credit losses using external market information, third-party sources, including analyst reports, and historical publicly available BoCom information; performing independent sensitivity analysis on key assumptions used by management, both individually and in aggregate; and iv) evaluating the disclosures made in the Annual Report and Accounts 2019 in relation to BoCom.

Measurement of expected credit losses

As described in Note 1.2 (i) to the consolidated financial statements and detailed in the audited tables within 'Report of the Directors: Risk' on pages 84 to 129, the Company's expected credit losses ('ECL') total was $9.4bn. The assessment of credit risk and the estimation of ECL incorporates information about past events, current conditions and forecasts of future events and economic conditions at the reporting date. Management calculates ECL using three main components: a probability of default ('PD'), loss given default ('LGD') and exposure at default ('EAD'). Management applies three forward looking economic scenarios determined with reference to external forecasts. These scenarios represent a most likely outcome (the Central scenario) and two, less likely, outer scenarios referred to as the Upside and Downside scenarios. Management's view is that downside risks for some geographies were not adequately represented by the three forward looking economic scenarios. Therefore, additional Alternative Downside scenarios have been used.

The principal considerations for our determination that performing procedures relating to ECL is a critical audit matter was the high degree of judgement used by management in determining the ECL, in particular the application of Alternative Downside scenarios, and the weighting and severity of them. This in turn led to a high degree of auditor judgement and effort in performing procedures to evaluate evidence related to the assumptions used in determining the ECL and the procedures required to be performed; and the involvement of professionals with specialised skills and knowledge to assist in evaluating the components and economic scenarios used.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the Company's determination of ECL and the assumptions used. These procedures also included, among others; (i) the involvement of professionals with specialised skills and knowledge to perform risk based testing of the components and assess the reasonableness of the economic scenarios; (ii) testing the accuracy and completeness of critical data used to determine ECL; and (iii) evaluating the disclosures made in the Annual Report and Accounts 2019 in relation to the measurement of ECL.

Goodwill impairment in Global Banking and Markets (GB&M), Commercial Banking - Europe (Europe - CMB), Commercial Banking - Middle East and North Africa (MENA - CMB), Commercial Banking - Latin America (Latin America - CMB) and Global Private Banking - North America (North America - GPB) cash-generating units (CGUs)

As described in Notes 1.2(a) and 21 to the consolidated financial statements, the Company had goodwill with a carrying value of $5.6bn at 31 December 2019. In the current period, a total impairment charge of $7.3bn has been recorded across CGUs. Impairment testing is performed at least once a year, or whenever there is an indication of impairment, by comparing the recoverable amount of a CGU with its carrying amount. A review for indicators of impairment is undertaken for all CGUs at each reporting date. Indicators of impairment were identified across all CGUs. The subsequent impairment test resulted in impairment charges being taken for five CGUs: GB&M, Europe - CMB, MENA - CMB, Latin America - CMB and North America - GPB. Impairment resulted from a combination of factors including the Company's macroeconomic outlook, a corresponding judgement to reduce the basis of the long-term growth rate assumption used to estimate value in use ('VIU'), IFRS requirements which limit elements of management approved forecasts that should be considered when testing goodwill for impairment and lower forecast profitability in some businesses. The VIU is calculated by discounting management's cash flow projections for the CGU. In determining VIU using the discounted cash flow method, management has applied judgement in estimating the future cash flows of the CGUs and the rates used to discount these cash flows. The key assumptions used in the calculation for each significant CGU are cash flows used based on Board approved plan, the discount rate and long-term growth rate. The rate used to discount the cash flows is based on the cost of capital assigned to each CGU, which is derived using a capital asset pricing model. The long-term growth rate based on inflation rates is used to extrapolate the cash flows in perpetuity because of the long-term perspective within the Group of business units making up the CGUs.

The principal consideration for our determination that performing procedures relating to the impairment assessment of goodwill is a critical audit matter was the significant judgement used by management in determining the VIU of the CGUs. This in turn led to a high degree of auditor judgement and effort in performing procedures to evaluate management's VIU determination and underlying significant assumptions, including estimated future cash flows for each CGU discounted at an appropriate discount rate and long-term growth rates based on inflation rates. In addition, the audit effort involved the use of professionals with specialised skills and knowledge to assist in developing an independent range for discount rates and assessing the appropriateness of the long-term growth rates.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the financial statements. These procedures included testing the effectiveness of controls relating to management's goodwill impairment assessment of all CGUs including controls over the valuation of CGUs. These procedures also included, among others; (i) testing management process for determining VIU; (ii) evaluating the appropriateness of the valuation method and reasonableness of underlying significant assumptions, including discount rates and the long-term growth rates used in the discounted cash flow method; (iii) the involvement of professionals with specialised skills and knowledge to assist in developing an independent range for discount rates used in the discounted cash flow method and comparing the independent range to management's estimate to evaluate the reasonableness of the assumption; (iv) evaluating whether the use of the inflation rates was reasonable in estimating the growth rates into perpetuity for each CGU; (v) evaluating whether the assumptions used were reasonable, considering the current and past performance of the CGUs and the consistency with external market and industry data; and (vi) evaluating the disclosures made in the Annual Report and Accounts 2019 in relation to impairment of goodwill.

/s/PricewaterhouseCoopers LLP

London, United Kingdom

19 February 2020

We have served as the Company's auditor since 2015

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Financial statements

HSBC MyDeal

We launched MyDeal to make the deal execution process in our primary capital markets business more efficient. The customer can access the secured platform on mobile or online and receive real-time information of a deal throughout its life cycle. This includes logistics, investor feedback and book-building data.

MyDeal became available to customers in early 2019. By the end of 2019, we had used the platform in a number of jurisdictions to manage more than 84 deals with a combined value of $47.5 billion. It has received positive feedback from customers.

Financial statements

Consolidated income statement

for the year ended 31 December

	Notes*	2019 $m	2018 $m	2017 $m
Net interest income		**30,462**	30,489	28,176
– interest income[1,2]		**54,695**	49,609	40,995
– interest expense[3]		**(24,233)**	(19,120)	(12,819)
Net fee income	2	**12,023**	12,620	12,811
– fee income		**15,439**	16,044	15,853
– fee expense		**(3,416)**	(3,424)	(3,042)
Net income from financial instruments held for trading or managed on a fair value basis	3	**10,231**	9,531	8,426
Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss	3	**3,478**	(1,488)	2,836
Changes in fair value of designated debt and related derivatives[4]	3	**90**	(97)	155
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	3	**812**	695	N/A
Gains less losses from financial investments		**335**	218	1,150
Net insurance premium income	4	**10,636**	10,659	9,779
Other operating income		**2,957**	960	443
Total operating income		**71,024**	63,587	63,776
Net insurance claims and benefits paid and movement in liabilities to policyholders	4	**(14,926)**	(9,807)	(12,331)
Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions		**56,098**	53,780	51,445
Change in expected credit losses and other credit impairment charges		**(2,756)**	(1,767)	N/A
Loan impairment charges and other credit risk provisions		**N/A**	N/A	(1,769)
Net operating income		**53,342**	52,013	49,676
Employee compensation and benefits	5	**(18,002)**	(17,373)	(17,315)
General and administrative expenses		**(13,828)**	(15,353)	(15,707)
Depreciation and impairment of property, plant and equipment and right-of-use assets[5]		**(2,100)**	(1,119)	(1,166)
Amortisation and impairment of intangible assets		**(1,070)**	(814)	(696)
Goodwill impairment	21	**(7,349)**	–	–
Total operating expenses		**(42,349)**	(34,659)	(34,884)
Operating profit		**10,993**	17,354	14,792
Share of profit in associates and joint ventures	18	**2,354**	2,536	2,375
Profit before tax		**13,347**	19,890	17,167
Tax expense	7	**(4,639)**	(4,865)	(5,288)
Profit for the year		**8,708**	15,025	11,879
Attributable to:				
– ordinary shareholders of the parent company		**5,969**	12,608	9,683
– preference shareholders of the parent company		**90**	90	90
– other equity holders		**1,324**	1,029	1,025
– non-controlling interests		**1,325**	1,298	1,081
Profit for the year		**8,708**	15,025	11,879
		$	$	$
Basic earnings per ordinary share	9	**0.30**	0.63	0.48
Diluted earnings per ordinary share	9	**0.30**	0.63	0.48

* *For Notes on the financial statements, see page 271.*

1 *Interest income includes $45,708m (2018: $42,130m) of interest recognised on financial assets measured at amortised cost and $8,259m (2018: $7,020m) of interest recognised on financial assets measured at fair value through other comprehensive income.*

2 *Interest revenue calculated using the effective interest method comprises interest recognised on financial assets measured at either amortised cost or fair value through other comprehensive income.*

3 *Interest expense includes $21,922m (2018: $16,972m) of interest on financial instruments, excluding interest on financial liabilities held for trading or designated or otherwise mandatorily measured at fair value.*

4 *The debt instruments, issued for funding purposes, are designated under the fair value option to reduce an accounting mismatch.*

5 *Includes depreciation of the right-of-use assets of $912m (2018: nil). Right-of-use assets have been recognised from 1 January 2019 following the adoption of IFRS 16. Comparatives have not been restated.*

Consolidated statement of comprehensive income

for the year ended 31 December

	2019 $m	2018 $m	2017 $m
Profit for the year	**8,708**	15,025	11,879
Other comprehensive income/(expense)			
Items that will be reclassified subsequently to profit or loss when specific conditions are met:			
Available-for-sale investments	**N/A**	N/A	146
– fair value gains	**N/A**	N/A	1,227
– fair value gains reclassified to the income statement	**N/A**	N/A	(1,033)
– amounts reclassified to the income statement in respect of impairment losses	**N/A**	N/A	93
– income taxes	**N/A**	N/A	(141)
Debt instruments at fair value through other comprehensive income	**1,152**	(243)	N/A
– fair value gains/(losses)	**1,793**	(168)	N/A
– fair value gains transferred to the income statement on disposal	**(365)**	(95)	N/A
– expected credit recoveries/(losses) recognised in the income statement	**109**	(94)	N/A
– income taxes	**(385)**	114	N/A
Cash flow hedges	**206**	19	(192)
– fair value gains/(losses)	**551**	(267)	(1,046)
– fair value (gains)/losses reclassified to the income statement	**(286)**	317	833
– income taxes	**(59)**	(31)	21
Share of other comprehensive income/(expense) of associates and joint ventures	**21**	(64)	(43)
– share for the year	**21**	(64)	(43)
Exchange differences	**1,044**	(7,156)	9,077
– other exchange differences	**1,044**	(7,156)	8,939
– income tax attributable to exchange differences	**—**	—	138
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement of defined benefit asset/liability	**13**	(329)	2,419
– before income taxes	**(17)**	(388)	3,440
– income taxes	**30**	59	(1,021)
Changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**(2,002)**	2,847	(2,024)
– before income taxes	**(2,639)**	3,606	(2,409)
– income taxes	**637**	(759)	385
Equity instruments designated at fair value through other comprehensive income	**366**	(27)	N/A
– fair value gains/(losses)	**364**	(71)	N/A
– income taxes	**2**	44	N/A
Effects of hyperinflation	**217**	283	N/A
Other comprehensive income/(expense) for the period, net of tax	**1,017**	(4,670)	9,383
Total comprehensive income for the year	**9,725**	10,355	21,262
Attributable to:			
– ordinary shareholders of the parent company	**6,838**	8,083	18,914
– preference shareholders of the parent company	**90**	90	90
– other equity holders	**1,324**	1,029	1,025
– non-controlling interests	**1,473**	1,153	1,233
Total comprehensive income for the year	**9,725**	10,355	21,262

Consolidated balance sheet

		At	
		31 Dec 2019	31 Dec 2018
	*Notes**	**$m**	$m
Assets			
Cash and balances at central banks		**154,099**	162,843
Items in the course of collection from other banks		**4,956**	5,787
Hong Kong Government certificates of indebtedness		**38,380**	35,859
Trading assets	*11*	**254,271**	238,130
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	*14*	**43,627**	41,111
Derivatives	*15*	**242,995**	207,825
Loans and advances to banks		**69,203**	72,167
Loans and advances to customers		**1,036,743**	981,696
Reverse repurchase agreements – non-trading		**240,862**	242,804
Financial investments	*16*	**443,312**	407,433
Prepayments, accrued income and other assets	*22*	**136,680**	110,571
Current tax assets		**755**	684
Interests in associates and joint ventures	*18*	**24,474**	22,407
Goodwill and intangible assets	*21*	**20,163**	24,357
Deferred tax assets	*7*	**4,632**	4,450
Total assets		**2,715,152**	2,558,124
Liabilities and equity			
Liabilities			
Hong Kong currency notes in circulation		**38,380**	35,859
Deposits by banks		**59,022**	56,331
Customer accounts		**1,439,115**	1,362,643
Repurchase agreements – non-trading		**140,344**	165,884
Items in the course of transmission to other banks		**4,817**	5,641
Trading liabilities	*23*	**83,170**	84,431
Financial liabilities designated at fair value	*24*	**164,466**	148,505
Derivatives	*15*	**239,497**	205,835
Debt securities in issue	*25*	**104,555**	85,342
Accruals, deferred income and other liabilities	*26*	**118,156**	97,380
Current tax liabilities		**2,150**	718
Liabilities under insurance contracts	*4*	**97,439**	87,330
Provisions	*27*	**3,398**	2,920
Deferred tax liabilities	*7*	**3,375**	2,619
Subordinated liabilities	*28*	**24,600**	22,437
Total liabilities		**2,522,484**	2,363,875
Equity			
Called up share capital	*31*	**10,319**	10,180
Share premium account	*31*	**13,959**	13,609
Other equity instruments		**20,871**	22,367
Other reserves		**2,127**	1,906
Retained earnings		**136,679**	138,191
Total shareholders' equity		**183,955**	186,253
Non-controlling interests		**8,713**	7,996
Total equity		**192,668**	194,249
Total liabilities and equity		**2,715,152**	2,558,124

* *For Notes on the financial statements, see page 271.*

The accompanying notes on pages 271 to 353 and the audited sections in: 'Risk' on pages 95 to 187, 'Capital' on pages 188 to 191, and 'Directors' remuneration report' on pages 220 to 247 form an integral part of these financial statements.

These financial statements were approved by the Board of Directors on 18 February 2020 and signed on its behalf by:

Mark E Tucker
Group Chairman

Ewen Stevenson
Group Chief Financial Officer

Consolidated statement of cash flows

for the year ended 31 December

	2019	2018	2017
	$m	$m	$m
Profit before tax	**13,347**	19,890	17,167
Adjustments for non-cash items:			
Depreciation, amortisation and impairment[1]	**10,519**	1,933	1,862
Net gain from investing activities	**(399)**	(126)	(1,152)
Share of profits in associates and joint ventures	**(2,354)**	(2,536)	(2,375)
Gain on disposal of subsidiaries, businesses, associates and joint ventures	**(929)**	—	(79)
Change in expected credit losses gross of recoveries and other credit impairment charges	**3,012**	2,280	N/A
Loan impairment losses gross of recoveries and other credit risk provisions	**N/A**	N/A	2,603
Provisions including pensions	**2,423**	1,944	917
Share-based payment expense	**478**	450	500
Other non-cash items included in profit before tax	**(2,297)**	(1,303)	(381)
Elimination of exchange differences[2]	**(3,742)**	4,930	(20,757)
Changes in operating assets and liabilities			
Change in net trading securities and derivatives	**(18,910)**	20,855	(13,615)
Change in loans and advances to banks and customers	**(53,760)**	(44,071)	(108,984)
Change in reverse repurchase agreements – non-trading	**(7,390)**	(25,399)	(37,281)
Change in financial assets designated and otherwise mandatorily measured at fair value	**(2,308)**	(1,515)	(5,303)
Change in other assets	**(21,863)**	6,766	(6,570)
Change in deposits by banks and customer accounts	**79,163**	(5,745)	102,457
Change in repurchase agreements – non-trading	**(25,540)**	35,882	41,044
Change in debt securities in issue	**19,268**	18,806	(1,369)
Change in financial liabilities designated at fair value	**20,068**	4,500	8,508
Change in other liabilities	**23,124**	(2,187)	13,514
Dividends received from associates	**633**	910	740
Contributions paid to defined benefit plans	**(533)**	(332)	(685)
Tax paid	**(2,267)**	(3,417)	(3,175)
Net cash from operating activities	**29,743**	32,515	(12,414)
Purchase of financial investments	**(445,907)**	(399,458)	(357,264)
Proceeds from the sale and maturity of financial investments	**413,186**	386,056	418,352
Net cash flows from the purchase and sale of property, plant and equipment	**(1,343)**	(1,196)	(1,167)
Net cash flows from purchase/(disposal) of customer and loan portfolios	**1,118**	(204)	6,756
Net investment in intangible assets	**(2,289)**	(1,848)	(1,285)
Net cash flow on disposal of subsidiaries, businesses, associates and joint ventures	**(83)**	4	165
Net cash from investing activities	**(35,318)**	(16,646)	65,557
Issue of ordinary share capital and other equity instruments	**—**	6,001	5,196
Cancellation of shares	**(1,000)**	(1,998)	(3,000)
Net sales/(purchases) of own shares for market-making and investment purposes	**141**	133	(67)
Redemption of preference shares and other equity instruments	**—**	(6,078)	—
Subordinated loan capital repaid[3]	**(4,210)**	(4,077)	(3,574)
Dividends paid to shareholders of the parent company and non-controlling interests	**(9,773)**	(10,762)	(9,005)
Net cash from financing activities	**(14,842)**	(16,781)	(10,450)
Net increase/(decrease) in cash and cash equivalents	**(20,417)**	(912)	42,693
Cash and cash equivalents at 1 Jan[4]	**312,911**	323,718	263,324
Exchange differences in respect of cash and cash equivalents	**1,248**	(9,895)	17,701
Cash and cash equivalents at 31 Dec[4, 5]	**293,742**	312,911	323,718
Cash and cash equivalents comprise:			
– cash and balances at central banks	**154,099**	162,843	180,624
– items in the course of collection from other banks	**4,956**	5,787	6,628
– loans and advances to banks of one month or less	**41,626**	39,460	61,973
– reverse repurchase agreements with banks of one month or less	**65,370**	74,702	58,850
– treasury bills, other bills and certificates of deposit less than three months	**20,132**	21,685	11,593
– cash collateral and net settlement accounts	**12,376**	14,075	10,900
– less: items in the course of transmission to other banks	**(4,817)**	(5,641)	(6,850)
Cash and cash equivalents at 31 Dec[4, 5]	**293,742**	312,911	323,718

Interest received was $58,627m (2018: $45,291m; 2017: $41,676m), interest paid was $27,384m (2018: $14,172m; 2017: $10,962m) and dividends received (excluding dividends received from associates, which are presented separately above) were $2,369m (2018: $1,702m; 2017: $2,225m).

1 *The impact of the right-of-use assets recognised under IFRS 16 at the beginning of 2019 is not recognised in 2018 and 2017. This also includes the impact of a $7.3bn goodwill impairment in 2019.*

2 *Adjustment to bring changes between opening and closing balance sheet amounts to average rates. This is not done on a line-by-line basis, as details cannot be determined without unreasonable expense.*

3 *Subordinated liabilities changes during the year are attributable to repayments of $(4.2)bn (2018: $(4.1)bn; 2017: $(3.6)bn) of securities. Non-cash changes during the year included foreign exchange gains/(losses) of $0.6bn (2018: $(0.6)bn; 2017: $(0.6)bn) and fair value gains/(losses) of $1.4bn (2018: $(1.4)bn; 2017: $(1.2)bn).*

4 *In 2019, HSBC included settlement accounts with bank counterparties of one month or less on a net basis. Comparatives have been re-presented and also include the net impact of other cash equivalents not previously included in cash and cash equivalents. The net effect of these changes increased cash and cash equivalents by $11.8bn in 2018 and decreased cash and cash equivalents by $(13.7)bn in 2017.*

5 *At 31 December 2019, $35,735m (2018: $26,282m; 2017: $39,830m) was not available for use by HSBC, of which $19,353m (2018: $19,755m; 2017: $21,424m) related to mandatory deposits at central banks.*

Consolidated statement of changes in equity

for the year ended 31 December

				Other reserves						
	Called up share capital and share premium	Other equity instru-ments	Retained earnings[3,4]	Financial assets at FVOCI reserve	Cash flow hedging reserve	Foreign exchange reserve	Merger and other reserves[4,6]	Total share-holders' equity	Non-controlling interests	Total equity
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2019	**23,789**	**22,367**	**138,191**	**(1,532)**	**(206)**	**(26,133)**	**29,777**	**186,253**	**7,996**	**194,249**
Profit for the year	**–**	**–**	**7,383**	**–**	**–**	**–**	**–**	**7,383**	**1,325**	**8,708**
Other comprehensive income (net of tax)	**–**	**–**	**(1,759)**	**1,424**	**204**	**1,000**	**–**	**869**	**148**	**1,017**
– debt instruments at fair value through other comprehensive income	**–**	**–**	**–**	**1,146**	**–**	**–**	**–**	**1,146**	**6**	**1,152**
– equity instruments designated at fair value through other comprehensive income	**–**	**–**	**–**	**278**	**–**	**–**	**–**	**278**	**88**	**366**
– cash flow hedges	**–**	**–**	**–**	**–**	**204**	**–**	**–**	**204**	**2**	**206**
– changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**–**	**–**	**(2,002)**	**–**	**–**	**–**	**–**	**(2,002)**	**–**	**(2,002)**
– remeasurement of defined benefit asset/liability	**–**	**–**	**5**	**–**	**–**	**–**	**–**	**5**	**8**	**13**
– share of other comprehensive income of associates and joint ventures	**–**	**–**	**21**	**–**	**–**	**–**	**–**	**21**	**–**	**21**
– effects of hyperinflation	**–**	**–**	**217**	**–**	**–**	**–**	**–**	**217**	**–**	**217**
– exchange differences	**–**	**–**	**–**	**–**	**–**	**1,000**	**–**	**1,000**	**44**	**1,044**
Total comprehensive income for the year	**–**	**–**	**5,624**	**1,424**	**204**	**1,000**	**–**	**8,252**	**1,473**	**9,725**
Shares issued under employee remuneration and share plans	**557**	**–**	**(495)**	**–**	**–**	**–**	**–**	**62**	**–**	**62**
Shares issued in lieu of dividends and amounts arising thereon	**–**	**–**	**2,687**	**–**	**–**	**–**	**–**	**2,687**	**–**	**2,687**
Dividends to shareholders	**–**	**–**	**(11,683)**	**–**	**–**	**–**	**–**	**(11,683)**	**(777)**	**(12,460)**
Redemption of securities[2]	**–**	**(1,496)**	**(12)**	**–**	**–**	**–**	**–**	**(1,508)**	**–**	**(1,508)**
Transfers[7]	**–**	**–**	**2,475**	**–**	**–**	**–**	**(2,475)**	**–**	**–**	**–**
Cost of share-based payment arrangements	**–**	**–**	**478**	**–**	**–**	**–**	**–**	**478**	**–**	**478**
Cancellation of shares[9]	**(68)**	**–**	**(1,000)**	**–**	**–**	**–**	**68**	**(1,000)**	**–**	**(1,000)**
Other movements	**–**	**–**	**414**	**–**	**–**	**–**	**–**	**414**	**21**	**435**
At 31 Dec 2019	**24,278**	**20,871**	**136,679**	**(108)**	**(2)**	**(25,133)**	**27,370**	**183,955**	**8,713**	**192,668**

Consolidated statement of changes in equity (continued)

				Other reserves						
	Called up share capital and share premium	Other equity instru-ments	Retained earnings[3,4]	Financial assets at FVOCI reserve[5]	Cash flow hedging reserve	Foreign exchange reserve	Merger and other reserves[4,6]	Total share-holders' equity	Non-controlling interests	Total equity
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 31 Dec 2017	20,337	22,250	139,999	(350)	(222)	(19,072)	27,308	190,250	7,621	197,871
Impact on transition to IFRS 9[10]	—	—	(585)	(1,021)	—	—	—	(1,606)	(41)	(1,647)
At 1 Jan 2018	20,337	22,250	139,414	(1,371)	(222)	(19,072)	27,308	188,644	7,580	196,224
Profit for the year	—	—	13,727	—	—	—	—	13,727	1,298	15,025
Other comprehensive income (net of tax)	—	—	2,765	(245)	16	(7,061)	—	(4,525)	(145)	(4,670)
– debt instruments at fair value through other comprehensive income	—	—	—	(245)	—	—	—	(245)	2	(243)
– equity instruments designated at fair value through other comprehensive income	—	—	—	—	—	—	—	—	(27)	(27)
– cash flow hedges	—	—	—	—	16	—	—	16	3	19
– changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	—	—	2,847	—	—	—	—	2,847	—	2,847
– remeasurement of defined benefit asset/liability	—	—	(301)	—	—	—	—	(301)	(28)	(329)
– share of other comprehensive income of associates and joint ventures	—	—	(64)	—	—	—	—	(64)	—	(64)
– effects of hyperinflation	—	—	283	—	—	—	—	283	—	283
– exchange differences	—	—	—	—	—	(7,061)	—	(7,061)	(95)	(7,156)
Total comprehensive income for the year	—	—	16,492	(245)	16	(7,061)	—	9,202	1,153	10,355
Shares issued under employee remuneration and share plans	721	—	(610)	—	—	—	—	111	—	111
Shares issued in lieu of dividends and amounts arising thereon	—	—	1,494	—	—	—	—	1,494	—	1,494
Capital securities issued[1]	—	5,968	—	—	—	—	—	5,968	—	5,968
Dividends to shareholders	—	—	(11,547)	—	—	—	—	(11,547)	(710)	(12,257)
Redemption of securities[2]	—	(5,851)	(237)	—	—	—	—	(6,088)	—	(6,088)
Transfers[7]	—	—	(2,200)	—	—	—	2,200	—	—	—
Cost of share-based payment arrangements	—	—	450	—	—	—	—	450	—	450
Cancellation of shares[8,9]	2,731	—	(4,998)	—	—	—	269	(1,998)	—	(1,998)
Other movements	—	—	(67)	84	—	—	—	17	(27)	(10)
At 31 Dec 2018	23,789	22,367	138,191	(1,532)	(206)	(26,133)	29,777	186,253	7,996	194,249
At 1 Jan 2017	22,715	17,110	136,795	(477)	(27)	(28,038)	27,308	175,386	7,192	182,578
Profit for the year	—	—	10,798	—	—	—	—	10,798	1,081	11,879
Other comprehensive income (net of tax)	—	—	328	131	(194)	8,966	—	9,231	152	9,383
– available-for-sale investments	—	—	—	131	—	—	—	131	15	146
– cash flow hedges	—	—	—	—	(194)	—	—	(194)	2	(192)
– changes in fair value of financial liabilities designated at fair value due to movement in own credit risk	—	—	(2,024)	—	—	—	—	(2,024)	—	(2,024)
– remeasurement of defined benefit asset/liability	—	—	2,395	—	—	—	—	2,395	24	2,419
– share of other comprehensive income of associates and joint ventures	—	—	(43)	—	—	—	—	(43)	—	(43)
– exchange differences	—	—	—	—	—	8,966	—	8,966	111	9,077
Total comprehensive income for the year	—	—	11,126	131	(194)	8,966	—	20,029	1,233	21,262
Shares issued under employee remuneration and share plans	622	—	(566)	—	—	—	—	56	—	56
Shares issued in lieu of dividends and amounts arising thereon	—	—	3,206	—	—	—	—	3,206	—	3,206
Capital securities issued[1]	—	5,140	—	—	—	—	—	5,140	—	5,140
Dividends to shareholders	—	—	(11,551)	—	—	—	—	(11,551)	(660)	(12,211)
Cost of share-based payment arrangements	—	—	500	—	—	—	—	500	—	500
Cancellation of shares[9]	(3,000)	—	—	—	—	—	—	(3,000)	—	(3,000)
Other movements	—	—	489	(4)	(1)	—	—	484	(144)	340
At 31 Dec 2017	20,337	22,250	139,999	(350)	(222)	(19,072)	27,308	190,250	7,621	197,871

1 *In 2018, HSBC Holdings issued $4,150m, £1,000m and SGD750m of perpetual subordinated contingent convertible capital securities on which there were $60m of external issuance costs, $49m of intra-Group issuance costs and $11m of tax benefits. In 2017, HSBC Holdings issued $3,000m, SGD1,000m and €1,250m of perpetual subordinated contingent convertible capital securities, on which there were $14m of external issuance costs, $37m of intra-Group issuance costs and $10m of tax benefits. Under IFRSs these issuance costs and tax benefits are classified as equity.*

2 *During 2019, HSBC Holdings redeemed $1,500m 5.625% perpetual subordinated capital securities on which there were $12m of external issuance costs. In 2018, HSBC Holdings redeemed $2,200m 8.125% perpetual subordinated capital securities and its $3,800m 8.000% perpetual subordinated capital securities, Series 2, on which there were $172m of external issuance costs and $23m of intra-Group issuance costs wound down. Under IFRSs external issuance costs are classified as equity.*

3 *At 31 December 2019, retained earnings included 432,108,782 treasury shares (2018: 379,926,645; 2017: 360,590,019). In addition, treasury shares are also held within HSBC's Insurance business retirement funds for the benefit of policyholders or beneficiaries within employee trusts for the settlement of shares expected to be delivered under employee share schemes or bonus plans, and the market-making activities in Global Markets.*

4 *Cumulative goodwill amounting to $5,138m has been charged against reserves in respect of acquisitions of subsidiaries prior to 1 January 1998, including $3,469m charged against the merger reserve arising on the acquisition of HSBC Bank plc. The balance of $1,669m has been charged against retained earnings.*

5 *The $350m at 31 December 2017 represents the IAS 39 available-for-sale fair value reserve as at 31 December 2017.*

6 *Statutory share premium relief under section 131 of the Companies Act 1985 (the 'Act') was taken in respect of the acquisition of HSBC Bank plc in 1992, HSBC France in 2000 and HSBC Finance Corporation in 2003, and the shares issued were recorded at their nominal value only. In HSBC's consolidated financial statements, the fair value differences of $8,290m in respect of HSBC France and $12,768m in respect of HSBC Finance Corporation were recognised in the merger reserve. The merger reserve created on the acquisition of HSBC Finance Corporation subsequently became attached to HSBC Overseas Holdings (UK) Limited ('HOHU'), following a number of intra-Group reorganisations. During 2009, pursuant to section 131 of the Companies Act 1985, statutory share premium relief was taken in respect of the rights issue and $15,796m was recognised in the merger reserve.*

7 *Permitted transfers from the merger reserve to retained earnings were made when the investment in HSBC Overseas Holdings (UK) Limited was previously impaired. In 2018, a part reversal of this impairment resulted in a transfer from retained earnings back to the merger reserve of $2,200m. At 31 December 2019, an additional impairment of $2,475m was recognised and a permitted transfer of this amount was made from the merger reserve to retained earnings.*

8 *This includes a re-presentation of the cancellation of shares to retained earnings and capital redemption reserve in respect of the 2017 share buy-back, under which retained earnings have been reduced by $3,000m, called up capital and share premium increased by $2,836m and other reserves increased by $164m.*

9 *For further details, refer to Note 31 in the* Annual Report and Accounts 2019. *In August 2019, HSBC announced a share buy-back of up to $1.0bn, which was completed in September 2019. In May 2018, HSBC announced a share buy-back of up to $2.0bn, which was completed in August 2018. In February 2017, HSBC announced a share buy-back of up to $1.0bn, which was completed in April 2017. In July 2017, HSBC announced a share buy-back of up to $2.0bn, which was completed in November 2017. Shares bought back from these buy-back programmes have been cancelled.*

10 *The impact of transitioning to IFRS 9 at 1 January 2018 on the consolidated financial statements of HSBC was a decrease in net assets of $1.6bn, arising from a decrease of $2.2bn from additional impairment allowances, a decrease of $0.9bn from our associates reducing their net assets, an increase of $1.1bn from the remeasurement of financial assets and liabilities as a consequence of classification changes and an increase in net deferred tax assets of $0.4bn.*

HSBC Holdings income statement

for the year ended 31 December

	Notes*	2019 $m	2018 $m	2017 $m
Net interest expense		**(2,554)**	(1,112)	(383)
– interest income		**1,249**	2,193	2,185
– interest expense		**(3,803)**	(3,305)	(2,568)
Fee (expense)/income		**(2)**	0	2
Net income from financial instruments held for trading or managed on a fair value basis	3	**1,477**	245	(181)
Changes in fair value of designated debt and related derivatives[1]	3	**(360)**	(77)	103
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	3	**1,659**	43	–
Gains less losses from financial investments		**–**	4	154
Dividend income from subsidiaries[2]		**15,117**	55,304	10,039
Other operating income		**1,293**	960	769
Total operating income		**16,630**	55,367	10,503
Employee compensation and benefits	5	**(37)**	(37)	(54)
General and administrative expenses		**(4,772)**	(4,507)	(4,911)
Reversal of impairment/(impairment) of subsidiaries[3]		**(2,562)**	2,064	(63)
Total operating expenses		**(7,371)**	(2,480)	(5,028)
Profit before tax		**9,259**	52,887	5,475
Tax (charge)/credit		**(218)**	(62)	64
Profit for the year		**9,041**	52,825	5,539

* *For Notes on the financial statements, see page 271.*

1 *The debt instruments, issued for funding purposes, are designated under the fair value option to reduce an accounting mismatch.*

2 *The 2018 year included $44,893m (2019: nil) return on capital from HSBC Finance (Netherlands) resulting from restructuring the Group's Asia operation to meet resolution and recovery requirements.*

3 *The 2019 year includes $2,475m impairment of HSBC Overseas Holdings (UK) Limited (2018: reversal of $2,200m).*

HSBC Holdings statement of comprehensive income

for the year ended 31 December

	2019 $m	2018 $m	2017 $m
Profit for the year	**9,041**	52,825	5,539
Other comprehensive income/(expense)			
Items that will be reclassified subsequently to profit or loss when specific conditions are met:			
Financial investments in HSBC undertakings	**–**	–	(53)
– fair value gains/(losses)	**–**	–	(70)
– income taxes	**–**	–	17
Items that will not be reclassified subsequently to profit or loss:			
Changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**(396)**	865	(828)
– before income taxes	**(573)**	1,090	(1,007)
– income taxes	**177**	(225)	179
Other comprehensive (expense)/income for the year, net of tax	**(396)**	865	(881)
Total comprehensive income for the year	**8,645**	53,690	4,658

HSBC Holdings balance sheet

	Notes*	31 Dec 2019 $m	31 Dec 2018 $m
Assets			
Cash and balances with HSBC undertakings		**2,382**	3,509
Financial assets with HSBC undertakings designated and otherwise mandatorily measured at fair value		**61,964**	23,513
Derivatives	15	**2,002**	707
Loans and advances to HSBC undertakings		**10,218**	56,144
Financial investments		**16,106**	—
Prepayments, accrued income and other assets		**559**	126
Current tax assets		**203**	594
Investments in subsidiaries[1]		**161,473**	160,231
Intangible assets		**333**	357
Deferred tax assets		**—**	—
Total assets at 31 Dec		**255,240**	245,181
Liabilities and equity			
Liabilities			
Amounts owed to HSBC undertakings		**464**	949
Financial liabilities designated at fair value	24	**30,303**	25,049
Derivatives	15	**2,021**	2,159
Debt securities in issue	25	**56,844**	50,800
Accruals, deferred income and other liabilities		**1,915**	994
Subordinated liabilities	28	**18,361**	17,715
Deferred tax liabilities		**288**	162
Total liabilities		**110,196**	97,828
Equity			
Called up share capital	31	**10,319**	10,180
Share premium account		**13,959**	13,609
Other equity instruments		**20,743**	22,231
Other reserves		**37,539**	39,899
Retained earnings		**62,484**	61,434
Total equity		**145,044**	147,353
Total liabilities and equity at 31 Dec		**255,240**	245,181

* *For Notes on the financial statements, see page 271.*
1 *The 2018 year included $56,587m (2019: nil) capital injection to HSBC Asia Holdings Limited.*

The accompanying notes on pages 271 to 353 and the audited sections in: 'Global businesses and geographical regions' on pages 68 to 84, 'Risk' on pages 95 to 187, 'Capital' on pages 188 to 191 and 'Directors' remuneration report' on pages 220 to 247 form an integral part of these financial statements.

These financial statements were approved by the Board of Directors on 18 February 2020 and signed on its behalf by:

Mark E Tucker
Group Chairman

Ewen Stevenson
Group Chief Financial Officer

HSBC Holdings statement of cash flows

for the year ended 31 December

	2019	2018	2017
	$m	$m	$m
Profit before tax	**9,259**	52,887	5,475
Adjustments for non-cash items	**2,657**	(46,878)	(17)
– depreciation, amortisation and impairment/expected credit losses	**72**	70	33
– share-based payment expense	**1**	—	(2)
– other non-cash items included in profit before tax[1]	**2,584**	(46,948)	(48)
Changes in operating assets and liabilities			
Change in loans to HSBC undertakings	**41,471**	7,293	(1,122)
Change in financial assets with HSBC undertakings designated and otherwise mandatorily measured at fair value	**(38,451)**	(7,305)	(11,944)
Change in financial investments in HSBC undertakings	**—**	—	(1,775)
Change in net trading securities and net derivatives	**(1,433)**	758	(2,183)
Change in other assets	**(437)**	231	134
Change in financial investments	**(70)**	—	—
Change in debt securities in issue	**1,899**	(1,094)	1,020
Change in financial liabilities designated at fair value	**1,227**	(740)	954
Change in other liabilities	**437**	(1,883)	721
Tax received	**459**	301	443
Net cash from operating activities	**17,018**	3,570	(8,294)
Purchase of financial investments	**(19,293)**	—	—
Proceeds from the sale and maturity of financial investments	**6,755**	—	1,165
Net cash outflow from acquisition of or increase in stake of subsidiaries	**(3,721)**	(8,992)	(89)
Repayment of capital from subsidiaries	**—**	3,627	4,070
Net investment in intangible assets	**(44)**	(121)	(150)
Net cash from investing activities	**(16,303)**	(5,486)	4,996
Issue of ordinary share capital and other equity instruments	**500**	6,652	5,647
Redemption of other equity instruments	**—**	(6,093)	—
Purchase of treasury shares	**—**	—	—
Cancellation of shares	**(1,006)**	(1,998)	(3,000)
Subordinated loan capital issued	**—**	—	—
Subordinated loan capital repaid	**(4,107)**	(1,972)	(1,184)
Debt securities issued	**10,817**	19,513	11,433
Debt securities repaid	**—**	(1,025)	—
Dividends paid on ordinary shares	**(7,582)**	(8,693)	(6,987)
Dividends paid to holders of other equity instruments	**(1,414)**	(1,360)	(1,359)
Net cash from financing activities	**(2,792)**	5,024	4,550
Net increase/(decrease) in cash and cash equivalents	**(2,077)**	3,108	1,252
Cash and cash equivalents at 1 January	**8,057**	4,949	3,697
Cash and cash equivalents at 31 Dec[2]	**5,980**	8,057	4,949
Cash and cash equivalents comprise:			
– cash at bank with HSBC undertakings	**2,382**	3,509	1,985
– loans and advances to banks of one month or less	**102**	4,548	2,964
– treasury and other eligible bills	**3,496**	—	—

Interest received was $2,216m (2018: $2,116m; 2017: $2,103m), interest paid was $3,819m (2018: $3,379m; 2017: $2,443m) and dividends received were $15,117m (2018: $10,411m; 2017: $10,039m).

1 *The 2018 year included $44,893m (2019: nil) return on capital from HSBC Finance (Netherlands) resulting from restructuring the Group's Asia operation to meet resolution and recovery requirements.*

2 *In 2019, HSBC included settlement accounts with bank counterparties of one month or less on a net basis. Comparatives have been re-presented and also include other cash equivalents not included in 2018 cash and cash equivalents. The net effect of these changes increased cash and cash equivalents by $1,548m in 2018 and had no impact in 2017.*

HSBC Holdings statement of changes in equity

for the year ended 31 December

	Called up share capital	Share premium	Other equity instruments	Retained earnings[1,2]	Other reserves: Financial assets at FVOCI reserve	Other reserves: Merger and other reserves[2]	Total shareholders' equity
	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2019	**10,180**	**13,609**	**22,231**	**61,434**	**—**	**39,899**	**147,353**
Profit for the year	**—**	**—**	**—**	**9,041**	**—**	**—**	**9,041**
Other comprehensive income (net of tax)	**—**	**—**	**—**	**(396)**	**—**	**—**	**(396)**
– changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**—**	**—**	**—**	**(396)**	**—**	**—**	**(396)**
Total comprehensive income for the year	**—**	**—**	**—**	**8,645**	**—**	**—**	**8,645**
Shares issued under employee share plans	**36**	**521**	**—**	**(56)**	**—**	**—**	**501**
Shares issued in lieu of dividends and amounts arising thereon	**171**	**(171)**	**—**	**2,687**	**—**	**—**	**2,687**
Cancellation of shares[3]	**(68)**	**—**	**—**	**(1,000)**	**—**	**68**	**(1,000)**
Capital securities issued	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Dividends to shareholders	**—**	**—**	**—**	**(11,683)**	**—**	**—**	**(11,683)**
Redemption of capital securities	**—**	**—**	**(1,488)**	**(20)**	**—**	**—**	**(1,508)**
Transfers[5]	**—**	**—**	**—**	**2,475**	**—**	**(2,475)**	–
Other movements	**—**	**—**	**—**	**2**	**—**	**47**	**49**
At 31 Dec 2019	**10,319**	**13,959**	**20,743**	**62,484**	**—**	**37,539**	**145,044**
At 31 Dec 2017	10,160	10,177	22,107	23,903	59	37,381	103,787
Impact on transition to IFRS 9	—	—	—	949	(59)	—	890
At 1 Jan 2018	10,160	10,177	22,107	24,852	—	37,381	104,677
Profit for the year	—	—	—	52,825	—	—	52,825
Other comprehensive income (net of tax)	—	—	—	865	—	—	865
– changes in fair value of financial liabilities designated at fair value due to movement in own credit risk	—	—	—	865	—	—	865
Total comprehensive income for the year	—	—	—	53,690	—	—	53,690
Shares issued under employee share plans	42	679	—	—	—	—	721
Shares issued in lieu of dividends and amounts arising thereon	83	(83)	—	1,494	—	—	1,494
Cancellation of shares[4]	(105)	2,836	—	(4,998)	—	269	(1,998)
Capital securities issued	—	—	5,967	—	—	—	5,967
Dividends to shareholders	—	—	—	(11,547)	—	—	(11,547)
Redemption of capital securities	—	—	(5,843)	(236)	—	—	(6,079)
Transfers[5]	—	—	—	(2,200)	—	2,200	–
Other movements	—	—	—	379	—	49	428
At 31 Dec 2018	10,180	13,609	22,231	61,434	—	39,899	147,353
At 1 Jan 2017	10,096	12,619	17,004	27,656	112	37,371	104,858
Profit for the year	—	—	—	5,539	—	—	5,539
Other comprehensive income (net of tax)	—	—	—	(828)	(53)	—	(881)
– available-for-sale investments	—	—	—	—	(53)	—	(53)
– changes in fair value of financial liabilities designated at fair value due to movement in own credit risk	—	—	—	(828)	—	—	(828)
Total comprehensive income for the year	—	—	—	4,711	(53)	—	4,658
Shares issued under employee share plans	38	584	—	(52)	—	—	570
Shares issued in lieu of dividends and amounts arising thereon	190	(190)	—	3,205	—	—	3,205
Cancellation of shares	(164)	(2,836)	—	—	—	—	(3,000)
Capital securities issued	—	—	5,103	—	—	—	5,103
Dividends to shareholders	—	—	—	(11,551)	—	—	(11,551)
Cost of share-based payment arrangements	—	—	—	(2)	—	—	(2)
Other movements	—	—	—	(64)	—	10	(54)
At 31 Dec 2017	10,160	10,177	22,107	23,903	59	37,381	103,787

Dividends per ordinary share at 31 December 2019 were $0.51 (2018: $0.51; 2017: $0.51).

1 *At 31 December 2019, retained earnings included 326,191,804 ($2,543m) of treasury shares (2018: 326,503,319 ($2,546m); 2017: 326,843,840 ($2,542m)).*
2 *HSBC Holdings distributable reserves at 31 December 2019 of $31,656m (2018: $30,705m) represents realised profits for the year included in retained earnings of $11,516m (2018: $14,974m) and in merger reserve of $15,731m (2018: $15,731m). The distributable reserves are lower than retained earnings of $62,484m (2018: $61,434m). In 2018, $44,893m (2019: nil) represented income generated from restructuring the Group's Asia operation to meet resolution and recovery requirements, which does not form part of distributable reserves.*
3 *In August 2019, HSBC announced a share buy-back of up to $1.0bn, which was completed in September 2019.*
4 *The 2018 year included a re-presentation of the cancellation of shares to retained earnings and capital redemption reserve in respect of the 2017 share buy-back, under which retained earnings has been reduced by $3,000m, share premium increased by $2,836m and other reserves increased by $164m.*
5 *Permitted transfers from the merger reserve to retained earnings were made when the investment in HSBC Overseas Holdings (UK) Limited was previously impaired. In 2018, a part reversal of this impairment resulted in a transfer from retained earnings back to the merger reserve of $2,200m. At 31 December 2019, an additional impairment of $2,475m was recognised and a permitted transfer of this amount was made from the merger reserve to retained earnings.*

Notes on the financial statements

1 Basis of preparation and significant accounting policies

1.1 Basis of preparation

(a) Compliance with International Financial Reporting Standards

The consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings have been prepared in accordance with International Financial Reporting Standards ('IFRSs') as issued by the International Accounting Standards Board ('IASB'), including interpretations issued by the IFRS Interpretations Committee, and as endorsed by the European Union ('EU'). Interest Rate Benchmark Reform: Amendments to IFRS 9 and IAS 39 'Financial Instruments', was endorsed in January 2020 and has been early adopted as set out below. Therefore, there were no unendorsed standards effective for the year ended 31 December 2019 affecting these consolidated and separate financial statements, and HSBC's application of IFRSs results in no differences between IFRSs as issued by the IASB and IFRSs as endorsed by the EU.

Standards adopted during the year ended 31 December 2019

IFRS 16 'Leases'

On 1 January 2019, we adopted the requirements of IFRS 16 retrospectively. The cumulative effect of initially applying the standard was recognised as an adjustment to the opening balance of retained earnings at that date. Comparatives were not restated. The adoption of the standard increased assets by $5bn and increased financial liabilities by the same amount with no effect on net assets or retained earnings.

On adoption of IFRS 16, we recognised lease liabilities in relation to leases that had previously been classified as 'operating leases' in accordance with IAS 17 'Leases'. These liabilities were recognised in 'other liabilities' and measured at the present value of the remaining lease payments, discounted at the lessee's incremental borrowing rate at 1 January 2019. The associated right of use ('ROU') assets were recognised in 'other assets' and measured at the amount equal to the lease liability, adjusted by the amount of any prepaid or accrued lease payments or provisions for onerous leases recognised on the balance sheet at 31 December 2018. In addition, the following practical expedients permitted by the standard were applied:

- reliance was placed on previous assessments on whether leases were onerous;
- operating leases with a remaining lease term of less than 12 months at 1 January 2019 were treated as short-term leases; and
- initial direct costs were not included in the measurement of ROU assets for leases previously accounted for as operating leases.

The differences between IAS 17 and IFRS 16 are summarised in the table below:

IAS 17	IFRS 16
Leases were classified as either finance or operating leases. Payments made under operating leases were charged to profit or loss on a straight-line basis over the period of the lease.	Leases are recognised as an ROU asset and a corresponding liability at the date at which the leased asset is made available for use. Lease payments are allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease term so as to produce a constant period rate of interest on the remaining balance of the liability. The ROU asset is depreciated over the shorter of the ROU asset's useful economic life and the lease term on a straight-line basis. In determining the lease term, we consider all facts and circumstances that create an economic incentive to exercise an extension option or not exercise a termination option over the planning horizon of five years. In general, it is not expected that the discount rate implicit in the lease is available so the lessee's incremental borrowing rate is used. This is the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of a similar value in a similar economic environment with similar terms and conditions. The rates are determined for each economic environment in which we operate and for each term by adjusting swap rates with funding spreads (own credit spread) and cross-currency basis where appropriate.

Interest Rate Benchmark Reform: Amendments to IFRS 9 and IAS 39 'Financial Instruments'

Amendments to IFRS 9 and IAS 39 issued in September 2019 modify specific hedge accounting requirements so that entities apply those hedge accounting requirements assuming that the interest rate benchmark on which the hedged cash flows and cash flows of the hedging instrument are based is not altered as a result of interest rate benchmark reform. These amendments replace the need for specific judgements to determine whether certain hedge accounting relationships that hedge the variability of cash flows or interest rate risk exposures for periods after the interest rate benchmarks are expected to be reformed or replaced continue to qualify for hedge accounting as at 31 December 2019. For example, in the context of cash flow hedging, the amendments require the interest rate benchmark on which the hedged cash flows are based, or on which the cash flows of the hedging instrument are based, to be assumed to be unaltered over the period of the documented hedge relationship, while uncertainty over the interest rate benchmark reform exists. The IASB is expected to provide further guidance on the implication for hedge accounting during the reform process and after the reform uncertainty is resolved.

These amendments apply from 1 January 2020 with early adoption permitted. HSBC has adopted the amendments that apply to IAS 39 from 1 January 2019 and has made the additional disclosures as required by the amendments. Further information is included in Note 15.

Amendment to IAS 12 'Income Taxes' and other changes

An amendment to IAS 12 was issued in December 2017 as part of the annual improvement cycle. The amendment clarifies that an entity should recognise the tax consequences of dividends where the transactions or events that generated the distributable profits are recognised. This amendment was applied on 1 January 2019 and had no material impact. Comparatives have not been restated.

In addition, HSBC has adopted a number of interpretations and amendments to standards, which have had an insignificant effect on the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings. In 2018, HSBC adopted IFRS 9 and made voluntary presentation changes, including to certain financial liabilities, which contain both deposit and derivative components, and to cash collateral, margin and settlement accounts. The impact of this is included in the HSBC Holdings statement of changes in equity for that year end and 2017 comparatives were not restated.

(b) Differences between IFRSs and Hong Kong Financial Reporting Standards

There are no significant differences between IFRSs and Hong Kong Financial Reporting Standards in terms of their application to HSBC, and consequently there would be no significant differences had the financial statements been prepared in accordance with Hong Kong Financial Reporting Standards. The 'Notes on the financial statements', taken together with the 'Report of the Directors', include the aggregate of all disclosures necessary to satisfy IFRSs and Hong Kong reporting requirements.

(c) Future accounting developments

Minor amendments to IFRSs

The IASB has published a number of minor amendments to IFRSs that are effective from 1 January 2020, some of which have been endorsed for use in the EU. HSBC expects they will have an insignificant effect, when adopted, on the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings.

Major new IFRSs

IFRS 17 'Insurance Contracts'

IFRS 17 'Insurance Contracts' was issued in May 2017 and sets out the requirements that an entity should apply in accounting for insurance contracts it issues and reinsurance contracts it holds. IFRS 17 is currently effective from 1 January 2021. However, the IASB is considering delaying the mandatory implementation date by one year and may make additional changes to the standard. The Group is in the process of implementing IFRS 17. Industry practice and interpretation of the standard are still developing and there may be changes to it. Therefore the likely impact of its implementation remains uncertain.

(d) Foreign currencies

HSBC's consolidated financial statements are presented in US dollars because the US dollar and currencies linked to it form the major currency bloc in which HSBC transacts and funds its business. The US dollar is also HSBC Holdings' functional currency because the US dollar and currencies linked to it are the most significant currencies relevant to the underlying transactions, events and conditions of its subsidiaries, as well as representing a significant proportion of its funds generated from financing activities.

Transactions in foreign currencies are recorded at the rate of exchange on the date of the transaction. Assets and liabilities denominated in foreign currencies are translated at the rate of exchange at the balance sheet date, except non-monetary assets and liabilities measured at historical cost, which are translated using the rate of exchange at the initial transaction date. Exchange differences are included in other comprehensive income or in the income statement depending on where the gain or loss on the underlying item is recognised.

In the consolidated financial statements, the assets, liabilities and results of foreign operations, whose functional currency is not US dollars, are translated into the Group's presentation currency at the reporting date. Exchange differences arising are recognised in other comprehensive income. On disposal of a foreign operation, exchange differences previously recognised in other comprehensive income are reclassified to the income statement.

(e) Presentation of information

Certain disclosures required by IFRSs have been included in the sections marked as ('Audited') in this *Annual Report and Accounts 2019* as follows:

- disclosures concerning the nature and extent of risks relating to insurance contracts and financial instruments are included in the 'Report of the Directors: Risk' on pages 95 to 187;
- the 'Own funds disclosure' included in the 'Report of the Directors: Capital' on pages 188 to 191; and
- disclosures relating to HSBC's securitisation activities and structured products are included in the 'Report of the Directors: Risk' on pages 95 to 187.

In accordance with the policy to provide disclosures that help investors and other stakeholders understand the Group's performance, financial position and changes to them, the information provided in the 'Notes on the financial statements' and the 'Report of the Directors' goes beyond the minimum levels required by accounting standards, statutory and regulatory requirements and listing rules.

In addition, HSBC follows the UK Finance Disclosure Code ('the UKF Disclosure Code'). The UKF Disclosure Code aims to increase the quality and comparability of UK banks' disclosures and sets out five disclosure principles together with supporting guidance agreed in 2010. In line with the principles of the UKF Disclosure Code, HSBC assesses good practice recommendations issued from time to time by relevant regulators and standard setters, and will assess the applicability and relevance of such guidance, enhancing disclosures where appropriate.

(f) Critical accounting estimates and judgements

The preparation of financial information requires the use of estimates and judgements about future conditions. In view of the inherent uncertainties and the high level of subjectivity involved in the recognition or measurement of items, highlighted as the 'critical accounting estimates and judgements' in section 1.2 below, it is possible that the outcomes in the next financial year could differ from those on which management's estimates are based. This could result in materially different estimates and judgements from those reached by management for the purposes of these financial statements. Management's selection of HSBC's accounting policies that contain critical estimates and judgements reflects the materiality of the items to which the policies are applied and the high degree of judgement and estimation uncertainty involved.

(g) Segmental analysis

HSBC's Chief Operating Decision Maker is the Group Chief Executive, who is supported by the rest of the Group Management Board ('GMB'), which operates as a general management committee under the direct authority of the Board. Operating segments are reported in a manner consistent with the internal reporting provided to the Group Chief Executive and the GMB.

Measurement of segmental assets, liabilities, income and expenses is in accordance with the Group's accounting policies. Segmental income and expenses include transfers between segments, and these transfers are conducted at arm's length. Shared costs are included in segments on the basis of the actual recharges made.

(h) Going concern

The financial statements are prepared on a going concern basis, as the Directors are satisfied that the Group and parent company have the resources to continue in business for the foreseeable future. In making this assessment, the Directors have considered a wide range of information relating to present and future conditions, including future projections of profitability, cash flows and capital resources.

1.2 Summary of significant accounting policies

(a) Consolidation and related policies

Investments in subsidiaries

Where an entity is governed by voting rights, HSBC consolidates when it holds – directly or indirectly – the necessary voting rights to pass resolutions by the governing body. In all other cases, the assessment of control is more complex and requires judgement of other factors, including having exposure to variability of returns, power to direct relevant activities, and whether power is held as agent or principal.

Business combinations are accounted for using the acquisition method. The amount of non-controlling interest is measured either at fair value or at the non-controlling interest's proportionate share of the acquiree's identifiable net assets. This election is made for each business combination.

HSBC Holdings' investments in subsidiaries are stated at cost less impairment losses.

Goodwill

Goodwill is allocated to cash-generating units ('CGUs') for the purpose of impairment testing, which is undertaken at the lowest level at which goodwill is monitored for internal management purposes. HSBC's CGUs are based on geographical regions subdivided by global business, except for Global Banking and Markets, for which goodwill is monitored on a global basis.

Impairment testing is performed at least once a year, or whenever there is an indication of impairment, by comparing the recoverable amount of a CGU with its carrying amount.

Goodwill is included in a disposal group if the disposal group is a CGU to which goodwill has been allocated or it is an operation within such a CGU. The amount of goodwill included in a disposal group is measured on the basis of the relative values of the operation disposed of and the portion of the CGU retained.

Critical accounting estimates and judgements

The review of goodwill for impairment reflects management's best estimate of the future cash flows of the CGUs and the rates used to discount these cash flows, both of which are subject to uncertain factors as follows:

Judgements	Estimates
• The accuracy of forecast cash flows is subject to a high degree of uncertainty in volatile market conditions. Where such circumstances are determined to exist, management re-tests goodwill for impairment more frequently than once a year when indicators of impairment exist. This ensures that the assumptions on which the cash flow forecasts are based continue to reflect current market conditions and management's best estimate of future business prospects	• The future cash flows of the CGUs are sensitive to the cash flows projected for the periods for which detailed forecasts are available and to assumptions regarding the long-term pattern of sustainable cash flows thereafter. Forecasts are compared with actual performance and verifiable economic data, but they reflect management's view of future business prospects at the time of the assessment • The rates used to discount future expected cash flows can have a significant effect on their valuation, and are based on the costs of capital assigned to individual CGUs. The cost of capital percentage is generally derived from a capital asset pricing model, which incorporates inputs reflecting a number of financial and economic variables, including the risk-free interest rate in the country concerned and a premium for the risk of the business being evaluated. These variables are subject to fluctuations in external market rates and economic conditions beyond management's control • Key assumptions used in estimating goodwill impairment are described in Note 21

HSBC sponsored structured entities

HSBC is considered to sponsor another entity if, in addition to ongoing involvement with the entity, it had a key role in establishing that entity or in bringing together relevant counterparties so the transaction that is the purpose of the entity could occur. HSBC is generally not considered a sponsor if the only involvement with the entity is merely administrative.

Interests in associates and joint arrangements

Joint arrangements are investments in which HSBC, together with one or more parties, has joint control. Depending on HSBC's rights and obligations, the joint arrangement is classified as either a joint operation or a joint venture. HSBC classifies investments in entities over which it has significant influence, and that are neither subsidiaries nor joint arrangements, as associates.

HSBC recognises its share of the assets, liabilities and results in a joint operation. Investments in associates and interests in joint ventures are recognised using the equity method. The attributable share of the results and reserves of joint ventures and associates is included in the consolidated financial statements of HSBC based on either financial statements made up to 31 December or pro-rated amounts adjusted for any material transactions or events occurring between the date the financial statements are available and 31 December.

Investments in associates and joint ventures are assessed at each reporting date and tested for impairment when there is an indication that the investment may be impaired. Goodwill on acquisitions of interests in joint ventures and associates is not tested separately for impairment, but is assessed as part of the carrying amount of the investment.

Critical accounting estimates and judgements

The most significant critical accounting judgements and estimates relate to the assessment of impairment of our investment in Bank of Communications Co. Limited ('BoCom'), which involves estimations of value in use:

Judgements	Estimates
	• Management's best estimate of BoCom's earnings are based on management's explicit forecasts over the short to medium term and the capital maintenance charge, which is management's forecast of the earnings that need to be withheld in order for BoCom to meet regulatory requirements over the forecast period, both of which are subject to uncertain factors • Key assumptions used in estimating BoCom's value in use, the sensitivity of the value in use calculations to different assumptions and a sensitivity analysis that shows the changes in key assumptions that would reduce the excess of value in use over the carrying amount (the 'headroom') to nil are described in Note 18

(b) Income and expense

Operating income

Interest income and expense

Interest income and expense for all financial instruments, excluding those classified as held for trading or designated at fair value, are recognised in 'Interest income' and 'Interest expense' in the income statement using the effective interest method. However, as an exception to this, interest on debt instruments issued by HSBC for funding purposes that are designated under the fair value option to reduce an accounting mismatch and on derivatives managed in conjunction with those debt instruments is included in interest expense.

Interest on credit-impaired financial assets is recognised using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss.

Non-interest income and expense

HSBC generates fee income from services provided at a fixed price over time, such as account service and card fees, or when HSBC delivers a specific transaction at a point in time, such as broking services and import/export services. With the exception of certain fund management and performance fees, all other fees are generated at a fixed price. Fund management and performance fees can be variable depending on the size of the customer portfolio and HSBC's performance as fund manager. Variable fees are recognised when all uncertainties are resolved. Fee income is generally earned from short-term contracts with payment terms that do not include a significant financing component.

HSBC acts as principal in the majority of contracts with customers, with the exception of broking services. For most brokerage trades, HSBC acts as agent in the transaction and recognises broking income net of fees payable to other parties in the arrangement.

HSBC recognises fees earned on transaction-based arrangements at a point in time when it has fully provided the service to the customer. Where the contract requires services to be provided over time, income is recognised on a systematic basis over the life of the agreement.

Where HSBC offers a package of services that contains multiple non-distinct performance obligations, such as those included in account service packages, the promised services are treated as a single performance obligation. If a package of services contains distinct performance obligations, such as those including both account and insurance services, the corresponding transaction price is allocated to each performance obligation based on the estimated stand-alone selling prices.

Dividend income is recognised when the right to receive payment is established. This is the ex-dividend date for listed equity securities, and usually the date when shareholders approve the dividend for unlisted equity securities.

Net income/(expense) from financial instruments measured at fair value through profit or loss includes the following:

- 'Net income from financial instruments held for trading or managed on a fair value basis': This comprises net trading income, which includes all gains and losses from changes in the fair value of financial assets and financial liabilities held for trading and other financial instruments managed on a fair value basis, together with the related interest income, expense and dividends, excluding the effect of changes in the credit risk of liabilities managed on a fair value basis. It also includes all gains and losses from changes in the fair value of derivatives that are managed in conjunction with financial assets and liabilities measured at fair value through profit or loss.
- 'Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss': This includes interest income, interest expense and dividend income in respect of financial assets and liabilities measured at fair value through profit or loss; and those derivatives managed in conjunction with the above that can be separately identifiable from other trading derivatives.
- 'Changes in fair value of designated debt instruments and related derivatives': Interest paid on debt instruments and interest cash flows on related derivatives is presented in interest expense where doing so reduces an accounting mismatch.

- 'Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss': This includes interest on instruments that fail the solely payments of principal and interest test, see (d) below.

The accounting policies for insurance premium income are disclosed in Note 1.2(j).

(c) Valuation of financial instruments

All financial instruments are initially recognised at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value of a financial instrument on initial recognition is generally its transaction price (that is, the fair value of the consideration given or received). However, if there is a difference between the transaction price and the fair value of financial instruments whose fair value is based on a quoted price in an active market or a valuation technique that uses only data from observable markets, HSBC recognises the difference as a trading gain or loss at inception (a 'day 1 gain or loss'). In all other cases, the entire day 1 gain or loss is deferred and recognised in the income statement over the life of the transaction until the transaction matures, is closed out, the valuation inputs become observable or HSBC enters into an offsetting transaction.

The fair value of financial instruments is generally measured on an individual basis. However, in cases where HSBC manages a group of financial assets and liabilities according to its net market or credit risk exposure, the fair value of the group of financial instruments is measured on a net basis but the underlying financial assets and liabilities are presented separately in the financial statements, unless they satisfy the IFRS offsetting criteria.

Critical accounting estimates and judgements

The majority of valuation techniques employ only observable market data. However, certain financial instruments are classified on the basis of valuation techniques that feature one or more significant market inputs that are unobservable, and for them, the measurement of fair value is more judgemental:

Judgements	Estimates
• An instrument in its entirety is classified as valued using significant unobservable inputs if, in the opinion of management, a significant proportion of the instrument's inception profit or greater than 5% of the instrument's valuation is driven by unobservable inputs • 'Unobservable' in this context means that there is little or no current market data available from which to determine the price at which an arm's length transaction would be likely to occur. It generally does not mean that there is no data available at all upon which to base a determination of fair value (consensus pricing data may, for example, be used)	• Details on the Group's level 3 financial instruments and the sensitivity of their valuation to the effect of applying reasonable possible alternative assumptions in determining their fair value are set out in Note 12

(d) Financial instruments measured at amortised cost

Financial assets that are held to collect the contractual cash flows and which contain contractual terms that give rise on specified dates to cash flows that are solely payments of principal and interest are measured at amortised cost. Such financial assets include most loans and advances to banks and customers and some debt securities. In addition, most financial liabilities are measured at amortised cost. HSBC accounts for regular way amortised cost financial instruments using trade date accounting. The carrying value of these financial assets at initial recognition includes any directly attributable transactions costs. If the initial fair value is lower than the cash amount advanced, such as in the case of some leveraged finance and syndicated lending activities, the difference is deferred and recognised over the life of the loan through the recognition of interest income.

HSBC may commit to underwriting loans on fixed contractual terms for specified periods of time. When the loan arising from the lending commitment is expected to be held for trading, the commitment to lend is recorded as a derivative. When HSBC intends to hold the loan, the loan commitment is included in the impairment calculations set out below.

Non-trading reverse repurchase, repurchase and similar agreements

When debt securities are sold subject to a commitment to repurchase them at a predetermined price ('repos'), they remain on the balance sheet and a liability is recorded in respect of the consideration received. Securities purchased under commitments to resell ('reverse repos') are not recognised on the balance sheet and an asset is recorded in respect of the initial consideration paid. Non-trading repos and reverse repos are measured at amortised cost. The difference between the sale and repurchase price or between the purchase and resale price is treated as interest and recognised in net interest income over the life of the agreement.

Contracts that are economically equivalent to reverse repo or repo agreements (such as sales or purchases of debt securities entered into together with total return swaps with the same counterparty) are accounted for similarly to, and presented together with, reverse repo or repo agreements.

(e) Financial assets measured at fair value through other comprehensive income

Financial assets held for a business model that is achieved by both collecting contractual cash flows and selling and which contain contractual terms that give rise on specified dates to cash flows that are solely payments of principal and interest are measured at fair value through other comprehensive income ('FVOCI'). These comprise primarily debt securities. They are recognised on the trade date when HSBC enters into contractual arrangements to purchase and are normally derecognised when they are either sold or redeemed. They are subsequently remeasured at fair value and changes therein (except for those relating to impairment, interest income and foreign currency exchange gains and losses) are recognised in other comprehensive income until the assets are sold. Upon disposal, the cumulative gains or losses in other comprehensive income are recognised in the income statement as 'Gains less losses from financial instruments'. Financial assets measured at FVOCI are included in the impairment calculations set out below and impairment is recognised in profit or loss.

(f) Equity securities measured at fair value with fair value movements presented in other comprehensive income

The equity securities for which fair value movements are shown in other comprehensive income are business facilitation and other similar investments where HSBC holds the investments other than to generate a capital return. Gains or losses on the derecognition of these equity securities are not transferred to profit or loss. Otherwise, equity securities are measured at fair value through profit or loss (except for dividend income, which is recognised in profit or loss).

(g) Financial instruments designated at fair value through profit or loss

Financial instruments, other than those held for trading, are classified in this category if they meet one or more of the criteria set out below and are so designated irrevocably at inception:

- the use of the designation removes or significantly reduces an accounting mismatch;
- a group of financial assets and liabilities or a group of financial liabilities is managed and its performance is evaluated on a fair value basis, in accordance with a documented risk management or investment strategy; and
- the financial liability contains one or more non-closely related embedded derivatives.

Designated financial assets are recognised when HSBC enters into contracts with counterparties, which is generally on trade date, and are normally derecognised when the rights to the cash flows expire or are transferred. Designated financial liabilities are recognised when HSBC enters into contracts with counterparties, which is generally on settlement date, and are normally derecognised when extinguished. Subsequent changes in fair values are recognised in the income statement in 'Net income from financial instruments held for trading or managed on a fair value basis' or 'Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss' except for the effect of changes in the liabilities' credit risk, which is presented in 'Other comprehensive income', unless that treatment would create or enlarge an accounting mismatch in profit or loss.

Under the above criterion, the main classes of financial instruments designated by HSBC are:

- Debt instruments for funding purposes that are designated to reduce an accounting mismatch: The interest and/or foreign exchange exposure on certain fixed-rate debt securities issued has been matched with the interest and/or foreign exchange exposure on certain swaps as part of a documented risk management strategy.
- Financial assets and financial liabilities under unit-linked and non-linked investment contracts: A contract under which HSBC does not accept significant insurance risk from another party is not classified as an insurance contract, other than investment contracts with discretionary participation features ('DPF'), but is accounted for as a financial liability. Customer liabilities under linked and certain non-linked investment contracts issued by insurance subsidiaries are determined based on the fair value of the assets held in the linked funds. If no fair value designation was made for the related assets, at least some of the assets would otherwise be measured at either fair value through other comprehensive income or amortised cost. The related financial assets and liabilities are managed and reported to management on a fair value basis. Designation at fair value of the financial assets and related liabilities allows changes in fair values to be recorded in the income statement and presented in the same line.
- Financial liabilities that contain both deposit and derivative components: These financial liabilities are managed and their performance evaluated on a fair value basis.

(h) Derivatives

Derivatives are financial instruments that derive their value from the price of underlying items such as equities, interest rates or other indices. Derivatives are recognised initially and are subsequently measured at fair value through profit or loss. Derivatives are classified as assets when their fair value is positive or as liabilities when their fair value is negative. This includes embedded derivatives in financial liabilities, which are bifurcated from the host contract when they meet the definition of a derivative on a stand-alone basis.

Where the derivatives are managed with debt securities issued by HSBC that are designated at fair value, the contractual interest is shown in 'Interest expense' together with the interest payable on the issued debt.

Hedge accounting

When derivatives are not part of fair value designated relationships, if held for risk management purposes they are designated in hedge accounting relationships where the required criteria for documentation and hedge effectiveness are met. HSBC uses these derivatives or, where allowed, other non-derivative hedging instruments in fair value hedges, cash flow hedges or hedges of net investments in foreign operations as appropriate to the risk being hedged.

Fair value hedge

Fair value hedge accounting does not change the recording of gains and losses on derivatives and other hedging instruments, but results in recognising changes in the fair value of the hedged assets or liabilities attributable to the hedged risk that would not otherwise be recognised in the income statement. If a hedge relationship no longer meets the criteria for hedge accounting, hedge accounting is discontinued and the cumulative adjustment to the carrying amount of the hedged item is amortised to the income statement on a recalculated effective interest rate, unless the hedged item has been derecognised, in which case it is recognised in the income statement immediately.

Cash flow hedge

The effective portion of gains and losses on hedging instruments is recognised in other comprehensive income and the ineffective portion of the change in fair value of derivative hedging instruments that are part of a cash flow hedge relationship is recognised immediately in the income statement within 'Net income from financial instruments held for trading or managed on a fair value basis'. The accumulated gains and losses recognised in other comprehensive income are reclassified to the income statement in the same periods in which the hedged item affects profit or loss. When a hedge relationship is discontinued, or partially discontinued, any cumulative gain or loss recognised in other comprehensive income remains in equity until the forecast transaction is recognised in the income statement. When a forecast transaction is no longer expected to occur, the cumulative gain or loss previously recognised in other comprehensive income is immediately reclassified to the income statement.

Net investment hedge

Hedges of net investments in foreign operations are accounted for in a similar way to cash flow hedges. The effective portion of gains and losses on the hedging instrument is recognised in other comprehensive income and other gains and losses are recognised immediately in the income statement. Gains and losses previously recognised in other comprehensive income are reclassified to the income statement on the disposal, or part disposal, of the foreign operation.

Derivatives that do not qualify for hedge accounting

Non-qualifying hedges are derivatives entered into as economic hedges of assets and liabilities for which hedge accounting was not applied.

(i) Impairment of amortised cost and FVOCI financial assets

Expected credit losses ('ECL') are recognised for loans and advances to banks and customers, non-trading reverse repurchase agreements, other financial assets held at amortised cost, debt instruments measured at FVOCI, and certain loan commitments and financial guarantee contracts. At initial recognition, allowance (or provision in the case of some loan commitments and financial guarantees) is required for ECL resulting from default events that are possible within the next 12 months, or less, where the remaining life is less than 12 months ('12-month ECL'). In the event of a significant increase in credit risk, allowance (or provision) is required for ECL resulting from all possible default events over the expected life of the financial instrument ('lifetime ECL'). Financial assets where 12-month ECL is recognised are considered to be 'stage 1'; financial assets that are considered to have experienced a significant increase in credit risk are in 'stage 2'; and financial assets for which there is objective evidence of impairment so are considered to be in default or otherwise credit impaired are in 'stage 3'. Purchased or originated credit-impaired financial assets ('POCI') are treated differently, as set out below.

Credit impaired (stage 3)

HSBC determines that a financial instrument is credit impaired and in stage 3 by considering relevant objective evidence, primarily whether:

- contractual payments of either principal or interest are past due for more than 90 days;
- there are other indications that the borrower is unlikely to pay, such as when a concession has been granted to the borrower for economic or legal reasons relating to the borrower's financial condition; and
- the loan is otherwise considered to be in default.

If such unlikeliness to pay is not identified at an earlier stage, it is deemed to occur when an exposure is 90 days past due, even where regulatory rules permit default to be defined based on 180 days past due. Therefore, the definitions of credit impaired and default are aligned as far as possible so that stage 3 represents all loans that are considered defaulted or otherwise credit impaired.

Interest income is recognised by applying the effective interest rate to the amortised cost amount, i.e. gross carrying amount less ECL allowance.

Write-off

Financial assets (and the related impairment allowances) are normally written off, either partially or in full, when there is no realistic prospect of recovery. Where loans are secured, this is generally after receipt of any proceeds from the realisation of security. In circumstances where the net realisable value of any collateral has been determined and there is no reasonable expectation of further recovery, write-off may be earlier.

Renegotiation

Loans are identified as renegotiated and classified as credit impaired when we modify the contractual payment terms due to significant credit distress of the borrower. Renegotiated loans remain classified as credit impaired until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows and retain the designation of renegotiated until maturity or derecognition.

A loan that is renegotiated is derecognised if the existing agreement is cancelled and a new agreement is made on substantially different terms, or if the terms of an existing agreement are modified such that the renegotiated loan is a substantially different financial instrument. Any new loans that arise following derecognition events in these circumstances are considered to be POCI and will continue to be disclosed as renegotiated loans.

Other than originated credit-impaired loans, all other modified loans could be transferred out of stage 3 if they no longer exhibit any evidence of being credit impaired and, in the case of renegotiated loans, there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows over the minimum observation period, and there are no other indicators of impairment. These loans could be transferred to stage 1 or 2 based on the mechanism as described below by comparing the risk of a default occurring at the reporting date (based on the modified contractual terms) and the risk of a default occurring at initial recognition (based on the original, unmodified contractual terms). Any amount written off as a result of the modification of contractual terms would not be reversed.

Loan modifications that are not credit impaired

Loan modifications that are not identified as renegotiated are considered to be commercial restructuring. Where a commercial restructuring results in a modification (whether legalised through an amendment to the existing terms or the issuance of a new loan contract) such that HSBC's rights to the cash flows under the original contract have expired, the old loan is derecognised and the new loan is recognised at fair value. The rights to cash flows are generally considered to have expired if the commercial restructure is at market rates and no payment-related concession has been provided.

Significant increase in credit risk (stage 2)

An assessment of whether credit risk has increased significantly since initial recognition is performed at each reporting period by considering the change in the risk of default occurring over the remaining life of the financial instrument. The assessment explicitly or implicitly compares the risk of default occurring at the reporting date compared with that at initial recognition, taking into account reasonable and supportable information, including information about past events, current conditions and future economic conditions. The assessment is unbiased, probability-weighted, and to the extent relevant, uses forward-looking information consistent with that used in the measurement of ECL. The analysis of credit risk is multifactor. The determination of whether a specific factor is relevant and its weight compared with other factors depends on the type of product, the characteristics of the financial instrument and the borrower, and the geographical region. Therefore, it is not possible to provide a single set of criteria that will determine what is considered to be a significant increase in credit risk, and these criteria will differ for different types of lending, particularly between retail and wholesale. However, unless identified at an earlier stage, all financial assets are deemed to have suffered a significant increase in credit risk when 30 days past due. In addition, wholesale loans that are individually assessed, which are typically corporate and commercial customers, and included on a watch or worry list, are included in stage 2.

For wholesale portfolios, the quantitative comparison assesses default risk using a lifetime probability of default ('PD'), which encompasses a wide range of information including the obligor's customer risk rating ('CRR'), macroeconomic condition forecasts and credit transition probabilities. For origination CRRs up to 3.3, significant increase in credit risk is measured by comparing the average PD for the remaining term estimated at origination with the equivalent estimation at the reporting date. The quantitative measure of significance varies depending on the credit quality at origination as follows:

Origination CRR	Significance trigger – PD to increase by
0.1–1.2	15bps
2.1–3.3	30bps

For CRRs greater than 3.3 that are not impaired, a significant increase in credit risk is considered to have occurred when the origination PD has doubled. The significance of changes in PD was informed by expert credit risk judgement, referenced to historical credit migrations and to relative changes in external market rates.

For loans originated prior to the implementation of IFRS 9, the origination PD does not include adjustments to reflect expectations of future macroeconomic conditions since these are not available without the use of hindsight. In the absence of this data, origination PD must be approximated assuming through-the-cycle ('TTC') PDs and TTC migration probabilities, consistent with the instrument's underlying modelling approach and the CRR at origination. For these loans, the quantitative comparison is supplemented with additional CRR deterioration-based thresholds, as set out in the table below:

Origination CRR	Additional significance criteria – number of CRR grade notches deterioration required to identify as significant credit deterioration (stage 2) (> or equal to)
0.1	5 notches
1.1–4.2	4 notches
4.3–5.1	3 notches
5.2–7.1	2 notches
7.2–8.2	1 notch
8.3	0 notch

Further information about the 23-grade scale used for CRR can be found on page 121.

For certain portfolios of debt securities where external market ratings are available and credit ratings are not used in credit risk management, the debt securities will be in stage 2 if their credit risk increases to the extent they are no longer considered investment grade. Investment grade is where the financial instrument has a low risk of incurring losses, the structure has a strong capacity to meet its contractual cash flow obligations in the near term, and adverse changes in economic and business conditions in the longer term may, but will not necessarily, reduce the ability of the borrower to fulfil their contractual cash flow obligations.

For retail portfolios, default risk is assessed using a reporting date 12-month PD derived from credit scores, which incorporates all available information about the customer. This PD is adjusted for the effect of macroeconomic forecasts for periods longer than 12 months and is considered to be a reasonable approximation of a lifetime PD measure. Retail exposures are first segmented into homogeneous portfolios, generally by country, product and brand. Within each portfolio, the stage 2 accounts are defined as accounts with an adjusted 12-month PD greater than the average 12-month PD of loans in that portfolio 12 months before they become 30 days past due. The expert credit risk judgement is that no prior increase in credit risk is significant. This portfolio-specific threshold identifies loans with a PD higher than would be expected from loans that are performing as originally expected, and higher than what would have been acceptable at origination. It therefore approximates a comparison of origination to reporting date PDs.

Unimpaired and without significant increase in credit risk (stage 1)

ECL resulting from default events that are possible within the next 12 months ('12-month ECL') are recognised for financial instruments that remain in stage 1.

Purchased or originated credit impaired

Financial assets that are purchased or originated at a deep discount that reflects the incurred credit losses are considered to be POCI. This population includes the recognition of a new financial instrument following a renegotiation where concessions have been granted for economic or contractual reasons relating to the borrower's financial difficulty that otherwise would not have been considered. The amount of change-in-lifetime ECL is recognised in profit or loss until the POCI is derecognised, even if the lifetime ECL are less than the amount of ECL included in the estimated cash flows on initial recognition.

Movement between stages

Financial assets can be transferred between the different categories (other than POCI) depending on their relative increase in credit risk since initial recognition. Financial instruments are transferred out of stage 2 if their credit risk is no longer considered to be significantly increased since initial recognition based on the assessments described above. Except for renegotiated loans, financial instruments are transferred out of stage 3 when they no longer exhibit any evidence of credit impairment as described above. Renegotiated loans that are not POCI will continue to be in stage 3 until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows, observed over a minimum one-year period and there are no other indicators of impairment. For loans that are assessed for impairment on a portfolio basis, the evidence typically comprises a history of payment performance against the original or revised terms, as appropriate to the circumstances. For loans that are assessed for impairment on an individual basis, all available evidence is assessed on a case-by-case basis.

Measurement of ECL

The assessment of credit risk and the estimation of ECL are unbiased and probability-weighted, and incorporate all available information that is relevant to the assessment including information about past events, current conditions and reasonable and supportable forecasts of future events and economic conditions at the reporting date. In addition, the estimation of ECL should take into account the time value of money.

In general, HSBC calculates ECL using three main components: a probability of default, a loss given default ('LGD') and the exposure at default ('EAD').

The 12-month ECL is calculated by multiplying the 12-month PD, LGD and EAD. Lifetime ECL is calculated using the lifetime PD instead. The 12-month and lifetime PDs represent the probability of default occurring over the next 12 months and the remaining maturity of the instrument respectively.

The EAD represents the expected balance at default, taking into account the repayment of principal and interest from the balance sheet date to the default event together with any expected drawdowns of committed facilities. The LGD represents expected losses on the EAD given the event of default, taking into account, among other attributes, the mitigating effect of collateral value at the time it is expected to be realised and the time value of money.

HSBC leverages the Basel II IRB framework where possible, with recalibration to meet the differing IFRS 9 requirements as set out in the following table:

Model	Regulatory capital	IFRS 9
PD	• Through the cycle (represents long-run average PD throughout a full economic cycle) • The definition of default includes a backstop of 90+ days past due, although this has been modified to 180+ days past due for some portfolios, particularly UK and US mortgages	• Point in time (based on current conditions, adjusted to take into account estimates of future conditions that will impact PD) • Default backstop of 90+ days past due for all portfolios
EAD	• Cannot be lower than current balance	• Amortisation captured for term products
LGD	• Downturn LGD (consistent losses expected to be suffered during a severe but plausible economic downturn) • Regulatory floors may apply to mitigate risk of underestimating downturn LGD due to lack of historical data • Discounted using cost of capital • All collection costs included	• Expected LGD (based on estimate of loss given default including the expected impact of future economic conditions such as changes in value of collateral) • No floors • Discounted using the original effective interest rate of the loan • Only costs associated with obtaining/selling collateral included
Other		• Discounted back from point of default to balance sheet date

While 12-month PDs are recalibrated from Basel II models where possible, the lifetime PDs are determined by projecting the 12-month PD using a term structure. For the wholesale methodology, the lifetime PD also takes into account credit migration, i.e. a customer migrating through the CRR bands over its life.

The ECL for wholesale stage 3 is determined on an individual basis using a discounted cash flow ('DCF') methodology. The expected future cash flows are based on the credit risk officer's estimates as at the reporting date, reflecting reasonable and supportable assumptions and projections of future recoveries and expected future receipts of interest. Collateral is taken into account if it is likely that the recovery of the outstanding amount will include realisation of collateral based on the estimated fair value of collateral at the time of expected realisation, less costs for obtaining and selling the collateral. The cash flows are discounted at a reasonable approximation of the original effective interest rate. For significant cases, cash flows under four different scenarios are probability-weighted by reference to the economic scenarios applied more generally by the Group and the judgement of the credit risk officer in relation to the likelihood of the workout strategy succeeding or receivership being required. For less significant cases, the effect of different economic scenarios and work-out strategies is approximated and applied as an adjustment to the most likely outcome.

Period over which ECL is measured

Expected credit loss is measured from the initial recognition of the financial asset. The maximum period considered when measuring ECL (be it 12-month or lifetime ECL) is the maximum contractual period over which HSBC is exposed to credit risk. For wholesale overdrafts, credit risk management actions are taken no less frequently than on an annual basis and therefore this period is to the expected date of the next substantive credit review. The date of the substantive credit review also represents the initial recognition of the new facility. However, where the financial instrument includes both a drawn and undrawn commitment and the contractual ability to demand repayment and cancel the undrawn commitment does not serve to limit HSBC's exposure to credit risk to the contractual notice period, the contractual period does not determine the maximum period considered. Instead, ECL is measured over the period HSBC remains exposed to credit risk that is not mitigated by credit risk management actions. This applies to retail overdrafts and credit cards, where the period is the average time taken for stage 2 exposures to default or close as performing accounts, determined on a portfolio basis and ranging from between two and six years. In addition, for these facilities it is not possible to identify the ECL on the loan commitment component separately from the financial asset component. As a result, the total ECL is recognised in the loss allowance for the financial asset unless the total ECL exceeds the gross carrying amount of the financial asset, in which case the ECL is recognised as a provision.

Forward-looking economic inputs

HSBC applies multiple forward-looking global economic scenarios determined with reference to external forecast distributions representative of our view of forecast economic conditions. This approach is considered sufficient to calculate unbiased expected loss in most economic environments. In certain economic environments, additional analysis may be necessary and may result in additional scenarios or adjustments, to reflect a range of possible economic outcomes sufficient for an unbiased estimate. The detailed methodology is disclosed in 'Measurement uncertainty and sensitivity analysis of ECL estimates' on page 128.

Critical accounting estimates and judgements

The calculation of the Group's ECL under IFRS 9 requires the Group to make a number of judgements, assumptions and estimates. The most significant are set out below:

Judgements	Estimates
• Defining what is considered to be a significant increase in credit risk • Determining the lifetime and point of initial recognition of overdrafts and credit cards • Selecting and calibrating the PD, LGD and EAD models, which support the calculations, including making reasonable and supportable judgements about how models react to current and future economic conditions • Selecting model inputs and economic forecasts, including determining whether sufficient and appropriately weighted economic forecasts are incorporated to calculate unbiased expected loss	• The sections marked as audited on pages 92 to 103, 'Measurement uncertainty and sensitivity analysis of ECL estimates' set out the assumptions used in determining ECL and provide an indication of the sensitivity of the result to the application of different weightings being applied to different economic assumptions

(j) Insurance contracts

A contract is classified as an insurance contract where HSBC accepts significant insurance risk from another party by agreeing to compensate that party on the occurrence of a specified uncertain future event. An insurance contract may also transfer financial risk, but is accounted for as an insurance contract if the insurance risk is significant. In addition, HSBC issues investment contracts with discretionary participation features ('DPF'), which are also accounted for as insurance contracts as required by IFRS 4 'Insurance Contracts'.

Net insurance premium income

Premiums for life insurance contracts are accounted for when receivable, except in unit-linked insurance contracts where premiums are accounted for when liabilities are established.

Reinsurance premiums are accounted for in the same accounting period as the premiums for the direct insurance contracts to which they relate.

Net insurance claims and benefits paid and movements in liabilities to policyholders

Gross insurance claims for life insurance contracts reflect the total cost of claims arising during the year, including claim handling costs and any policyholder bonuses allocated in anticipation of a bonus declaration.

Maturity claims are recognised when due for payment. Surrenders are recognised when paid or at an earlier date on which, following notification, the policy ceases to be included within the calculation of the related insurance liabilities. Death claims are recognised when notified.

Reinsurance recoveries are accounted for in the same period as the related claim.

Liabilities under insurance contracts

Liabilities under non-linked life insurance contracts are calculated by each life insurance operation based on local actuarial principles. Liabilities under unit-linked life insurance contracts are at least equivalent to the surrender or transfer value, which is calculated by reference to the value of the relevant underlying funds or indices.

Future profit participation on insurance contracts with DPF

Where contracts provide discretionary profit participation benefits to policyholders, liabilities for these contracts include provisions for the future discretionary benefits to policyholders. These provisions reflect the actual performance of the investment portfolio to date and management's expectation of the future performance of the assets backing the contracts, as well as other experience factors such as mortality, lapses and operational efficiency, where appropriate. The benefits to policyholders may be determined by the contractual terms, regulation, or past distribution policy.

Investment contracts with DPF

While investment contracts with DPF are financial instruments, they continue to be treated as insurance contracts as required by IFRS 4. The Group therefore recognises the premiums for these contracts as revenue and recognises as an expense the resulting increase in the carrying amount of the liability.

In the case of net unrealised investment gains on these contracts, whose discretionary benefits principally reflect the actual performance of the investment portfolio, the corresponding increase in the liabilities is recognised in either the income statement or other comprehensive income, following the treatment of the unrealised gains on the relevant assets. In the case of net unrealised losses, a deferred participating asset is recognised only to the extent that its recoverability is highly probable. Movements in the liabilities arising from realised gains and losses on relevant assets are recognised in the income statement.

Present value of in-force long-term insurance business

HSBC recognises the value placed on insurance contracts and investment contracts with DPF, which are classified as long-term and in-force at the balance sheet date, as an asset. The asset represents the present value of the equity holders' interest in the issuing insurance companies' profits expected to emerge from these contracts written at the balance sheet date. The present value of in-force business ('PVIF') is determined by discounting those expected future profits using appropriate assumptions in assessing factors such as future mortality, lapse rates and levels of expenses, and a risk discount rate that reflects the risk premium attributable to the respective contracts. The PVIF incorporates allowances for both non-market risk and the value of financial options and guarantees. The PVIF asset is presented gross of attributable tax in the balance sheet and movements in the PVIF asset are included in 'Other operating income' on a gross of tax basis.

(k) Employee compensation and benefits

Share-based payments

HSBC enters into both equity-settled and cash-settled share-based payment arrangements with its employees as compensation for the provision of their services.

The vesting period for these schemes may commence before the legal grant date if the employees have started to render services in respect of the award before the legal grant date, where there is a shared understanding of the terms and conditions of the arrangement. Expenses are recognised when the employee starts to render service to which the award relates.

Cancellations result from the failure to meet a non-vesting condition during the vesting period, and are treated as an acceleration of vesting recognised immediately in the income statement. Failure to meet a vesting condition by the employee is not treated as a cancellation, and the amount of expense recognised for the award is adjusted to reflect the number of awards expected to vest.

Post-employment benefit plans

HSBC operates a number of pension schemes including defined benefit, defined contribution and post-employment benefit schemes.

Payments to defined contribution schemes are charged as an expense as the employees render service.

Defined benefit pension obligations are calculated using the projected unit credit method. The net charge to the income statement mainly comprises the service cost and the net interest on the net defined benefit asset or liability, and is presented in operating expenses.

Remeasurements of the net defined benefit asset or liability, which comprise actuarial gains and losses, return on plan assets excluding interest and the effect of the asset ceiling (if any, excluding interest), are recognised immediately in other comprehensive income. The net defined benefit asset or liability represents the present value of defined benefit obligations reduced by the fair value of plan assets, after applying the asset ceiling test, where the net defined benefit surplus is limited to the present value of available refunds and reductions in future contributions to the plan.

The cost of obligations arising from other post-employment plans are accounted for on the same basis as defined benefit pension plans.

Critical accounting estimates and judgements

The most significant critical accounting judgements and estimates relate to the determination of key assumptions applied in calculating the defined benefit pension obligation for the principal plan.	
Judgements	**Estimates**
	• A range of assumptions could be applied, and different assumptions could significantly alter the defined benefit obligation and the amounts recognised in profit or loss or OCI. • The calculation of the defined benefit pension obligation includes assumptions with regard to the discount rate, inflation rate, pension payments and deferred pensions, pay and mortality. Management determines these assumptions in consultation with the plan's actuaries. • Key assumptions used in calculating the defined benefit pension obligation for the principal plan and the sensitivity of the calculation to different assumptions are described in Note 5

(l) Tax

Income tax comprises current tax and deferred tax. Income tax is recognised in the income statement except to the extent that it relates to items recognised in other comprehensive income or directly in equity, in which case the tax is recognised in the same statement as the related item appears.

Current tax is the tax expected to be payable on the taxable profit for the year and on any adjustment to tax payable in respect of previous years. HSBC provides for potential current tax liabilities that may arise on the basis of the amounts expected to be paid to the tax authorities.

Deferred tax is recognised on temporary differences between the carrying amounts of assets and liabilities in the balance sheet, and the amounts attributed to such assets and liabilities for tax purposes. Deferred tax is calculated using the tax rates expected to apply in the periods in which the assets will be realised or the liabilities settled.

Current and deferred tax are calculated based on tax rates and laws enacted, or substantively enacted, by the balance sheet date.

Critical accounting estimates and judgements

The recognition of deferred tax assets depends on judgements	
Judgements	**Estimates**
• Assessing the probability and sufficiency of future taxable profits, future reversals of existing taxable temporary differences and ongoing tax planning strategies • In the absence of a history of taxable profits, assessing the expected future profitability and the applicability of tax planning strategies, including corporate reorganisations	

(m) Provisions, contingent liabilities and guarantees

Provisions

Provisions are recognised when it is probable that an outflow of economic benefits will be required to settle a present legal or constructive obligation that has arisen as a result of past events and for which a reliable estimate can be made.

Critical accounting estimates and judgements

The recognition and measurement of provisions requires the Group to make a number of judgements, assumptions and estimates. The most significant are set out below:	
Judgements	**Estimates**
• Determining whether a present obligation exists. Professional advice is taken on the assessment of litigation and similar obligations • Provisions for legal proceedings and regulatory matters typically require a higher degree of judgement than other types of provisions. When matters are at an early stage, accounting judgements can be difficult because of the high degree of uncertainty associated with determining whether a present obligation exists, and estimating the probability and amount of any outflows that may arise. As matters progress, management and legal advisers evaluate on an ongoing basis whether provisions should be recognised, revising previous estimates as appropriate. At more advanced stages, it is typically easier to make estimates around a better defined set of possible outcomes	• Provisions for legal proceedings and regulatory matters remain very sensitive to the assumptions used in the estimate. There could be a wider range of possible outcomes for any pending legal proceedings, investigations or inquiries. As a result it is often not practicable to quantify a range of possible outcomes for individual matters. It is also not practicable to meaningfully quantify ranges of potential outcomes in aggregate for these types of provisions because of the diverse nature and circumstances of such matters and the wide range of uncertainties involved • Provisions for customer remediation also require significant levels of estimation. The amounts of provisions recognised depend on a number of different assumptions, such as the volume of inbound complaints, the projected period of inbound complaint volumes, the decay rate of complaint volumes, the populations identified as systemically mis-sold and the number of policies per customer complaint. More information about these assumptions is included in Note 27

Contingent liabilities, contractual commitments and guarantees

Contingent liabilities

Contingent liabilities, which include certain guarantees and letters of credit pledged as collateral security, and contingent liabilities related to legal proceedings or regulatory matters, are not recognised in the financial statements but are disclosed unless the probability of settlement is remote.

Financial guarantee contracts

Liabilities under financial guarantee contracts that are not classified as insurance contracts are recorded initially at their fair value, which is generally the fee received or present value of the fee receivable.

HSBC Holdings has issued financial guarantees and similar contracts to other Group entities. HSBC elects to account for certain guarantees as insurance contracts in HSBC Holdings' financial statements, in which case they are measured and recognised as insurance liabilities. This election is made on a contract-by-contract basis, and is irrevocable.

2 Net fee income

Net fee income by global business

	2019					
	Retail Banking and Wealth Management	**Commercial Banking**	**Global Banking and Markets**	**Global Private Banking**	**Corporate Centre**	**Total**
	$m	**$m**	**$m**	**$m**	**$m**	**$m**
Funds under management	**1,295**	**120**	**460**	**302**	**—**	**2,177**
Account services	**890**	**654**	**365**	**101**	**(7)**	**2,003**
Cards	**1,602**	**358**	**15**	**—**	**—**	**1,975**
Credit facilities	**75**	**785**	**743**	**15**	**—**	**1,618**
Broking income	**366**	**40**	**532**	**119**	**—**	**1,057**
Unit trusts	**921**	**22**	**2**	**90**	**—**	**1,035**
Underwriting	**—**	**6**	**821**	**3**	**(1)**	**829**
Remittances	**73**	**362**	**311**	**4**	**(3)**	**747**
Global custody	**90**	**18**	**564**	**45**	**—**	**717**
Imports/exports	**—**	**497**	**164**	**1**	**—**	**662**
Insurance agency commission	**324**	**20**	**1**	**32**	**—**	**377**
Other	**1,097**	**891**	**2,362**	**193**	**(2,301)**	**2,242**
Fee income	**6,733**	**3,773**	**6,340**	**905**	**(2,312)**	**15,439**
Less: fee expense	**(1,861)**	**(370)**	**(3,287)**	**(134)**	**2,236**	**(3,416)**
Net fee income	**4,872**	**3,403**	**3,053**	**771**	**(76)**	**12,023**

	2018						2017
	Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total	Total
	$m	$m	$m	$m	$m	$m	$m
Funds under management	1,383	134	421	284	(1)	2,221	2,188
Account services	991	748	332	106	—	2,177	2,244
Cards	1,575	370	16	—	(5)	1,956	1,994
Credit facilities	71	824	813	16	(1)	1,723	1,718
Broking income	494	44	533	139	—	1,210	1,191
Unit trusts	937	25	3	73	—	1,038	1,010
Underwriting	1	10	708	4	—	723	829
Remittances	96	357	320	5	—	778	759
Global custody	100	18	584	35	(1)	736	692
Imports/exports	3	532	176	2	(4)	709	736
Insurance agency commission	354	23	1	27	(1)	404	410
Other	1,110	858	2,362	186	(2,147)	2,369	2,082
Fee income	7,115	3,943	6,269	877	(2,160)	16,044	15,853
Less: fee expense	(1,917)	(388)	(3,040)	(135)	2,056	(3,424)	(3,042)
Net Fee income	5,198	3,555	3,229	742	(104)	12,620	12,811

Net fee income includes $6,647m of fees earned on financial assets that are not at fair value through profit or loss (other than amounts included in determining the effective interest rate) (2018: $7,522m; 2017: $7,577m), $1,450m of fees payable on financial liabilities that are not at fair value through profit or loss (other than amounts included in determining the effective interest rate) (2018: $1,682m; 2017: $1,475m), $3,110m of fees earned on trust and other fiduciary activities (2018: $3,165m; 2017: $3,088m) and $237m of fees payable relating to trust and other fiduciary activities (2018: $175m; 2017: $134m).

3 Net income from financial instruments measured at fair value through profit or loss

	Footnotes	2019 $m	2018 $m	2017 $m
Net income/(expense) arising on:				
Net trading activities	1	**16,121**	6,982	8,236
Other instruments managed on a fair value basis	1	**(5,890)**	2,549	190
Net income from financial instruments held for trading or managed on a fair value basis		**10,231**	9,531	8,426
Financial assets held to meet liabilities under insurance and investment contracts		**3,830**	(1,585)	3,211
Liabilities to customers under investment contracts		**(352)**	97	(375)
Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss		**3,478**	(1,488)	2,836
Derivatives managed in conjunction with HSBC's issued debt securities		**2,561**	(626)	(343)
Other changes in fair value		**(2,471)**	529	498
Changes in fair value of designated debt and related derivatives	2	**90**	(97)	155
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		**812**	695	N/A
Year ended 31 Dec		**14,611**	8,641	11,417

1 At 1 January 2018 we changed our accounting policy for financial liabilities that contain both deposit and derivative components. As a result, net income from these instruments is reported in 'Other instruments managed on a fair value basis' rather than 'Trading activities'. Comparative periods have not been re-presented.

2 The debt instruments, issued for funding purposes, are designated under the fair value option to reduce an accounting mismatch.

HSBC Holdings

	2019 $m	2018 $m	2017 $m
Net income/(expense) arising on:			
– trading activities	**(559)**	(176)	(392)
– other instruments managed at on a fair value basis	**2,036**	421	211
Net income from financial instruments held for trading or managed on a fair value basis	**1,477**	245	(181)
– Derivatives managed in conjunction with HSBC Holdings-issued debt securities	**764**	(337)	292
– Other changes in fair value	**(1,124)**	260	(189)
Changes in fair value of designated debt and related derivatives	**(360)**	(77)	103
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	**1,659**	43	—
Year ended 31 Dec	**2,776**	211	(78)

4 Insurance business

Net insurance premium income

	Non-linked insurance $m	Linked life insurance $m	Investment contracts with DPF[1] $m	Total $m
Gross insurance premium income	**9,353**	**489**	**2,266**	**12,108**
Reinsurers' share of gross insurance premium income	**(1,465)**	**(7)**	**–**	**(1,472)**
Year ended 31 Dec 2019	**7,888**	**482**	**2,266**	**10,636**
Gross insurance premium income	8,616	422	2,300	11,338
Reinsurers' share of gross insurance premium income	(672)	(7)	—	(679)
Year ended 31 Dec 2018	7,944	415	2,300	10,659
Gross insurance premium income	8,424	351	2,027	10,802
Reinsurers' share of gross insurance premium income	(1,016)	(7)	—	(1,023)
Year ended 31 Dec 2017	7,408	344	2,027	9,779

1 Discretionary participation features.

Net insurance claims and benefits paid and movement in liabilities to policyholders

	Non-linked insurance	Linked life insurance	Investment contracts with DPF[1]	Total
	$m	$m	$m	$m
Gross claims and benefits paid and movement in liabilities	**11,305**	**1,217**	**3,810**	**16,332**
– claims, benefits and surrenders paid	**3,783**	**900**	**1,921**	**6,604**
– movement in liabilities	**7,522**	**317**	**1,889**	**9,728**
Reinsurers' share of claims and benefits paid and movement in liabilities	**(1,402)**	**(4)**	**—**	**(1,406)**
– claims, benefits and surrenders paid	**(411)**	**(17)**	**—**	**(428)**
– movement in liabilities	**(991)**	**13**	**—**	**(978)**
Year ended 31 Dec 2019	**9,903**	**1,213**	**3,810**	**14,926**
Gross claims and benefits paid and movement in liabilities	8,943	(446)	1,724	10,221
– claims, benefits and surrenders paid	3,852	1,088	1,869	6,809
– movement in liabilities	5,091	(1,534)	(145)	3,412
Reinsurers' share of claims and benefits paid and movement in liabilities	(605)	191	—	(414)
– claims, benefits and surrenders paid	(311)	(181)	—	(492)
– movement in liabilities	(294)	372	—	78
Year ended 31 Dec 2018	8,338	(255)	1,724	9,807
Gross claims and benefits paid and movement in liabilities	8,894	1,413	2,901	13,208
– claims, benefits and surrenders paid	2,883	1,044	2,002	5,929
– movement in liabilities	6,011	369	899	7,279
Reinsurers' share of claims and benefits paid and movement in liabilities	(942)	65	—	(877)
– claims, benefits and surrenders paid	(297)	(223)	—	(520)
– movement in liabilities	(645)	288	—	(357)
Year ended 31 Dec 2017	7,952	1,478	2,901	12,331

1 *Discretionary participation features.*

Liabilities under insurance contracts

	Footnotes	Non-linked insurance	Linked life insurance	Investment contracts with DPF[1]	Total
		$m	$m	$m	$m
Gross liabilities under insurance contracts at 1 Jan 2019		**57,283**	**5,789**	**24,258**	**87,330**
Claims and benefits paid		**(3,804)**	**(900)**	**(1,900)**	**(6,604)**
Increase in liabilities to policyholders		**11,326**	**1,217**	**3,789**	**16,332**
Exchange differences and other movements	2	**519**	**45**	**(183)**	**381**
Gross liabilities under insurance contracts at 31 Dec 2019		**65,324**	**6,151**	**25,964**	**97,439**
Reinsurers' share of liabilities under insurance contracts		**(3,521)**	**(71)**	**—**	**(3,592)**
Net liabilities under insurance contracts at 31 Dec 2019		**61,803**	**6,080**	**25,964**	**93,847**
Gross liabilities under insurance contracts at 1 Jan 2018		52,112	7,548	26,007	85,667
Impact on transition to IFRS 9		(69)	—	—	(69)
Claims and benefits paid		(3,852)	(1,088)	(1,869)	(6,809)
Increase in liabilities to policyholders		8,943	(446)	1,724	10,221
Exchange differences and other movements	2	149	(225)	(1,604)	(1,680)
Gross liabilities under insurance contracts at 31 Dec 2018		57,283	5,789	24,258	87,330
Reinsurers' share of liabilities under insurance contracts		(2,438)	(68)	—	(2,506)
Net liabilities under insurance contracts at 31 Dec 2018		54,845	5,721	24,258	84,824

1 *Discretionary participation features.*
2 *'Exchange differences and other movements' includes movements in liabilities arising from net unrealised investment gains recognised in other comprehensive income.*

The key factors contributing to the movement in liabilities to policyholders included movements in the market value of assets supporting policyholder liabilities, death claims, surrenders, lapses, liabilities to policyholders created at the initial inception of the policies, the declaration of bonuses and other amounts attributable to policyholders.

5 Employee compensation and benefits

	2019	2018	2017
	$m	$m	$m
Wages and salaries	**15,581**	14,751	15,227
Social security costs	**1,472**	1,490	1,419
Post-employment benefits	**949**	1,132	669
Year ended 31 Dec	**18,002**	17,373	17,315

Average number of persons employed by HSBC during the year by global business

	Footnotes	2019	2018	2017
Retail Banking and Wealth Management		**141,044**	135,239	134,021
Commercial Banking		**46,416**	48,757	46,716
Global Banking and Markets		**51,127**	48,990	49,100
Global Private Banking		**7,099**	8,206	7,817
Corporate Centre	1	**1,369**	1,658	7,134
Year ended 31 Dec		**247,055**	242,850	244,788

1 *The reduction in the average number of people employed was due to the completion of the cost to achieve transformation programme at the end of 2017.*

Average number of persons employed by HSBC during the year by geographical region

	2019	2018	2017
Europe	**66,392**	67,007	70,301
Asia	**133,624**	127,992	125,004
Middle East and North Africa	**9,798**	9,798	10,408
North America	**16,615**	17,350	18,610
Latin America	**20,626**	20,703	20,465
Year ended 31 Dec	**247,055**	242,850	244,788

Reconciliation of total incentive awards granted to income statement charge

	2019	2018	2017
	$m	$m	$m
Total incentive awards approved for the current year	**3,341**	3,473	3,303
Less: deferred bonuses awarded, expected to be recognised in future periods	**(337)**	(351)	(337)
Total incentives awarded and recognised in the current year	**3,004**	3,122	2,966
Add: current year charges for deferred bonuses from previous years	**327**	322	336
Other	**(55)**	(70)	(78)
Income statement charge for incentive awards	**3,276**	3,374	3,224

Share-based payments

'Wages and salaries' includes the effect of share-based payments arrangements, of which $478m were equity settled (2018: $450m; 2017: $500m), as follows:

	2019	2018	2017
	$m	$m	$m
Conditional share awards	**521**	499	520
Savings-related and other share award option plans	**30**	23	26
Year ended 31 Dec	**551**	522	546

HSBC share awards

Award	Policy
Deferred share awards (including annual incentive awards, LTI awards delivered in shares) and Group Performance Share Plans ('GPSP')	• An assessment of performance over the relevant period ending on 31 December is used to determine the amount of the award to be granted. • Deferred awards generally require employees to remain in employment over the vesting period and are generally not subject to performance conditions after the grant date. An exception to these are the LTI, which is subject to performance conditions. • Deferred share awards generally vest over a period of three, five or seven years. • Vested shares may be subject to a retention requirement post-vesting. GPSP awards are retained until cessation of employment. • Awards are subject to a malus provision prior to vesting. • Awards granted to Material Risk Takers from 2015 onwards are subject to clawback post-vesting.
International Employee Share Purchase Plan ('ShareMatch')	• The plan was first introduced in Hong Kong in 2013 and now includes employees based in 27 jurisdictions. • Shares are purchased in the market each quarter up to a maximum value of £750, or the equivalent in local currency. • Matching awards are added at a ratio of one free share for every three purchased. • Matching awards vest subject to continued employment and the retention of the purchased shares for a maximum period of two years and nine months.

Movement on HSBC share awards

	2019	2018
	Number	Number
	(000s)	(000s)
Conditional share awards outstanding at 1 Jan	**94,897**	104,525
Additions during the year	**71,858**	61,569
Released in the year	**(67,737)**	(67,899)
Forfeited in the year	**(1,963)**	(3,298)
Conditional share awards outstanding at 31 Dec	**97,055**	94,897
Weighted average fair value of awards granted ($)	**7.89**	7.66

HSBC share option plans

Main plans	Policy
Savings-related share option plans ('Sharesave')	• From 2014, employees eligible for the UK plan could save up to £500 per month with the option to use the savings to acquire shares. • These are generally exercisable within six months following either the third or fifth anniversary of the commencement of a three-year or five-year contract, respectively. • The exercise price is set at a 20% (2018: 20%) discount to the market value immediately preceding the date of invitation.

Calculation of fair values

The fair values of share options are calculated using a Black-Scholes model. The fair value of a share award is based on the share price at the date of the grant.

Movement on HSBC share option plans

		Savings-related share option plans	
	Footnotes	Number (000s)	WAEP[1] £
Outstanding at 1 Jan 2019		**57,065**	**4.92**
Granted during the year	2	**32,130**	**4.69**
Exercised during the year	3	**(11,806)**	**4.40**
Expired during the year		**(11,321)**	**5.46**
Forfeited during the year		**(1,008)**	**4.99**
Outstanding at 31 Dec 2019		**65,060**	**4.81**
Of which exercisable		***2,149***	***4.53***
Weighted average remaining contractual life (years)		**2.77**	
Outstanding at 1 Jan 2018		64,670	4.49
Granted during the year	2	20,501	5.45
Exercised during the year	3	(23,260)	4.14
Expired during the year		(3,148)	5.20
Forfeited during the year		(1,698)	4.53
Outstanding at 31 Dec 2018		57,065	4.92
Of which exercisable		*3,513*	*4.09*
Weighted average remaining contractual life (years)		2.59	

1 *Weighted average exercise price.*
2 *The weighted average fair value of options granted during the year was $1.36 (2018: $1.40).*
3 *The weighted average share price at the date the options were exercised was $7.99 (2018: $8.28).*

Post-employment benefit plans

The Group operates pension plans throughout the world for its employees. 'Pension risk' on page 170 contains details of the policies and practices associated with these pension plans. Some are defined benefit plans, of which the largest is the HBUK section of the HSBC Bank (UK) Pension Scheme ('the principal plan').

The principal plan has changed from being the combined HSBC Bank (UK) Pension Scheme to being only the HBUK section of the scheme. This is because the HSBC Bank (UK) Pension Scheme was fully sectionalised in 2018 to meet the requirements of the Banking Reform Act.

HSBC holds on its balance sheet the net surplus or deficit, which is the difference between the fair value of plan assets and the discounted value of scheme liabilities at the balance sheet date for each plan. Surpluses are only recognised to the extent that they are recoverable through reduced contributions in the future or through potential future refunds from the schemes. In assessing whether a surplus is recoverable, HSBC has considered its current right to obtain a future refund or a reduction in future contributions.

The principal plan

The principal plan has a defined benefit section and a defined contribution section. The defined benefit section was closed to future benefit accrual in 2015, with defined benefits earned by employees at that date continuing to be linked to their salary while they remain employed by HSBC. The plan is overseen by an independent corporate trustee, who has a fiduciary responsibility for the operation of the plan. Its assets are held separately from the assets of the Group.

The investment strategy of the plan is to hold the majority of assets in bonds, with the remainder in a diverse range of investments. It also includes some interest rate swaps to reduce interest rate risk and inflation swaps to reduce inflation risk.

The latest funding valuation of the plan at 31 December 2016 was carried out by Colin G Singer of Willis Towers Watson Limited, who is a Fellow of the UK Institute and Faculty of Actuaries, using the projected unit credit method. At that date, the market value of the plan's assets was £28.8bn ($38.1bn) and this exceeded the value placed on its liabilities on an ongoing basis by £1.4bn ($1.9bn), giving a funding level of 105%. These figures include defined contribution assets amounting to £2.0bn ($2.6bn). The main differences between the assumptions used for assessing the defined benefit liabilities for this funding valuation and those used for IAS 19 are more prudent assumptions for discount rate, inflation rate and life expectancy. The next funding valuation will have an effective date of 31 December 2019.

Although the plan was in surplus at the valuation date, HSBC continues to make further contributions to the plan to support a lower-risk investment strategy over the longer term. The remaining contributions are £160m ($212m) in each of 2020 and 2021.The main employer of the principal plan is HSBC UK Bank plc, with additional support from HSBC Holdings plc. The HSBC Bank (UK) Pension Scheme is fully sectionalised and no entities outside the ring fence participate in the HBUK section of the scheme. The sectionalisation, which took place in 2018, did not materially affect the overall funding position of the plan.

The actuary also assessed the value of the liabilities if the plan was to be stopped and an insurance company asked to secure all future pension payments. This is generally larger than the amount needed on the ongoing basis described above because an insurance company would use more prudent assumptions and include an explicit allowance for the future administrative expenses of the plan. Under this approach, the amount of assets needed was estimated to be £37bn ($49bn) at 31 December 2016.

Guaranteed minimum pension equalisation

Following a judgment issued by the High Court of Justice of England and Wales in 2018, we estimated the financial effect of equalising benefits in respect of guaranteed minimum pension ('GMP') equalisation, and any potential conversion of GMPs into non-GMP benefits, to be an approximate 0.9% increase in the principal plan's liabilities, or £187m ($239m). This was recognised in the income statement in 2018. We continue to assess the impact of GMP equalisation, although no further amounts have been recognised in 2019.

Income statement charge

	2019	2018	2017
	$m	$m	$m
Defined benefit pension plans	**176**	355	100
Defined contribution pension plans	**758**	756	603
Pension plans	**934**	1,111	703
Defined benefit and contribution healthcare plans	**15**	21	(34)
Year ended 31 Dec	**949**	1,132	669

Net assets/(liabilities) recognised on the balance sheet in respect of defined benefit plans

	Fair value of plan assets	**Present value of defined benefit obligations**	**Effect of limit on plan surpluses**	**Total**
	$m	**$m**	**$m**	**$m**
Defined benefit pension plans	**47,567**	**(40,582)**	**(16)**	**6,969**
Defined benefit healthcare plans	**121**	**(580)**	**—**	**(459)**
At 31 Dec 2019	**47,688**	**(41,162)**	**(16)**	**6,510**
Total employee benefit liabilities (within Note 26 'Accruals, deferred income and other liabilities')				**(1,771)**
Total employee benefit assets (within Note 22 'Prepayments, accrued income and other assets')				**8,280**
Defined benefit pension plans	42,799	(36,583)	(35)	6,181
Defined benefit healthcare plans	110	(524)	—	(414)
At 31 Dec 2018	42,909	(37,107)	(35)	5,767
Total employee benefit liabilities (within Note 26 'Accruals, deferred income and other liabilities')				(2,167)
Total employee benefit assets (within Note 22 'Prepayments, accrued income and other assets')				7,934

HSBC Holdings

Employee compensation and benefit expense in respect of HSBC Holdings' employees in 2019 amounted to $37m (2018: $37m). The average number of persons employed during 2019 was 60 (2018: 43). Employees who are members of defined benefit pension plans are principally members of either the HSBC Bank (UK) Pension Scheme or the HSBC International Staff Retirement Benefits Scheme. HSBC Holdings pays contributions to such plans for its own employees in accordance with the schedules of contributions determined by the trustees of the plans and recognises these contributions as an expense as they fall due.

Defined benefit pension plans

Net asset/(liability) under defined benefit pension plans

	Fair value of plan assets		Present value of defined benefit obligations		Effect of the asset ceiling		Net defined benefit asset/(liability)	
	Principal[1] plan	Other plans	Principal[1] plan	Other plans	Principal[1] plan	Other plans	Principal[1] plan	Other plans
	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2019	**34,074**	**8,725**	**(26,616)**	**(9,967)**	**—**	**(35)**	**7,458**	**(1,277)**
Service cost	**—**	**—**	**(64)**	**(246)**	**—**	**—**	**(64)**	**(246)**
– current service cost	**—**	**—**	**(40)**	**(183)**	**—**	**—**	**(40)**	**(183)**
– past service cost and gains/(losses) from settlements	**—**	**—**	**(24)**	**(63)**	**—**	**—**	**(24)**	**(63)**
Net interest income/(cost) on the net defined benefit asset/(liability)	**939**	**269**	**(728)**	**(293)**	**—**	**—**	**211**	**(24)**
Remeasurement effects recognised in other comprehensive income	**2,205**	**867**	**(2,548)**	**(521)**	**—**	**20**	**(343)**	**366**
– return on plan assets (excluding interest income)	**2,205**	**870**	**—**	**—**	**—**	**—**	**2,205**	**870**
– actuarial gains/(losses)	**—**	**—**	**(2,548)**	**(1,348)**	**—**	**—**	**(2,548)**	**(1,348)**
– other changes	**—**	**(3)**	**—**	**827**	**—**	**20**	**—**	**844**
Exchange differences	**1,300**	**181**	**(1,036)**	**(180)**	**—**	**(1)**	**264**	**—**
Benefits paid	**(1,014)**	**(620)**	**1,014**	**694**	**—**	**—**	**—**	**74**
Other movements[2]	**370**	**271**	**(180)**	**89**	**—**	**—**	**190**	**360**
At 31 Dec 2019	**37,874**	**9,693**	**(30,158)**	**(10,424)**	**—**	**(16)**	**7,716**	**(747)**
At 1 Jan 2018	37,747	9,518	(29,552)	(10,537)	—	(37)	8,195	(1,056)
Service cost	—	—	(293)	(202)	—	—	(293)	(202)
– current service cost	—	—	(44)	(179)	—	—	(44)	(179)
– past service cost and losses from settlements	—	—	(249)	(23)	—	—	(249)	(23)
Net interest income/(cost) on the net defined benefit asset/(liability)	955	235	(743)	(265)	—	(1)	212	(31)
Remeasurement effects recognised in other comprehensive income	(1,478)	(591)	1,153	440	—	—	(325)	(151)
– return on plan assets (excluding interest income)	(1,478)	(591)	—	—	—	—	(1,478)	(591)
– actuarial gains	—	—	1,153	403	—	—	1,153	403
– other changes	—	—	—	37	—	—	—	37
Exchange differences	(2,002)	(187)	1,565	122	—	3	(437)	(62)
Benefits paid	(1,132)	(544)	1,132	550	—	—	—	6
Other movements[2]	(16)	294	122	(75)	—	—	106	219
At 31 Dec 2018	34,074	8,725	(26,616)	(9,967)	—	(35)	7,458	(1,277)

1 *Refer to page 286 for details on the principal plan.*
2 *Other movements include contributions by HSBC, contributions by employees, administrative costs and taxes paid by plan.*

HSBC expects to make $384m of contributions to defined benefit pension plans during 2020. Benefits expected to be paid from the plans to retirees over each of the next five years, and in aggregate for the five years thereafter, are as follows:

Benefits expected to be paid from plans

	2020	2021	2022	2023	2024	2025-2029
	$m	$m	$m	$m	$m	$m
The principal plan[1,2]	1,081	1,113	1,145	1,178	1,212	6,611
Other plans[1]	471	525	521	486	479	2,332

1 *The duration of the defined benefit obligation is 18.1 years for the principal plan under the disclosure assumptions adopted (2018: 17.0 years) and 13.2 years for all other plans combined (2018: 12.3 years).*
2 *Refer to page 286 for details on the principal plan.*

Fair value of plan assets by asset classes

	31 Dec 2019				31 Dec 2018			
	Value	Quoted market price in active market	No quoted market price in active market	Thereof HSBC[1]	Value	Quoted market price in active market	No quoted market price in active market	Thereof HSBC[1]
	$m	$m	$m	$m	$m	$m	$m	$m
The principal plan[2]								
Fair value of plan assets	**37,874**	**33,921**	**3,953**	**—**	34,074	30,670	3,404	—
– equities	**662**	**312**	**350**	**—**	3,152	3,152	—	—
– bonds	**31,699**	**31,699**	**—**	**—**	26,509	26,509	—	—
– derivatives	**2,052**	**—**	**2,052**	**—**	2,030	—	2,030	—
– other	**3,461**	**1,910**	**1,551**	**—**	2,383	1,009	1,374	—
Other plans								
Fair value of plan assets	**9,693**	**8,702**	**991**	**1,422**	8,725	7,425	1,300	1,216
– equities	**2,065**	**1,455**	**610**	**2**	2,186	1,265	921	2
– bonds	**6,608**	**6,376**	**232**	**8**	5,707	5,559	148	7
– derivatives	**—**	**—**	**—**	**1,183**	37	—	37	1,034
– other	**1,020**	**871**	**149**	**229**	795	601	194	173

1 *The fair value of plan assets includes derivatives entered into with HSBC Bank plc as detailed in Note 35.*
2 *Refer to page 286 for details on the principal plan.*

Post-employment defined benefit plans' principal actuarial financial assumptions

HSBC determines the discount rates to be applied to its obligations in consultation with the plans' local actuaries, on the basis of current average yields of high-quality (AA-rated or equivalent) debt instruments with maturities consistent with those of the defined benefit obligations.

Key actuarial assumptions for the principal plan[1]

	Discount rate	Inflation rate	Rate of increase for pensions	Rate of pay increase
	%	%	%	%
UK				
At 31 Dec 2019	**2.00**	**3.10**	**2.90**	**3.65**
At 31 Dec 2018	2.80	3.40	3.10	3.65

1 *Refer to page 286 for details on the principal plan.*

Mortality tables and average life expectancy at age 60[4] for the principal plan[3]

	Mortality table	Life expectancy at age 60[4] for a male member currently:		Life expectancy at age 60[4] for a female member currently:	
		Aged 60	Aged 40	Aged 60	Aged 40
UK					
At 31 Dec 2019	**SAPS S2[1]**	**28.0**	**29.4**	**28.2**	**29.8**
At 31 Dec 2018	SAPS S2[2]	28.1	29.6	28.4	30.0

1 *Self-administered pension scheme ('SAPS') S2 table (males: 'Normal health pensioners' version; females: 'All pensioners' version) with a multiplier of 0.94 for male and 1.15 for female pensioners. Improvements are projected in accordance with the continual mortality investigation ('CMI') 2018 core projection model with an initial addition to improvements of 0.25% per annum and a long-term rate of improvement of 1.25% per annum. Separate tables have been applied to lower-paid pensioners and dependant members.*
2 *Self-administered pension scheme ('SAPS') S2 table (males: 'Normal health pensioners' version; females: 'All pensioners' version) with a multiplier of 0.94 for male and 1.15 for female pensioners. Improvements are projected in accordance with the continual mortality investigation ('CMI') 2017 core projection model with a long-term rate of improvement of 1.25% per annum. Separate tables have been applied to lower-paid pensioners and dependant members.*
3 *Refer to page 286 for details on the principal plan.*
4 *The presentation of the mortality table has been updated to show life expectancies at the age of 60 rather than 65 as presented in prior years to better reflect market disclosure practices. The prior year data have been updated accordingly.*

The effect of changes in key assumptions on the principal plan[1]

	Impact on HBUK section of the HSBC Bank (UK) Pension Scheme obligation			
	Financial impact of increase		Financial impact of decrease	
	2019	2018	**2019**	2018
	$m	$m	**$m**	$m
Discount rate – increase/decrease of 0.25%	**(1,305)**	(1,078)	**1,395**	1,149
Inflation rate – increase/decrease of 0.25%	**781**	726	**(738)**	(716)
Pension payments and deferred pensions – increase/decrease of 0.25%	**1,100**	1,181	**(1,026)**	(1,112)
Pay – increase/decrease of 0.25%	**73**	28	**(72)**	(29)
Change in mortality – increase of 1 year	**1,267**	995	**N/A**	N/A

1 *Refer to page 286 for details on the principal plan.*

Directors' emoluments

Details of Directors' emoluments, pensions and their interests are disclosed in the Directors' remuneration report on page 220.

6 Auditor's remuneration

	2019 $m	2018 $m	2017 $m
Audit fees payable to PwC	**85.2**	86.6	84.8
Other audit fees payable	**0.9**	0.9	1.2
Year ended 31 Dec	**86.1**	87.5	86.0

Fees payable by HSBC to PwC

	Footnotes	2019 $m	2018 $m	2017 $m
Fees for HSBC Holdings' statutory audit	1	**15.7**	16.4	15.1
Fees for other services provided to HSBC		**95.0**	103.1	114.6
– audit of HSBC's subsidiaries		**69.5**	70.2	69.7
– audit-related assurance services	2	**10.0**	11.4	10.8
– other assurance services	3	**12.2**	13.5	25.2
– taxation compliance services		**1.6**	1.4	1.2
– taxation advisory services		**—**	0.1	—
– other non-audit services	3	**1.7**	6.5	7.7
Year ended 31 Dec		**110.7**	119.5	129.7

1 *Fees payable to PwC for the statutory audit of the consolidated financial statements of HSBC and the separate financial statements of HSBC Holdings. They include amounts payable for services relating to the consolidation returns of HSBC Holdings' subsidiaries, which are clearly identifiable as being in support of the Group audit opinion.*
2 *Including services for assurance and other services that relate to statutory and regulatory filings, including comfort letters and interim reviews.*
3 *Including permitted services relating to attestation reports on internal controls of a service organisation primarily prepared for and used by third party end user.*

No fees were payable by HSBC to PwC as principal auditor for the following types of services: internal audit services and services related to litigation, recruitment and remuneration.

Fees payable by HSBC's associated pension schemes to PwC

	2019 $000	2018 $000	2017 $000
Audit of HSBC's associated pension schemes	**250**	172	260
Audit-related assurance services	**—**	—	4
Year ended 31 Dec	**250**	172	264

No fees were payable by HSBC's associated pension schemes to PwC as principal auditor for the following types of services: internal audit services, other assurance services, services related to corporate finance transactions, valuation and actuarial services, litigation, recruitment and remuneration, and information technology.

In addition to the above, the estimated fees paid to PwC by third parties associated with HSBC amount to $17.2m (2018: $14.0m; 2017: $3.5m). In these cases, HSBC is connected with the contracting party and may therefore be involved in appointing PwC. These fees arise from services such as auditing mutual funds managed by HSBC and reviewing the financial position of corporate concerns that borrow from HSBC.

Fees payable for non-audit services for HSBC Holdings are not disclosed separately because such fees are disclosed on a consolidated basis for the HSBC Group.

7 Tax

Tax expense

	Footnotes	2019 $m	2018 $m	2017 $m
Current tax	1	**3,768**	4,195	4,264
– for this year		**3,689**	4,158	4,115
– adjustments in respect of prior years		**79**	37	149
Deferred tax		**871**	670	1,024
– origination and reversal of temporary differences		**684**	656	(228)
– effect of changes in tax rates		**(11)**	17	1,337
– adjustments in respect of prior years		**198**	(3)	(85)
Year ended 31 Dec	2	**4,639**	4,865	5,288

1 *Current tax included Hong Kong profits tax of $1,413m (2018: $1,532m; 2017: $1,350m). The Hong Kong tax rate applying to the profits of subsidiaries assessable in Hong Kong was 16.5% (2018: 16.5%; 2017: 16.5%).*
2 *In addition to amounts recorded in the income statement, a tax charge of $6m (2018: credit of $234m) was recorded directly to equity.*

Tax reconciliation

The tax charged to the income statement differs from the tax charge that would apply if all profits had been taxed at the UK corporation tax rate as follows:

	2019		2018		2017	
	$m	%	$m	%	$m	%
Profit before tax	**13,347**		19,890		17,167	
Tax expense						
Taxation at UK corporation tax rate of 19.00% (2018: 19.00%; 2017: 19.25%)	**2,536**	**19.0**	3,779	19.0	3,305	19.25
Impact of differently taxed overseas profits in overseas locations	**253**	**1.9**	264	1.3	407	2.3
Items increasing tax charge in 2019:						
– non-deductible goodwill write-down	**1,421**	**10.7**	—	—	—	—
– local taxes and overseas withholding taxes	**484**	**3.6**	437	2.2	618	3.6
– other permanent disallowables	**481**	**3.6**	396	2.0	400	2.3
– non-deductible UK customer compensation	**382**	**2.9**	16	0.1	166	1.0
– UK tax losses not recognised	**364**	**2.7**	435	2.2	70	0.4
– adjustments in respect of prior period liabilities	**277**	**2.1**	34	0.2	64	0.4
– bank levy	**184**	**1.4**	191	1.0	180	1.0
– impacts of hyperinflation	**29**	**0.2**	78	0.4	—	—
– UK banking surcharge	**29**	**0.2**	229	1.1	136	0.8
– non-UK movements in unrecognised deferred tax	**12**	**0.1**	32	0.2	(16)	(0.1)
– non-deductible regulatory settlements	**5**	**—**	153	0.8	(132)	(0.8)
– deferred tax remeasurement due to US federal tax rate reduction	**—**	**—**	—	—	1,288	7.5
Items reducing tax charge in 2019:						
– non-taxable income and gains	**(844)**	**(6.3)**	(691)	(3.5)	(766)	(4.4)
– effect of profits in associates and joint ventures	**(467)**	**(3.5)**	(492)	(2.5)	(481)	(2.8)
– deductions for AT1 coupon payments	**(263)**	**(2.0)**	—	—	—	—
– non-taxable gain on dilution of shareholding in SABB	**(181)**	**(1.3)**	—	—	—	—
– impact of changes in tax rates	**(11)**	**(0.1)**	17	0.1	49	0.3
– other items	**(52)**	**(0.4)**	(13)	(0.1)	—	—
Year ended 31 Dec	**4,639**	**34.8**	4,865	24.5	5,288	30.8

The Group's profits are taxed at different rates depending on the country or territory in which the profits arise. The key applicable tax rates for 2019 include Hong Kong (16.5%), the US (21%) and the UK (19%). If the Group's profits were taxed at the statutory rates of the countries in which the profits arose, then the tax rate for the year would have been 20.90% (2018: 20.30%). The effective tax rate for the year was 34.8% (2018: 24.5%). The effective tax rate for 2019 was significantly higher than for 2018 as 2019 included a non-deductible impairment of goodwill of $7.3bn.

Following an amendment to IAS 12 effective 1 January 2019, the income tax consequences of distributions, including AT1 coupon payments, are recorded in the income statement tax expense. Prior periods have not been restated.

Accounting for taxes involves some estimation because the tax law is uncertain and its application requires a degree of judgement, which authorities may dispute. Liabilities are recognised based on best estimates of the probable outcome, taking into account external advice where appropriate. We do not expect significant liabilities to arise in excess of the amounts provided. HSBC only recognises current and deferred tax assets where recovery is probable.

Movement of deferred tax assets and liabilities

	Footnotes	Loan impairment provisions $m	Unused tax losses and tax credits $m	Derivatives, FVOD[1] and other investments $m	Insurance business $m	Expense provisions $m	Fixed assets $m	Retirement obligations $m	Other $m	Total $m
Assets		**982**	**1,156**	**492**	**—**	**629**	**1,151**	**—**	**738**	**5,148**
Liabilities		**—**	**—**	**(376)**	**(1,271)**	**—**	**—**	**(1,387)**	**(283)**	**(3,317)**
At 1 Jan 2019		**982**	**1,156**	**116**	**(1,271)**	**629**	**1,151**	**(1,387)**	**455**	**1,831**
Income statement		**45**	**266**	**(386)**	**(303)**	**(18)**	**(185)**	**(149)**	**(141)**	**(871)**
Other comprehensive income		**—**	**—**	**544**	**—**	**—**	**—**	**30**	**(391)**	**183**
Equity		**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Foreign exchange and other adjustments		**(44)**	**(8)**	**147**	**(47)**	**39**	**36**	**(107)**	**98**	**114**
At 31 Dec 2019		**983**	**1,414**	**421**	**(1,621)**	**650**	**1,002**	**(1,613)**	**21**	**1,257**
Assets	2	**983**	**1,414**	**979**	**—**	**650**	**1,002**	**—**	**422**	**5,450**
Liabilities	2	**—**	**—**	**(558)**	**(1,621)**	**—**	**—**	**(1,613)**	**(401)**	**(4,193)**
Assets		713	1,373	1,282	—	643	1,201	352	760	6,324
Liabilities		—	—	(93)	(1,182)	—	—	(1,387)	(968)	(3,630)
At 1 Jan 2018		713	1,373	1,189	(1,182)	643	1,201	(1,035)	(208)	2,694
IFRS 9 transitional adjustment		358	—	(411)	—	—	—	—	459	406
Income statement		(72)	(203)	51	(104)	19	(68)	35	(328)	(670)
Other comprehensive income		—	—	(722)	—	—	—	25	165	(532)
Equity		—	—	—	—	—	—	(15)	(8)	(23)
Foreign exchange and other adjustments		(17)	(14)	9	15	(33)	18	(397)	375	(44)
At 31 Dec 2018		982	1,156	116	(1,271)	629	1,151	(1,387)	455	1,831
Assets	2	982	1,156	492	—	629	1,151	—	738	5,148
Liabilities	2	—	—	(376)	(1,271)	—	—	(1,387)	(283)	(3,317)

1 *Fair value of own debt.*
2 *After netting off balances within countries, the balances as disclosed in the accounts are as follows: deferred tax assets $4,632m (2018: $4,450m) and deferred tax liabilities $3,375m (2018: $2,619m).*

In applying judgement in recognising deferred tax assets, management has critically assessed all available information, including future business profit projections and the track record of meeting forecasts.

The net deferred tax asset of $1.3bn (2018: $1.8bn) includes $2.8bn (2018: $3.0bn) of deferred tax assets relating to the US, of which $1.1bn relates to US tax losses that expire in 14 to 18 years. Management expects the US deferred tax asset to be substantially recovered in six to seven years, with the majority recovered in the first five years. The most recent financial forecasts approved by management cover a five-year period and the forecasts have been extrapolated beyond five years by assuming that performance remains constant after the fifth year.

Unrecognised deferred tax

The amount of gross temporary differences, unused tax losses and tax credits for which no deferred tax asset is recognised in the balance sheet was $8.3bn (2018: $7.2bn). This amount includes unused UK corporation tax losses of $6.2bn (2018: $4.6bn) which are not recognised due to uncertainty regarding the availability of sufficient future taxable profits against which to recover them. Of the total amounts unrecognised, $6.4bn (2018: $4.7bn) had no expiry date, $1.3bn (2018: $1.3bn) was scheduled to expire within 10 years and the remaining balance is expected to expire after 10 years.

Deferred tax is not recognised in respect of the Group's investments in subsidiaries and branches where HSBC is able to control the timing of remittance or other realisation and where remittance or realisation is not probable in the foreseeable future. The aggregate temporary differences relating to unrecognised deferred tax liabilities arising on investments in subsidiaries and branches is $13.4bn (2018: $13.2bn) and the corresponding unrecognised deferred tax liability is $1.0bn (2018: $0.9bn).

8 Dividends

Dividends to shareholders of the parent company

	2019			2018			2017		
	Per share $	**Total $m**	**Settled in scrip $m**	Per share $	Total $m	Settled in scrip $m	Per share $	Total $m	Settled in scrip $m
Dividends paid on ordinary shares									
In respect of previous year:									
– fourth interim dividend	**0.21**	**4,206**	**1,160**	0.21	4,197	393	0.21	4,169	1,945
In respect of current year:									
– first interim dividend	**0.10**	**2,013**	**375**	0.10	2,008	213	0.10	2,005	826
– second interim dividend	**0.10**	**2,021**	**795**	0.10	1,990	181	0.10	2,014	193
– third interim dividend	**0.10**	**2,029**	**357**	0.10	1,992	707	0.10	2,005	242
Total	**0.51**	**10,269**	**2,687**	0.51	10,187	1,494	0.51	10,193	3,206
Total dividends on preference shares classified as equity (paid quarterly)	**62.00**	**90**		62.00	90		62.00	90	
Total coupons on capital securities classified as equity		**1,324**			1,270			1,268	
Dividends to shareholders		**11,683**			11,547			11,551	

Total coupons on capital securities classified as equity

	Footnotes	First call date	2019 Per security	2019 Total $m	2018 Total $m	2017 Total $m
Perpetual subordinated capital securities	1, 3					
$2,200m issued at 8.125%		Apr 2013	**$0.000**	**—**	89	179
$3,800m issued at 8.000%		Dec 2015	**$0.000**	**—**	76	304
Perpetual subordinated contingent convertible securities	2, 3					
$1,500m issued at 5.625%	4	Nov 2019	**$56.250**	**84**	84	84
$2,000m issued at 6.875%		Jun 2021	**$68.750**	**138**	138	138
$2,250m issued at 6.375%		Sep 2024	**$63.750**	**143**	143	143
$2,450m issued at 6.375%		Mar 2025	**$63.750**	**156**	156	156
$3,000m issued at 6.000%		May 2027	**$60.000**	**180**	180	90
$2,350m issued at 6.250%		Mar 2023	**$62.500**	**147**	73	—
$1,800m issued at 6.500%		Mar 2028	**$65.000**	**117**	59	—
€1,500m issued at 5.250%		Sep 2022	**€52.500**	**88**	95	89
€1,000m issued at 6.000%		Sep 2023	**€60.000**	**66**	72	68
€1,250m issued at 4.750%		July 2029	**€47.500**	**68**	70	—
SGD1,000m issued at 4.700%		Jun 2022	**SGD47.000**	**34**	35	17
£1,000m issued at 5.875%		Sep 2026	**£58.750**	**75**	—	—
SGD750m issued at 5%		Sep 2023	**SGD50.000**	**28**	—	—
Total				**1,324**	1,270	1,268

1 *Discretionary coupons are paid quarterly on the perpetual subordinated capital securities, in denominations of $25 per security.*
2 *Discretionary coupons are paid semi-annually on the perpetual subordinated contingent convertible securities, in denominations of each security's issuance currency 1,000 per security.*
3 *Further details of these securities can be found in Note 31.*
4 *This security was called by HSBC Holdings on 22 November 2019 and was redeemed and cancelled on 17 January 2020. Between the date of exercise of the call option and the redemption, this security was considered to be a subordinated liability. Refer to Note 31 for further details on additional tier 1 securities.*

After the end of the year, the Directors declared a fourth interim dividend in respect of the financial year ended 31 December 2019 of $0.21 per ordinary share, a distribution of approximately $4,266m. The fourth interim dividend will be payable on 14 April 2020 to holders on the Principal Register in the UK, the Hong Kong Overseas Branch Register or the Bermuda Overseas Branch Register on 28 February 2020. No liability was recorded in the financial statements in respect of the fourth interim dividend for 2019.

On 6 January 2020, HSBC paid a coupon on its €1,250m subordinated capital securities, representing a total distribution of €30m ($33m). No liability was recorded in the balance sheet at 31 December 2019 in respect of this coupon payment.

9 Earnings per share

Basic earnings per ordinary share is calculated by dividing the profit attributable to ordinary shareholders of the parent company by the weighted average number of ordinary shares outstanding, excluding own shares held. Diluted earnings per ordinary share is calculated by dividing the basic earnings, which require no adjustment for the effects of dilutive potential ordinary shares, by the weighted average number of ordinary shares outstanding, excluding own shares held, plus the weighted average number of ordinary shares that would be issued on conversion of dilutive potential ordinary shares.

Profit attributable to the ordinary shareholders of the parent company

	2019 $m	2018 $m	2017 $m
Profit attributable to shareholders of the parent company	**7,383**	13,727	10,798
Dividend payable on preference shares classified as equity	**(90)**	(90)	(90)
Coupon payable on capital securities classified as equity	**(1,324)**	(1,029)	(1,025)
Year ended 31 Dec	**5,969**	12,608	9,683

Basic and diluted earnings per share

		2019			2018			2017		
		Profit	**Number of shares**	**Per share**	Profit	Number of shares	Per share	Profit	Number of shares	Per share
	Footnotes	**$m**	**(millions)**	**$**	$m	(millions)	$	$m	(millions)	$
Basic	1	**5,969**	**20,158**	**0.30**	12,608	19,896	0.63	9,683	19,972	0.48
Effect of dilutive potential ordinary shares			**75**			87			100	
Diluted	1	**5,969**	**20,233**	**0.30**	12,608	19,983	0.63	9,683	20,072	0.48

1 *Weighted average number of ordinary shares outstanding (basic) or assuming dilution (diluted).*

The number of anti-dilutive employee share options excluded from the weighted average number of dilutive potential ordinary shares is 1.1m (2018: nil; 2017: nil).

10 Segmental analysis

The Group Chief Executive, supported by the rest of the GMB, is considered the Chief Operating Decision Maker ('CODM') for the purposes of identifying the Group's reportable segments. Global business results are assessed by the CODM on the basis of adjusted performance that removes the effects of significant items and currency translation from reported results. We therefore present these results on an adjusted basis as required by IFRSs. The 2018 and 2017 adjusted performance information is presented on a constant currency basis. The 2018 and 2017 income statements are converted at the average rates of exchange for 2019, and the balance sheets at 31 December 2018 and 31 December 2017 at the prevailing rates of exchange on 31 December 2019.

Our operations are closely integrated and, accordingly, the presentation of data includes internal allocations of certain items of income and expense. These allocations include the costs of certain support services and global functions to the extent that they can be meaningfully attributed to global businesses. While such allocations have been made on a systematic and consistent basis, they necessarily involve a degree of subjectivity. Costs that are not allocated to global businesses are included in Corporate Centre.

Where relevant, income and expense amounts presented include the results of inter-segment funding along with inter-company and inter-business line transactions. All such transactions are undertaken on arm's length terms. The intra-Group elimination items for the global businesses are presented in Corporate Centre.

Our global businesses

HSBC provides a comprehensive range of banking and related financial services to its customers in its four global businesses. The products and services offered to customers are organised by these global businesses.

- RBWM offers a broad range of products and services to meet the personal banking and wealth management needs of individual customers. Typically, customer offerings include personal banking products, such as current and savings accounts, mortgages and personal loans, credit cards, debit cards and local and international payment services, as well as wealth management services, including insurance and investment products, global asset management services and financial planning services.
- CMB offers a broad range of products and services to serve the needs of our commercial customers, including small and medium-sized enterprises, mid-market enterprises and corporates. These include credit and lending, international trade and receivables finance, treasury management and liquidity solutions (payments and cash management and commercial cards), commercial insurance and investments. CMB also offers its customers access to products and services offered by other global businesses, such as GB&M, which include foreign exchange products, raising capital on debt and equity markets and advisory services.
- GB&M provides tailored financial solutions to major government, corporate and institutional clients and private investors worldwide. The client-focused business lines deliver a full range of banking capabilities including financing, advisory and transaction services, a markets business that provides services in credit, rates, foreign exchange, equities, money markets and securities services, and principal investment activities.
- GPB provides a range of services to high net worth individuals and families with complex and international needs within the Group's major markets.

HSBC adjusted profit before tax and balance sheet data

		2019					
		Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
	Footnotes	$m	$m	$m	$m	$m	$m
Net operating income/(expense) before change in expected credit losses and other credit impairment charges	1	23,400	15,292	14,916	1,848	(47)	55,409
– external		17,026	14,805	18,517	1,445	3,616	55,409
– inter-segment		6,374	487	(3,601)	403	(3,663)	–
of which: net interest income/(expense)		*16,525*	*11,226*	*5,601*	*879*	*(3,612)*	*30,619*
Change in expected credit losses and other credit impairment charges		(1,390)	(1,184)	(153)	(22)	(7)	(2,756)
Net operating income/(expense)		22,010	14,108	14,763	1,826	(54)	52,653
Total operating expenses		(14,017)	(6,801)	(9,417)	(1,424)	(1,136)	(32,795)
Operating profit/(loss)		7,993	7,307	5,346	402	(1,190)	19,858
Share of profit in associates and joint ventures		55	–	–	–	2,299	2,354
Adjusted profit before tax		8,048	7,307	5,346	402	1,109	22,212
		%	%	%	%	%	%
Share of HSBC's adjusted profit before tax		36.2	32.9	24.1	1.8	5.0	100.0
Adjusted cost efficiency ratio		59.9	44.5	63.1	77.1	(2,417.0)	59.2
Adjusted balance sheet data		$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		395,393	346,060	246,266	47,593	1,431	1,036,743
Interests in associates and joint ventures		449	–	–	–	24,025	24,474
Total external assets		526,621	367,509	1,066,584	52,224	702,214	2,715,152
Customer accounts		689,283	386,522	292,284	62,943	8,083	1,439,115

HSBC adjusted profit before tax and balance sheet data (continued)

	Footnotes	2018 Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
		$m	$m	$m	$m	$m	$m
Net operating income/(expense) before change in expected credit losses and other credit impairment charges	1	21,374	14,465	15,025	1,757	(290)	52,331
– external		16,794	14,226	17,554	1,474	2,283	52,331
– inter-segment		4,580	239	(2,529)	283	(2,573)	—
of which: net interest income/(expense)		*15,432*	*10,380*	*5,122*	*873*	*(2,189)*	*29,618*
Change in expected credit losses and other credit impairment (charges)/recoveries		(1,134)	(712)	31	7	119	(1,689)
Net operating income/(expense)		20,240	13,753	15,056	1,764	(171)	50,642
Total operating expenses		(13,255)	(6,275)	(9,170)	(1,425)	(1,781)	(31,906)
Operating profit/(loss)		6,985	7,478	5,886	339	(1,952)	18,736
Share of profit in associates and joint ventures		33	—	—	—	2,413	2,446
Adjusted profit before tax		7,018	7,478	5,886	339	461	21,182
		%	%	%	%	%	%
Share of HSBC's adjusted profit before tax		33.1	35.3	27.8	1.6	2.2	100.0
Adjusted cost efficiency ratio		62.0	43.4	61.0	81.1	(614.1)	61.0
Adjusted balance sheet data		$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		367,917	337,099	247,125	39,602	2,533	994,276
Interests in associates and joint ventures		398	—	—	—	21,903	22,301
Total external assets		482,967	364,638	1,025,737	45,520	670,333	2,589,195
Customer accounts		649,172	362,274	294,584	65,053	8,655	1,379,738

	Footnotes	2017 Retail Banking and Wealth Management	Commercial Banking	Global Banking and Markets	Global Private Banking	Corporate Centre	Total
		$m	$m	$m	$m	$m	$m
Net operating income before loan impairment charges and other credit risk provisions	1	19,708	12,883	14,823	1,698	1,061	50,173
– external		16,582	13,009	16,086	1,433	3,063	50,173
– inter-segment		3,126	(126)	(1,263)	265	(2,002)	—
of which: net interest income/(expense)		*13,573*	*8,822*	*4,746*	*812*	*(499)*	*27,454*
Loan impairment charges and other credit risk provisions/(recoveries)		(941)	(468)	(439)	(17)	179	(1,686)
Net operating income		18,767	12,415	14,384	1,681	1,240	48,487
Total operating expenses		(12,386)	(5,770)	(8,709)	(1,384)	(2,010)	(30,259)
Operating profit/(loss)		6,381	6,645	5,675	297	(770)	18,228
Share of profit in associates and joint ventures		12	—	—	—	2,316	2,328
Adjusted profit before tax		6,393	6,645	5,675	297	1,546	20,556
		%	%	%	%	%	%
Share of HSBC's adjusted profit before tax		31.1	32.3	27.6	1.4	7.6	100.0
Adjusted cost efficiency ratio		62.8	44.8	58.8	81.5	189.4	60.3
Adjusted balance sheet data		$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)		337,768	308,870	246,890	40,013	7,382	940,923
Interests in associates and joint ventures		364	—	—	—	21,558	21,922
Total external assets		457,126	340,211	960,732	46,706	667,822	2,472,597
Customer accounts		629,442	356,488	276,634	65,491	11,017	1,339,072

1 *Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.*

Reported external net operating income is attributed to countries and territories on the basis of the location of the branch responsible for reporting the results or advancing the funds:

	Footnotes	**2019**	2018	2017
		$m	$m	$m
Reported external net operating income by country/territory	1	**56,098**	53,780	51,445
– UK		**9,011**	10,340	11,057
– Hong Kong		**18,449**	17,162	14,992
– US		**4,471**	4,379	4,573
– France		**1,942**	1,898	2,203
– other countries		**22,225**	20,001	18,620

1 *Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.*

Adjusted results reconciliation

	Footnotes	2019 Adjusted $m	2019 Significant items $m	2019 Reported $m	2018 Adjusted $m	2018 Currency translation $m	2018 Significant items $m	2018 Reported $m	2017 Adjusted $m	2017 Currency translation $m	2017 Significant items $m	2017 Reported $m
Revenue	1	**55,409**	**689**	**56,098**	52,331	1,617	(168)	53,780	50,173	1,344	(72)	51,445
ECL		**(2,756)**	**—**	**(2,756)**	(1,689)	(78)	—	(1,767)	N/A	N/A	N/A	N/A
LICs		**N/A**	**N/A**	**N/A**	N/A	N/A	N/A	N/A	(1,686)	(83)	—	(1,769)
Operating expenses		**(32,795)**	**(9,554)**	**(42,349)**	(31,906)	(1,109)	(1,644)	(34,659)	(30,259)	(915)	(3,710)	(34,884)
Share of profit in associates and joint ventures		**2,354**	**—**	**2,354**	2,446	90	—	2,536	2,328	47	—	2,375
Profit/(loss) before tax		**22,212**	**(8,865)**	**13,347**	21,182	520	(1,812)	19,890	20,556	393	(3,782)	17,167

1 *Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit risk provisions, also referred to as revenue.*

Adjusted balance sheet reconciliation

	2019 Reported and adjusted $m	2018 Adjusted $m	2018 Currency translation $m	2018 Reported $m	2017 Adjusted $m	2017 Currency translation $m	2017 Reported $m
Loans and advances to customers (net)	**1,036,743**	994,276	(12,580)	981,696	940,923	22,041	962,964
Interests in associates and joint ventures	**24,474**	22,301	106	22,407	21,922	822	22,744
Total external assets	**2,715,152**	2,589,195	(31,071)	2,558,124	2,472,597	49,174	2,521,771
Customer accounts	**1,439,115**	1,379,738	(17,095)	1,362,643	1,339,072	25,390	1,364,462

Adjusted profit reconciliation

	Footnotes	2019 $m	2018 $m	2017 $m
Year ended 31 Dec				
Adjusted profit before tax		**22,212**	21,182	20,556
Significant items		**(8,865)**	(1,812)	(3,782)
– customer redress programmes (revenue)		**(163)**	53	(108)
– disposals, acquisitions and investment in new businesses (revenue)		**768**	(113)	274
– fair value movements on financial instruments	1	**84**	(100)	(245)
– costs of structural reform	2	**(158)**	(361)	(420)
– costs to achieve		**—**	—	(3,002)
– customer redress programmes (operating expenses)		**(1,281)**	(146)	(655)
– disposals, acquisitions and investment in new businesses (operating expenses)		**—**	(52)	(53)
– gain on partial settlement of pension obligation		**—**	—	188
– goodwill impairment		**(7,349)**	—	—
– past service costs of guaranteed minimum pension benefits equalisation		**—**	(228)	—
– restructuring and other related costs		**(827)**	(66)	—
– settlements and provisions in connection with legal and other regulatory matters		**61**	(816)	198
– currency translation on significant items			17	41
Currency translation			520	393
Reported profit before tax		**13,347**	19,890	17,167

1 *Fair value movements on financial instruments include non-qualifying hedges and debt value adjustments on derivatives.*
2 *Comprises costs associated with preparations for the UK's exit from the European Union, costs to establish the UK ring-fenced bank (including the UK ServCo group) and costs associated with establishing an intermediate holding company in Hong Kong.*

11 Trading assets

	Footnotes	2019 $m	2018 $m
Treasury and other eligible bills		**21,789**	22,674
Debt securities		**126,043**	130,539
Equity securities		**78,827**	60,896
Trading securities		**226,659**	214,109
Loans and advances to banks	1	**8,402**	10,425
Loans and advances to customers	1	**19,210**	13,596
Year ended 31 Dec		**254,271**	238,130

1 *Loans and advances to banks and customers include reverse repos, stock borrowing and other accounts.*

Trading securities[1]

	Footnotes	2019 $m	2018 $m
US Treasury and US Government agencies	2	**25,722**	34,664
UK Government		**10,040**	9,710
Hong Kong Government		**9,783**	10,772
Other governments		**72,456**	66,530
Asset-backed securities	3	**4,691**	3,351
Corporate debt and other securities		**25,140**	28,186
Equity securities		**78,827**	60,896
At 31 Dec		**226,659**	214,109

1 *Included within these figures are debt securities issued by banks and other financial institutions of $17,846m (2018: $18,918m), of which $2,637m (2018: $2,367m) are guaranteed by various governments.*
2 *Includes securities that are supported by an explicit guarantee issued by the US Government.*
3 *Excludes asset-backed securities included under US Treasury and US Government agencies.*

12 Fair values of financial instruments carried at fair value

Control framework

Fair values are subject to a control framework designed to ensure that they are either determined or validated by a function independent of the risk taker.

Where fair values are determined by reference to externally quoted prices or observable pricing inputs to models, independent price determination or validation is used. For inactive markets, HSBC sources alternative market information, with greater weight given to information that is considered to be more relevant and reliable. Examples of the factors considered are price observability, instrument comparability, consistency of data sources, underlying data accuracy and timing of prices.

For fair values determined using valuation models, the control framework includes development or validation by independent support functions of the model logic, inputs, model outputs and adjustments. Valuation models are subject to a process of due diligence before becoming operational and are calibrated against external market data on an ongoing basis.

Changes in fair value are generally subject to a profit and loss analysis process and are disaggregated into high-level categories including portfolio changes, market movements and other fair value adjustments.

The majority of financial instruments measured at fair value are in GB&M. GB&M's fair value governance structure comprises its Finance function, Valuation Committees and a Valuation Committee Review Group. Finance is responsible for establishing procedures governing valuation and ensuring fair values are in compliance with accounting standards. The fair values are reviewed by the Valuation Committees, which consist of independent support functions. These committees are overseen by the Valuation Committee Review Group, which considers all material subjective valuations.

Financial liabilities measured at fair value

In certain circumstances, HSBC records its own debt in issue at fair value, based on quoted prices in an active market for the specific instrument. When quoted market prices are unavailable, the own debt in issue is valued using valuation techniques, the inputs for which are either based on quoted prices in an inactive market for the instrument or are estimated by comparison with quoted prices in an active market for similar instruments. In both cases, the fair value includes the effect of applying the credit spread that is appropriate to HSBC's liabilities. The change in fair value of issued debt securities attributable to the Group's own credit spread is computed as follows: for each security at each reporting date, an externally verifiable price is obtained or a price is derived using credit spreads for similar securities for the same issuer. Then, using discounted cash flow, each security is valued using a Libor-based discount curve. The difference in the valuations is attributable to the Group's own credit spread. This methodology is applied consistently across all securities.

Structured notes issued and certain other hybrid instruments are included within trading liabilities and are measured at fair value. The credit spread applied to these instruments is derived from the spreads at which HSBC issues structured notes.

Gains and losses arising from changes in the credit spread of liabilities issued by HSBC, recorded in other comprehensive income, reverse over the contractual life of the debt, provided that the debt is not repaid at a premium or a discount.

Fair value hierarchy

Fair values of financial assets and liabilities are determined according to the following hierarchy:

- Level 1 – valuation technique using quoted market price. These are financial instruments with quoted prices for identical instruments in active markets that HSBC can access at the measurement date.
- Level 2 – valuation technique using observable inputs. These are financial instruments with quoted prices for similar instruments in active markets or quoted prices for identical or similar instruments in inactive markets and financial instruments valued using models where all significant inputs are observable.
- Level 3 – valuation technique with significant unobservable inputs. These are financial instruments valued using valuation techniques where one or more significant inputs are unobservable.

Financial instruments carried at fair value and bases of valuation

	2019				2018			
	Level 1	**Level 2**	**Level 3**	**Total**	Level 1	Level 2	Level 3	Total
	$m	**$m**	**$m**	**$m**	$m	$m	$m	$m
Recurring fair value measurements at 31 Dec								
Assets								
Trading assets	**186,653**	**62,639**	**4,979**	**254,271**	178,100	53,271	6,759	238,130
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	**26,505**	**9,373**	**7,749**	**43,627**	23,125	12,494	5,492	41,111
Derivatives	**1,728**	**239,131**	**2,136**	**242,995**	1,868	203,534	2,423	207,825
Financial investments	**271,467**	**84,087**	**2,023**	**357,577**	263,885	78,882	2,000	344,767
Liabilities								
Trading liabilities	**66,925**	**16,192**	**53**	**83,170**	66,300	18,073	58	84,431
Financial liabilities designated at fair value	**9,549**	**149,901**	**5,016**	**164,466**	6,815	136,362	5,328	148,505
Derivatives	**1,331**	**235,864**	**2,302**	**239,497**	2,845	201,234	1,756	205,835

Transfers between Level 1 and Level 2 fair values

	Assets				Liabilities		
	Financial investments	**Trading assets**	**Designated and otherwise mandatorily measured at fair value**	**Derivatives**	**Trading liabilities**	**Designated at fair value**	**Derivatives**
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**
At 31 Dec 2019							
Transfers from Level 1 to Level 2	**5,257**	**3,304**	**1,332**	**24**	**278**	**–**	**–**
Transfers from Level 2 to Level 1	**3,486**	**2,726**	**673**	**111**	**220**	**–**	**117**
At 31 Dec 2018							
Transfers from Level 1 to Level 2	367	435	2	1	79	–	–
Transfers from Level 2 to Level 1	17,861	4,959	85	128	1,821	–	138

Transfers between levels of the fair value hierarchy are deemed to occur at the end of each quarterly reporting period. Transfers into and out of levels of the fair value hierarchy are primarily attributable to observability of valuation inputs and price transparency.

Fair value adjustments

Fair value adjustments are adopted when HSBC determines there are additional factors considered by market participants that are not incorporated within the valuation model. Movements in the level of fair value adjustments do not necessarily result in the recognition of profits or losses within the income statement, such as when models are enhanced and therefore fair value adjustments may no longer be required.

Global Banking and Markets and Corporate Centre fair value adjustments

	2019		2018	
	GB&M	**Corporate Centre**	GB&M	Corporate Centre
	$m	**$m**	$m	$m
Type of adjustment				
Risk-related	**1,040**	**125**	1,042	138
– bid-offer	**428**	**79**	430	76
– uncertainty	**115**	**1**	99	6
– credit valuation adjustment	**355**	**38**	442	52
– debt valuation adjustment	**(126)**	**–**	(198)	–
– funding fair value adjustment	**241**	**7**	256	4
– other	**27**	**–**	13	–
Model-related	**71**	**3**	79	3
– model limitation	**68**	**3**	79	3
– other	**3**	**–**	–	–
Inception profit (Day 1 P&L reserves)	**72**	**–**	85	–
At 31 Dec	**1,183**	**128**	1,206	141

Bid-offer

IFRS 13 'Fair value measurement' requires the use of the price within the bid-offer spread that is most representative of fair value. Valuation models will typically generate mid-market values. The bid-offer adjustment reflects the extent to which bid-offer costs would be incurred if substantially all residual net portfolio market risks were closed using available hedging instruments or by disposing of or unwinding the position.

Uncertainty

Certain model inputs may be less readily determinable from market data and/or the choice of model itself may be more subjective. In these circumstances, an adjustment may be necessary to reflect the likelihood that market participants would adopt more conservative values for uncertain parameters and/or model assumptions than those used in HSBC's valuation model.

Credit and debt valuation adjustments

The credit valuation adjustment ('CVA') is an adjustment to the valuation of over-the-counter ('OTC') derivative contracts to reflect the possibility that the counterparty may default and that HSBC may not receive the full market value of the transactions.

The debt valuation adjustment ('DVA') is an adjustment to the valuation of OTC derivative contracts to reflect the possibility that HSBC may default, and that it may not pay the full market value of the transactions.

HSBC calculates a separate CVA and DVA for each legal entity, and for each counterparty to which the entity has exposure. With the exception of central clearing parties, all third-party counterparties are included in the CVA and DVA calculations, and these adjustments are not netted across Group entities.

HSBC calculates the CVA by applying the probability of default ('PD') of the counterparty, conditional on the non-default of HSBC, to HSBC's expected positive exposure to the counterparty and multiplying the result by the loss expected in the event of default. Conversely, HSBC calculates the DVA by applying the PD of HSBC, conditional on the non-default of the counterparty, to the expected positive exposure of the counterparty to HSBC and multiplying the result by the loss expected in the event of default. Both calculations are performed over the life of the potential exposure.

For most products HSBC uses a simulation methodology, which incorporates a range of potential exposures over the life of the portfolio, to calculate the expected positive exposure to a counterparty. The simulation methodology includes credit mitigants, such as counterparty netting agreements and collateral agreements with the counterparty.

The methodologies do not, in general, account for 'wrong-way risk'. Wrong-way risk is an adverse correlation between the counterparty's probability of default and the mark-to-market value of the underlying transaction. The risk can either be general, perhaps related to the currency of the issuer country, or specific to the transaction concerned. When there is significant wrong-way risk, a trade-specific approach is applied to reflect this risk in the valuation.

Funding fair value adjustment

The funding fair value adjustment ('FFVA') is calculated by applying future market funding spreads to the expected future funding exposure of any uncollateralised component of the OTC derivative portfolio. The expected future funding exposure is calculated by a simulation methodology, where available, and is adjusted for events that may terminate the exposure, such as the default of HSBC or the counterparty. The FFVA and DVA are calculated independently.

Model limitation

Models used for portfolio valuation purposes may be based upon a simplified set of assumptions that do not capture all current and future material market characteristics. In these circumstances, model limitation adjustments are adopted.

Inception profit (Day 1 P&L reserves)

Inception profit adjustments are adopted when the fair value estimated by a valuation model is based on one or more significant unobservable inputs. The accounting for inception profit adjustments is discussed in Note 1.

Fair value valuation bases

Financial instruments measured at fair value using a valuation technique with significant unobservable inputs – Level 3

	Assets					Liabilities			
	Financial investments	Trading assets	Designated and otherwise mandatorily measured at fair value through profit or loss	Derivatives	Total	Trading liabilities	Designated at fair value	Derivatives	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Private equity including strategic investments	**716**	**4**	**7,289**	**—**	**8,009**	**4**	**—**	**—**	**4**
Asset-backed securities	**874**	**934**	**28**	**—**	**1,836**	**—**	**—**	**—**	**—**
Loans held for securitisation	**—**	**1**	**39**	**—**	**40**	**—**	**—**	**—**	**—**
Structured notes	**—**	**3**	**—**	**—**	**3**	**47**	**5,016**	**—**	**5,063**
Derivatives with monolines	**—**	**—**	**—**	**66**	**66**	**—**	**—**	**—**	**—**
Other derivatives	**—**	**—**	**—**	**2,070**	**2,070**	**—**	**—**	**2,302**	**2,302**
Other portfolios	**433**	**4,037**	**393**	**—**	**4,863**	**2**	**—**	**—**	**2**
At 31 Dec 2019	**2,023**	**4,979**	**7,749**	**2,136**	**16,887**	**53**	**5,016**	**2,302**	**7,371**
Private equity including strategic investments	427	20	5,106	—	5,553	12	—	—	12
Asset-backed securities	1,030	1,140	32	—	2,202	—	—	—	—
Loans held for securitisation	—	—	49	—	49	—	—	—	—
Structured notes	—	3	—	—	3	46	5,328	—	5,374
Derivatives with monolines	—	—	—	65	65	—	—	—	—
Other derivatives	—	—	—	2,358	2,358	—	—	1,755	1,755
Other portfolios	543	5,596	305	—	6,444	—	—	1	1
At 31 Dec 2018	2,000	6,759	5,492	2,423	16,674	58	5,328	1,756	7,142

Level 3 instruments are present in both ongoing and legacy businesses. Loans held for securitisation, derivatives with monolines, certain 'other derivatives' and predominantly all Level 3 ABSs are legacy positions. HSBC has the capability to hold these positions.

Private equity including strategic investments

The fair value of a private equity investment (including strategic investments) is estimated on the basis of an analysis of the investee's financial position and results, risk profile, prospects and other factors; by reference to market valuations for similar entities quoted in an active market; or the price at which similar companies have changed ownership.

Asset-backed securities

While quoted market prices are generally used to determine the fair value of the asset-backed securities ('ABSs'), valuation models are used to substantiate the reliability of the limited market data available and to identify whether any adjustments to quoted market prices are required. For certain ABSs, such as residential mortgage-backed securities, the valuation uses an industry standard model with assumptions relating to prepayment speeds, default rates and loss severity based on collateral type, and performance, as appropriate. The valuations output is benchmarked for consistency against observable data for securities of a similar nature.

Structured notes

The fair value of Level 3 structured notes is derived from the fair value of the underlying debt security, and the fair value of the embedded derivative is determined as described in the paragraph below on derivatives. These structured notes comprise principally equity-linked notes issued by HSBC, which provide the counterparty with a return linked to the performance of equity securities and other portfolios.

Examples of the unobservable parameters include long-dated equity volatilities and correlations between equity prices, and interest and foreign exchange rates.

Derivatives

OTC derivative valuation models calculate the present value of expected future cash flows, based upon 'no arbitrage' principles. For many vanilla derivative products, the modelling approaches used are standard across the industry. For more complex derivative products, there may be some differences in market practice. Inputs to valuation models are determined from observable market data wherever possible, including prices available from exchanges, dealers, brokers or providers of consensus pricing. Certain inputs may not be observable in the market directly, but can be determined from observable prices via model calibration procedures or estimated from historical data or other sources.

Reconciliation of fair value measurements in Level 3 of the fair value hierarchy

Movement in Level 3 financial instruments

		Assets				Liabilities		
		Financial invest-ments	Trading assets	Designated and otherwise mandatorily measured at fair value through profit or loss	Derivatives	Trading liabilities	Designated at fair value	Derivatives
	Footnotes	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2019		**2,000**	**6,759**	**5,492**	**2,423**	**58**	**5,328**	**1,756**
Total gains/(losses) recognised in profit or loss		6	(112)	598	278	(4)	195	930
– net income from financial instruments held for trading or managed on a fair value basis		–	(112)	–	278	(4)	–	930
– changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		–	–	598	–	–	195	–
– gains less losses from financial investments at fair value through other comprehensive income		10	–	–	–	–	–	–
– expected credit loss charges and other credit risk charges		(4)	–	–	–	–	–	–
Total gains/(losses) recognised in other comprehensive income ('OCI')	1	269	76	(1)	49	1	18	52
– financial investments: fair value gains/(losses)		261	–	–	–	–	–	–
– exchange differences		8	76	(1)	49	1	18	52
Purchases		271	2,206	2,353	–	8	157	–
New issuances		–	154	–	–	6	1,601	–
Sales		(10)	(895)	(276)	–	(9)	(193)	–
Settlements		(329)	(2,107)	(434)	(100)	(7)	(1,048)	(162)
Transfers out		(471)	(1,558)	(23)	(710)	(9)	(1,079)	(473)
Transfers in		287	456	40	196	9	37	199
At 31 Dec 2019		**2,023**	**4,979**	**7,749**	**2,136**	**53**	**5,016**	**2,302**
Unrealised gains/(losses) recognised in profit or loss relating to assets and liabilities held at 31 Dec 2019		(4)	(22)	477	279	–	57	(407)
– net income from financial instruments held for trading or managed on a fair value basis		–	(22)	–	279	–	–	(407)
– changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		–	–	477	–	–	57	–
– loan impairment recoveries and other credit risk provisions		(4)	–	–	–	–	–	–

Movement in Level 3 financial instruments (continued)

	Footnotes	Assets: Financial investments $m	Assets: Trading assets $m	Assets: Designated and otherwise mandatorily measured at fair value through profit or loss $m	Assets: Derivatives $m	Liabilities: Trading liabilities $m	Liabilities: Designated at fair value $m	Liabilities: Derivatives $m
At 1 Jan 2018		1,767	5,080	3,958	2,444	93	4,107	1,949
Total gains/(losses) recognised in profit or loss		251	284	608	597	(4)	(637)	255
– net income from financial instruments held for trading or managed on a fair value basis		—	284	—	597	(4)	—	255
– changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		—	—	608	—	—	(637)	—
– gains less losses from financial investments at fair value through other comprehensive income		251	—	—	—	—	—	—
Total gains/(losses) recognised in other comprehensive income ('OCI')	1	17	(274)	(107)	(113)	(3)	(144)	(82)
– financial investments: fair value gains/(losses)		15	—	—	—	—	—	—
– cash flow hedges: fair value gains/(losses)		—	—	6	6	—	—	2
– exchange differences		2	(274)	(113)	(119)	(3)	(144)	(84)
Purchases		275	4,377	2,172	—	3	76	—
New issuances		—	975	—	—	6	2,442	—
Sales		(51)	(1,589)	(395)	—	(11)	—	—
Settlements		(141)	(2,021)	(541)	(191)	(2)	(32)	(18)
Transfers out		(685)	(1,402)	(285)	(337)	(24)	(1,112)	(464)
Transfers in		567	1,329	82	23	—	628	116
At 31 Dec 2018		2,000	6,759	5,492	2,423	58	5,328	1,756
Unrealised gains/(losses) recognised in profit or loss relating to assets and liabilities held at 31 Dec 2018		—	(5)	199	342	(5)	274	(351)
– net income from financial instruments held for trading or managed on a fair value basis		—	(5)	—	342	(5)	—	(351)
– changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		—	—	199	—	—	274	—
– loan impairment recoveries and other credit risk provisions		—	—	—	—	—	—	—

1 *Included in 'financial investments: fair value gains/(losses)' in the current year and 'exchange differences' in the consolidated statement of comprehensive income.*

Transfers between levels of the fair value hierarchy are deemed to occur at the end of each quarterly reporting period. Transfers into and out of levels of the fair value hierarchy are primarily attributable to observability of valuation inputs and price transparency.

Effect of changes in significant unobservable assumptions to reasonably possible alternatives

Sensitivity of Level 3 fair values to reasonably possible alternative assumptions

	Footnotes	**2019 Reflected in profit or loss: Favourable changes $m**	**2019 Reflected in profit or loss: Unfavourable changes $m**	**2019 Reflected in OCI: Favourable changes $m**	**2019 Reflected in OCI: Unfavourable changes $m**	2018 Reflected in profit or loss: Favourable changes $m	2018 Reflected in profit or loss: Unfavourable changes $m	2018 Reflected in OCI: Favourable changes $m	2018 Reflected in OCI: Unfavourable changes $m
Derivatives, trading assets and trading liabilities	1	**255**	**(230)**	**—**	**—**	269	(257)	—	—
Designated and otherwise mandatorily measured at fair value through profit or loss		**532**	**(417)**	**—**	**—**	394	(310)	—	—
Financial investments		**48**	**(53)**	**22**	**(22)**	34	(36)	23	(22)
At 31 Dec		**835**	**(700)**	**22**	**(22)**	697	(603)	23	(22)

1 *Derivatives, trading assets and trading liabilities are presented as one category to reflect the manner in which these instruments are risk managed.*

The sensitivity analysis aims to measure a range of fair values consistent with the application of a 95% confidence interval. Methodologies take account of the nature of the valuation technique employed, as well as the availability and reliability of observable proxy and historical data.

When the fair value of a financial instrument is affected by more than one unobservable assumption, the above table reflects the most favourable or the most unfavourable change from varying the assumptions individually.

Key unobservable inputs to Level 3 financial instruments

The following table lists key unobservable inputs to Level 3 financial instruments and provides the range of those inputs at 31 December 2019. The core range of inputs is the estimated range within which 90% of the inputs fall.

Quantitative information about significant unobservable inputs in Level 3 valuations

		Fair value				2019				2018			
		Assets	Liabilities	Valuation techniques	Key unobservable inputs	Full range of inputs		Core range of inputs[1]		Full range of inputs		Core range of inputs[1]	
	Footnotes	$m	$m			Lower	Higher	Lower	Higher	Lower	Higher	Lower	Higher
Private equity including strategic investments		8,009	4	See below	See below	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Asset-backed securities	2	1,836	–										
– CLO/CDO		373	–	Market proxy	Prepayment rate	0%	9%	0%	9%	0%	10%	0%	10%
				Market proxy	Bid quotes	0	100	0	100	0	100	50	100
– other ABSs		1,463	–	Market proxy	Bid quotes	0	101	61	98	0	271	71	99
Loans held for securitisation		40	–										
Structured notes		3	5,063										
– equity-linked notes		–	3,768	Model – Option model	Equity volatility	5%	90%	6%	56%	8%	79%	13%	53%
				Model – Option model	Equity correlation	9%	93%	9%	93%	17%	93%	40%	77%
– FX-linked notes		–	1,046	Model – Option model	FX volatility	1%	23%	3%	22%	1%	27%	3%	25%
– other		3	249										
Derivatives with monolines		66	–	Model – Discounted cash flow	Credit spread	0.4%	2%	0.4%	2%	0.2%	1%	0.2%	1%
Other derivatives		2,070	2,302										
– Interest rate derivatives:													
securitisation swaps		314	640	Model – Discounted cash flow	Prepayment rate	6%	7%	6%	7%	6%	7%	6%	7%
long-dated swaptions		838	51	Model – Option model	IR volatility	8%	22%	8%	21%	13%	39%	14%	36%
other		255	155										
– FX derivatives:													
FX options		93	218	Model – Option model	FX volatility	1%	25%	5%	11%	1%	27%	7%	12%
other		119	104										
– Equity derivatives:													
long-dated single stock options		230	293	Model – Option model	Equity volatility	0%	89%	7%	74%	5%	83%	5%	81%
other		78	712										
– Credit derivatives:													
other		143	129										
Other portfolios		4,863	2										
– structured certificates		1,515	–	Model – Discounted cash flow	Credit volatility	4%	4%	4%	4%	2%	4%	2%	4%
– repurchase agreements		1,604	–										
– other	3	1,744	2										
At 31 Dec 2019		**16,887**	**7,371**										

1 *The core range of inputs is the estimated range within which 90% of the inputs fall.*
2 *Collateralised loan obligation/collateralised debt obligation.*
3 *'Other' includes a range of smaller asset holdings.*

Private equity including strategic investments

Given the bespoke nature of the analysis in respect of each private equity holding, it is not practical to quote a range of key unobservable inputs.

Prepayment rates

Prepayment rates are a measure of the anticipated future speed at which a loan portfolio will be repaid in advance of the due date. They vary according to the nature of the loan portfolio and expectations of future market conditions, and may be estimated using a variety of evidence, such as prepayment rates implied from proxy observable security prices, current or historical prepayment rates and macroeconomic modelling.

Market proxy

Market proxy pricing may be used for an instrument when specific market pricing is not available but there is evidence from instruments with common characteristics. In some cases it might be possible to identify a specific proxy, but more generally evidence across a wider range of instruments will be used to understand the factors that influence current market pricing and the manner of that influence.

Volatility

Volatility is a measure of the anticipated future variability of a market price. It varies by underlying reference market price, and by strike and maturity of the option.

Certain volatilities, typically those of a longer-dated nature, are unobservable and are estimated from observable data. The range of unobservable volatilities reflects the wide variation in volatility inputs by reference market price. The core range is significantly narrower than the full range because these examples with extreme volatilities occur relatively rarely within the HSBC portfolio.

Correlation

Correlation is a measure of the inter-relationship between two market prices and is expressed as a number between minus one and one. It is used to value more complex instruments where the payout is dependent upon more than one market price. There is a wide range of instruments for which correlation is an input, and consequently a wide range of both same-asset correlations and cross-asset correlations is used. In general, the range of same-asset correlations will be narrower than the range of cross-asset correlations.

Unobservable correlations may be estimated based upon a range of evidence, including consensus pricing services, HSBC trade prices, proxy correlations and examination of historical price relationships. The range of unobservable correlations quoted in the table reflects the wide variation in correlation inputs by market price pair.

Credit spread

Credit spread is the premium over a benchmark interest rate required by the market to accept lower credit quality. In a discounted cash flow model, the credit spread increases the discount factors applied to future cash flows, thereby reducing the value of an asset. Credit spreads may be implied from market prices and may not be observable in more illiquid markets.

Inter-relationships between key unobservable inputs

Key unobservable inputs to Level 3 financial instruments may not be independent of each other. As described above, market variables may be correlated. This correlation typically reflects the manner in which different markets tend to react to macroeconomic or other events. Furthermore, the effect of changing market variables on the HSBC portfolio will depend on HSBC's net risk position in respect of each variable.

HSBC Holdings

Basis of valuing HSBC Holdings' financial assets and liabilities measured at fair value

	Footnotes	2019 $m	2018 $m
Valuation technique using observable inputs: Level 2			
Assets at 31 Dec			
– derivatives		**2,002**	707
– financial investments		**—**	—
– designated and otherwise mandatorily measured at fair value through profit or loss	1	**61,964**	23,513
Liabilities at 31 Dec			
– designated at fair value		**30,303**	25,049
– derivatives		**2,021**	2,159

1 *In 2019, due to the restructuring of the Group's Asia and UK operations to meet resolution and recovery requirements, changes in the terms of financial assets have resulted in the derecognition of principal amounts of $33.3bn, relating to financial assets measured at amortised cost. Under the revised terms, financial assets with principal amounts of $33.3bn (2018: nil) measured on fair value basis have been recognised.*

13 Fair values of financial instruments not carried at fair value

Fair values of financial instruments not carried at fair value and bases of valuation

		Fair value			
	Carrying amount	Quoted market price Level 1	Observable inputs Level 2	Significant unobservable inputs Level 3	Total
	$m	$m	$m	$m	$m
At 31 Dec 2019					
Assets					
Loans and advances to banks	**69,203**	**–**	**68,508**	**739**	**69,247**
Loans and advances to customers	**1,036,743**	**–**	**10,365**	**1,027,178**	**1,037,543**
Reverse repurchase agreements – non-trading	**240,862**	**16**	**240,199**	**691**	**240,906**
Financial investments – at amortised cost	**85,735**	**26,202**	**62,572**	**287**	**89,061**
Liabilities					
Deposits by banks	**59,022**	**–**	**58,951**	**–**	**58,951**
Customer accounts	**1,439,115**	**–**	**1,439,362**	**150**	**1,439,512**
Repurchase agreements – non-trading	**140,344**	**–**	**140,344**	**–**	**140,344**
Debt securities in issue	**104,555**	**–**	**104,936**	**–**	**104,936**
Subordinated liabilities	**24,600**	**–**	**28,861**	**385**	**29,246**
At 31 Dec 2018					
Assets					
Loans and advances to banks	72,167	–	68,378	3,791	72,169
Loans and advances to customers	981,696	–	10,518	974,559	985,077
Reverse repurchase agreements – non-trading	242,804	81	241,407	1,369	242,857
Financial investments – at amortised cost	62,666	1,790	60,073	216	62,079
Liabilities					
Deposits by banks	56,331	–	56,308	–	56,308
Customer accounts	1,362,643	–	1,362,794	151	1,362,945
Repurchase agreements – non-trading	165,884	–	165,884	–	165,884
Debt securities in issue	85,342	–	85,430	–	85,430
Subordinated liabilities	22,437	–	24,968	373	25,341

Other financial instruments not carried at fair value are typically short term in nature and reprice to current market rates frequently. Accordingly, their carrying amount is a reasonable approximation of fair value. They include cash and balances at central banks, items in the course of collection from and transmission to other banks, Hong Kong Government certificates of indebtedness and Hong Kong currency notes in circulation, all of which are measured at amortised cost.

Valuation

Fair value is an estimate of the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. It does not reflect the economic benefits and costs that HSBC expects to flow from an instrument's cash flow over its expected future life. Our valuation methodologies and assumptions in determining fair values for which no observable market prices are available may differ from those of other companies.

Loans and advances to banks and customers

To determine the fair value of loans and advances to banks and customers, loans are segregated, as far as possible, into portfolios of similar characteristics. Fair values are based on observable market transactions, when available. When they are unavailable, fair values are estimated using valuation models incorporating a range of input assumptions. These assumptions may include: value estimates from third-party brokers reflecting over-the-counter trading activity; forward-looking discounted cash flow models, taking account of expected customer prepayment rates, using assumptions that HSBC believes are consistent with those that would be used by market participants in valuing such loans; new business rates estimates for similar loans; and trading inputs from other market participants including observed primary and secondary trades. From time to time, we may engage a third-party valuation specialist to measure the fair value of a pool of loans.

The fair value of loans reflects expected credit losses at the balance sheet date and estimates of market participants' expectations of credit losses over the life of the loans, and the fair value effect of repricing between origination and the balance sheet date. For credit-impaired loans, fair value is estimated by discounting the future cash flows over the time period they are expected to be recovered.

Financial investments

The fair values of listed financial investments are determined using bid market prices. The fair values of unlisted financial investments are determined using valuation techniques that incorporate the prices and future earnings streams of equivalent quoted securities.

Deposits by banks and customer accounts

The fair values of on-demand deposits are approximated by their carrying value. For deposits with longer-term maturities, fair values are estimated using discounted cash flows, applying current rates offered for deposits of similar remaining maturities.

Debt securities in issue and subordinated liabilities

Fair values in debt securities in issue and subordinated liabilities are determined using quoted market prices at the balance sheet date where available, or by reference to quoted market prices for similar instruments.

Repurchase and reverse repurchase agreements – non-trading

Fair values of repurchase and reverse repurchase agreements that are held on a non-trading basis provide approximate carrying amounts. This is due to the fact that balances are generally short dated.

HSBC Holdings

The methods used by HSBC Holdings to determine fair values of financial instruments for the purposes of measurement and disclosure are described above.

Fair values of HSBC Holdings' financial instruments not carried at fair value on the balance sheet

		2019		2018	
		Carrying amount	**Fair value[1]**	Carrying amount	Fair value[1]
	Footnotes	**$m**	**$m**	$m	$m
Assets at 31 Dec					
Loans and advances to HSBC undertakings		**10,218**	**10,504**	56,144	56,801
Financial investments – at amortised cost	2	**16,106**	**16,121**		
Liabilities at 31 Dec					
Amounts owed to HSBC undertakings		**464**	**464**	949	949
Debt securities in issue		**56,844**	**59,140**	50,800	51,552
Subordinated liabilities		**18,361**	**22,536**	17,715	20,224

1 *Fair values (other than Level 1 financial investments) were determined using valuation techniques with observable inputs (Level 2).*
2 *The 2019 period includes $16.1bn (2018: nil) of investments in highly liquid securities.*

14 Financial assets designated and otherwise mandatorily measured at fair value through profit or loss

	2019			2018		
	Designated at fair value	**Mandatorily measured at fair value**	**Total**	Designated at fair value	Mandatorily measured at fair value	Total
	$m	**$m**	**$m**	$m	$m	$m
Securities	**2,344**	**35,808**	**38,152**	2,349	30,217	32,566
– treasury and other eligible bills	**630**	**31**	**661**	641	29	670
– debt securities	**1,714**	**4,838**	**6,552**	1,708	4,839	6,547
– equity securities	**–**	**30,939**	**30,939**	–	25,349	25,349
Loans and advances to banks and customers	**1**	**4,555**	**4,556**	–	7,717	7,717
Other	**–**	**919**	**919**	–	828	828
At 31 Dec	**2,345**	**41,282**	**43,627**	2,349	38,762	41,111

Securities[1]

		2019			2018		
		Designated at fair value	**Mandatorily measured at fair value**	**Total**	Designated at fair value	Mandatorily measured at fair value	Total
	Footnotes	**$m**	**$m**	**$m**	$m	$m	$m
Hong Kong Government		**4**	**–**	**4**	4	–	4
Other governments		**666**	**754**	**1,420**	673	713	1,386
Asset-backed securities	2	**–**	**363**	**363**	–	399	399
Corporate debt and other securities		**1,674**	**3,752**	**5,426**	1,672	3,756	5,428
Equities		**–**	**30,939**	**30,939**	–	25,349	25,349
At 31 Dec		**2,344**	**35,808**	**38,152**	2,349	30,217	32,566

1 *Included within these figures are debt securities issued by banks and other financial institutions of $366m (2018 re-presented: $676m), of which nil (2018: nil) are guaranteed by various governments.*
2 *Excludes asset-backed securities included under US Treasury and US Government agencies.*

15 Derivatives

Notional contract amounts and fair values of derivatives by product contract type held by HSBC

	Notional contract amount		Fair value – Assets			Fair value – Liabilities		
	Trading	Hedging	Trading	Hedging	Total	Trading	Hedging	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Foreign exchange	**8,207,629**	**31,899**	**84,083**	**455**	**84,538**	**84,498**	**740**	**85,238**
Interest rate	**17,895,349**	**177,006**	**183,668**	**1,208**	**184,876**	**175,095**	**2,031**	**177,126**
Equities	**1,077,347**	**—**	**9,053**	**—**	**9,053**	**11,237**	**—**	**11,237**
Credit	**345,644**	**—**	**4,744**	**—**	**4,744**	**5,597**	**—**	**5,597**
Commodity and other	**93,245**	**—**	**1,523**	**—**	**1,523**	**2,038**	**—**	**2,038**
Gross total fair values	**27,619,214**	**208,905**	**283,071**	**1,663**	**284,734**	**278,465**	**2,771**	**281,236**
Offset (Note 30)					**(41,739)**			**(41,739)**
At 31 Dec 2019	**27,619,214**	**208,905**	**283,071**	**1,663**	**242,995**	**278,465**	**2,771**	**239,497**
Foreign exchange	7,552,462	29,969	85,959	458	86,417	82,494	653	83,147
Interest rate	24,589,916	163,271	155,293	1,080	156,373	154,257	2,261	156,518
Equities	1,256,550	—	10,198	—	10,198	10,750	—	10,750
Credit	346,596	—	3,414	—	3,414	3,776	—	3,776
Commodity and other	74,159	—	1,134	—	1,134	1,355	—	1,355
Gross total fair values	33,819,683	193,240	255,998	1,538	257,536	252,632	2,914	255,546
Offset (Note 30)					(49,711)			(49,711)
At 31 Dec 2018	33,819,683	193,240	255,998	1,538	207,825	252,632	2,914	205,835

The notional contract amounts of derivatives held for trading purposes and derivatives designated in hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date. They do not represent amounts at risk.

Derivative assets and liabilities increased during 2019, driven by yield curve movements and changes in foreign exchange rates.

Notional contract amounts and fair values of derivatives by product contract type held by HSBC Holdings with subsidiaries

	Notional contract amount		Assets			Liabilities		
	Trading	Hedging	Trading	Hedging	Total	Trading	Hedging	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Foreign exchange	**24,980**	**—**	**161**	**—**	**161**	**766**	**—**	**766**
Interest rate	**48,937**	**36,769**	**435**	**1,406**	**1,841**	**1,072**	**183**	**1,255**
At 31 Dec 2019	**73,917**	**36,769**	**596**	**1,406**	**2,002**	**1,838**	**183**	**2,021**
Foreign exchange	16,623	1,120	207	—	207	628	155	783
Interest rate	44,059	38,418	283	217	500	538	838	1,376
At 31 Dec 2018	60,682	39,538	490	217	707	1,166	993	2,159

Use of derivatives

For details regarding the use of derivatives, see page 175 under 'Market Risk'.

Trading derivatives

Most of HSBC's derivative transactions relate to sales and trading activities. Sales activities include the structuring and marketing of derivative products to customers to enable them to take, transfer, modify or reduce current or expected risks. Trading activities include market-making and risk management. Market-making entails quoting bid and offer prices to other market participants for the purpose of generating revenue based on spread and volume. Risk management activity is undertaken to manage the risk arising from client transactions, with the principal purpose of retaining client margin. Other derivatives classified as held for trading include non-qualifying hedging derivatives.

Substantially all of HSBC Holdings' derivatives entered into with subsidiaries are managed in conjunction with financial liabilities designated at fair value.

Derivatives valued using models with unobservable inputs

The difference between the fair value at initial recognition (the transaction price) and the value that would have been derived had valuation techniques used for subsequent measurement been applied at initial recognition, less subsequent releases, is as shown in the following table:

Unamortised balance of derivatives valued using models with significant unobservable inputs

	Footnotes	2019 $m	2018 $m
Unamortised balance at 1 Jan		**86**	106
Deferral on new transactions		**145**	161
Recognised in the income statement during the year:		**(154)**	(158)
– amortisation		**(80)**	(96)
– subsequent to unobservable inputs becoming observable		**(3)**	(2)
– maturity, termination or offsetting derivative		**(71)**	(60)
Exchange differences		**1**	(4)
Other		**(5)**	(19)
Unamortised balance at 31 Dec	1	**73**	86

1 *This amount is yet to be recognised in the consolidated income statement.*

Hedge accounting derivatives

HSBC applies hedge accounting to manage the following risks: interest rate, foreign exchange and net investment in foreign operations. Further details on how these risks arise and how they are managed by the Group can be found in the 'Report of the Directors'.

Fair value hedges

HSBC enters into fixed-for-floating-interest-rate swaps to manage the exposure to changes in fair value caused by movements in market interest rates on certain fixed-rate financial instruments that are not measured at fair value through profit or loss, including debt securities held and issued.

HSBC hedging instrument by hedged risk

	Hedging instrument				
		Carrying amount			
	Notional amount[1]	Assets	Liabilities	Balance sheet presentation	Change in fair value[2]
Hedged risk	$m	$m	$m		$m
Interest rate[3]	**122,753**	**1,056**	**2,208**	**Derivatives**	**(1,531)**
At 31 Dec 2019	**122,753**	**1,056**	**2,208**		**(1,531)**
Interest rate[3]	123,551	915	2,123	Derivatives	283
At 31 Dec 2018	123,551	915	2,123		283

1 *The notional contract amounts of derivatives designated in qualifying hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date. They do not represent amounts at risk.*
2 *Used in effectiveness testing; comprising the full fair value change of the hedging instrument not excluding any component.*
3 *The hedged risk 'interest rate' includes inflation risk.*

HSBC hedged item by hedged risk

	Hedged item						Ineffectiveness	
	Carrying amount		Accumulated fair value hedge adjustments included in carrying amount[2]			Change in fair value[1]	Recognised in profit and loss	Profit and loss presentation
	Assets	Liabilities	Assets	Liabilities				
Hedged risk	$m	$m	$m	$m	Balance sheet presentation	$m	$m	
Interest rate[3]	**90,617**		**1,859**		**Financial assets designated and otherwise mandatorily measured at fair value through other comprehensive income**	**2,304**	**(7)**	**Net income from financial instruments held for trading or managed on a fair value basis**
	153		**4**		**Loans and advances to banks**	**5**		
	1,897		**12**		**Loans and advances to customers**	**24**		
		15,206		**797**	**Debt securities in issue**	**(1,011)**		
		3,009		**39**	**Deposits by banks**	**202**		
At 31 Dec 2019	**92,667**	**18,215**	**1,875**	**836**		**1,524**	**(7)**	

HSBC hedged item by hedged risk (continued)

Hedged risk	Hedged item						Ineffectiveness	
	Carrying amount		Accumulated fair value hedge adjustments included in carrying amount[2]			Change in fair value[1]	Recognised in profit and loss	Profit and loss presentation
	Assets	Liabilities	Assets	Liabilities	Balance sheet presentation			
	$m	$m	$m	$m		$m	$m	
Interest rate[3]	93,469		231		Financial assets designated and otherwise mandatorily measured at fair value through other comprehensive income	(425)	(37)	Net income from financial instruments held for trading or managed on a fair value basis
	1,455		(6)		Loans and advances to customers	(4)		
		14,171		(155)	Debt securities in issue	124		
		4,780		45	Deposits by banks	(15)		
At 31 Dec 2018	94,924	18,951	225	(110)		(320)	(37)	

1 *Used in effectiveness testing; comprising amount attributable to the designated hedged risk that can be a risk component.*
2 *The accumulated amount of fair value adjustments remaining in the statement of financial position for hedged items that have ceased to be adjusted for hedging gains and losses were assets of $482m for FVOCI and assets of $2m for debt issued.*
3 *The hedged risk 'interest rate' includes inflation risk.*

HSBC Holdings hedging instrument by hedged risk

Hedged risk	Hedging instrument				
		Carrying amount			
	Notional amount[1,4]	Assets	Liabilities	Balance sheet presentation	Change in fair value[2]
	$m	$m	$m		$m
Interest rate[3]	36,769	1,406	183	Derivatives	1,704
At 31 Dec 2019	36,769	1,406	183		1,704

1 *The notional contract amounts of derivatives designated in qualifying hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date; they do not represent amounts at risk.*
2 *Used in effectiveness testing; comprising the full fair value change of the hedging instrument not excluding any component.*
3 *The hedged risk 'interest rate' includes foreign exchange risk.*
4 *The notional amount of non-dynamic fair value hedges is equal to $36,769m, of which the weighted-average maturity date is March 2027 and the weighted-average swap rate is 1.53%. The majority of these hedges are internal to HSBC Group.*

HSBC Holdings hedged item by hedged risk

Hedged risk	Hedged item						Ineffectiveness	
	Carrying amount		Accumulated fair value hedge adjustments included in carrying amount[2]			Change in fair value[1]	Recognised in profit and loss	
	Assets	Liabilities	Assets	Liabilities	Balance sheet presentation			
	$m	$m	$m	$m		$m	$m	Profit and loss presentation
Interest rate[3]		38,126		1,088	Debt securities in issue	(1,697)	7	Net income from financial instruments held for trading or managed on a fair value basis
At 31 Dec 2019	–	38,126	–	1,088		(1,697)	7	

1 *Used in effectiveness testing; comprising amount attributable to the designated hedged risk that can be a risk component.*
2 *The accumulated amount of fair value adjustments remaining in the statement of financial position for hedged items that have ceased to be adjusted for hedging gains and losses were liabilities of $71m for debt issued.*
3 *The hedged risk 'interest rate' includes foreign exchange risk.*

Sources of hedge ineffectiveness may arise from basis risk, including but not limited to the discount rates used for calculating the fair value of derivatives, hedges using instruments with a non-zero fair value, and notional and timing differences between the hedged items and hedging instruments.

For some debt securities held, HSBC manages interest rate risk in a dynamic risk management strategy. The assets in scope of this strategy are high-quality fixed-rate debt securities, which may be sold to meet liquidity and funding requirements.

The interest rate risk of the HSBC fixed-rate debt securities issued is managed in a non-dynamic risk management strategy.

Cash flow hedges

HSBC's cash flow hedging instruments consist principally of interest rate swaps and cross-currency swaps that are used to manage the variability in future interest cash flows of non-trading financial assets and liabilities, arising due to changes in market interest rates and foreign-currency basis.

HSBC applies macro cash flow hedging for interest rate risk exposures on portfolios of replenishing current and forecasted issuances of non-trading assets and liabilities that bear interest at variable rates, including rolling such instruments. The amounts and timing of future cash flows, representing both principal and interest flows, are projected for each portfolio of financial assets and liabilities on the basis of their contractual terms and other relevant factors, including estimates of prepayments and defaults. The aggregate cash flows representing both principal balances and interest cash flows across all portfolios are used to determine the effectiveness and ineffectiveness. Macro cash flow hedges are considered to be dynamic hedges.

HSBC also hedges the variability in future cash flows on foreign-denominated financial assets and liabilities arising due to changes in foreign exchange market rates with cross-currency swaps, which are considered dynamic hedges.

Hedging instrument by hedged risk

Hedged risk	Hedging instrument: Notional amount[1] $m	Carrying amount: Assets $m	Carrying amount: Liabilities $m	Balance sheet presentation	Change in fair value[2] $m	Hedged item: Change in fair value[3] $m	Ineffectiveness: Recognised in profit and loss $m	Profit and loss presentation
Foreign currency	**21,385**	**455**	**254**	**Derivatives**	**341**	**341**	**–**	**Net income from financial instruments held for trading or managed on a fair value basis**
Interest rate	**54,253**	**152**	**46**	**Derivatives**	**195**	**193**	**2**	
At 31 Dec 2019	**75,638**	**607**	**300**		**536**	**534**	**2**	
Foreign currency	24,954	295	653	Derivatives	(198)	(200)	2	Net income from financial instruments held for trading or managed on a fair value basis
Interest rate	39,720	165	138	Derivatives	(77)	(67)	(10)	
At 31 Dec 2018	64,674	460	791		(275)	(267)	(8)	

1 *The notional contract amounts of derivatives designated in qualifying hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date. They do not represent amounts at risk.*
2 *Used in effectiveness testing; comprising the full fair value change of the hedging instrument not excluding any component.*
3 *Used in effectiveness assessment; comprising amount attributable to the designated hedged risk that can be a risk component.*

Sources of hedge ineffectiveness may arise from basis risk, including but not limited to timing differences between the hedged items and hedging instruments and hedges using instruments with a non-zero fair value.

Reconciliation of equity and analysis of other comprehensive income by risk type

	Interest rate $m	Foreign currency $m
Cash flow hedging reserve at 1 Jan 2019	**(26)**	**(182)**
Fair value gains/(losses)	**193**	**341**
Fair value (gains)/losses reclassified from the cash flow hedge reserve to the income statement in respect of:		
Hedged items that have affected profit or loss	**99**	**(371)**
Income taxes	**(53)**	**4**
Others	**(9)**	**3**
Cash flow hedging reserve at 31 Dec 2019	**204**	**(205)**
Cash flow hedging reserve at 1 Jan 2018	(40)	(187)
Fair value gains/(losses)	(67)	(200)
Fair value (gains)/losses reclassified from the cash flow hedge reserve to the income statement in respect of:		
Hedged items that has affected profit or loss	90	227
Income taxes	(11)	(13)
Others	2	(9)
Cash flow hedging reserve at 31 Dec 2018	(26)	(182)

Hedges of net investments in foreign operations

The Group applies hedge accounting in respect of certain consolidated net investments. Hedging is undertaken using forward foreign exchange contracts or by financing with foreign currency borrowings. At 31 December 2019, the fair values of outstanding financial instruments designated as hedges of net investments in foreign operations were assets of nil (2018: $163m), liabilities of $485m (2018: nil) and notional contract values of $10,500m (2018: $5,000m). Ineffectiveness recognised in 'Net income from financial instruments held for trading or managed on a fair value basis' in the year ended 31 December 2019 was nil (2018: nil).

Interest rate benchmark reform: Amendments to IFRS 9 and IAS 39 'Financial Instruments'

Following the request received by the Financial Stability Board from the G20, a fundamental review and reform of the major interest rate benchmarks is underway across the world's largest financial markets. This reform was not contemplated when IAS 39 was published, and consequently the IASB has published a set of temporary exceptions from applying specific hedge accounting requirements to provide clarification on how the standard should be applied in these circumstances.

Amendments to IFRS 9 and IAS 39 were endorsed in January 2020 and modify specific hedge accounting requirements. Under these temporary exceptions, interbank offered rates ('Ibors') are assumed to continue unaltered for the purposes of hedge accounting until such time as the uncertainty is resolved.

The application of this set of temporary exceptions is mandatory for accounting periods starting on or after 1 January 2020, but early adoption is permitted. HSBC elected to apply these exceptions for the year ended 31 December 2019. Significant judgement will be required in determining when uncertainty is expected to be resolved and therefore when the temporary exceptions will cease to apply. However, at 31 December 2019, the uncertainty continued to exist and so the temporary exceptions apply to all of the Group's hedge accounting relationships that reference benchmarks subject to reform or replacement.

The Group has cash flow and fair value hedge accounting relationships that are exposed to different Ibors, predominantly US dollar Libor, sterling Libor, and Euribor as well as overnight rates subject to the market-wide benchmarks reform, such as the European overnight Index Average rate ('Eonia'). Many of the existing derivatives, loans, bonds and other financial instruments designated in relationships referencing these benchmarks will transition to new risk-free rates ('RFRs') in different ways and at different times. External progress on the transition to RFRs is being monitored, with the objective of ensuring a smooth transition for the Group's hedge accounting relationships. The specific issues arising will vary with the details of each hedging relationship, but may arise due to the transition of existing products included in the designation, a change in expected volumes of products to be issued, a change in contractual terms of new products issued, or a combination of these factors. Some hedges may need to be de-designated and new relationships entered into, while others may survive the market-wide benchmarks reform.

The hedge accounting relationships that are affected by the adoption of the temporary exceptions hedge items presented in the balance sheet as 'Financial assets designated and otherwise mandatorily measured at fair value through other comprehensive income', 'Loans and advances to customers', 'Debt securities in issue' and 'Deposits by banks'.

The notional amounts of interest rate derivatives designated in hedge accounting relationships represent the extent of the risk exposure managed by the Group that is directly affected by market-wide benchmarks reform and impacted by the temporary exceptions. The cross-currency swaps designated in hedge accounting relationships and affected by Ibor reform are not significant and have not been presented below:

Hedging instrument impacted by Ibor reform

	Hedging instrument						
	Impacted by Ibor reform					Not impacted by Ibor reform	Notional amount[1]
	€	£	$	Other	Total		
	$m	$m	$m	$m	$m	$m	$m
Fair value hedges	20,378	4,533	41,274	13,435	79,620	43,133	122,753
Cash flow hedges	5,724	6,594	15,750	15,979	44,047	10,206	54,253
At 31 Dec 2019	**26,102**	**11,127**	**57,024**	**29,414**	**123,667**	**53,339**	**177,006**

1 *The notional contract amounts of interest rate derivatives designated in qualifying hedge accounting relationships indicate the nominal value of transactions outstanding at the balance sheet date; they do not represent amounts at risk.*

The calculation of Eonia changed on 2 October 2019 so that going forward it is calculated as the euro short-term rate ('€STR') plus a fixed spread of 8.5 basis points. This change has triggered a structural change in the sale and repurchase agreement ('repo') market in France, whereby the overnight floating rate repo market referencing Eonia has significantly shifted into an overnight fixed rate repo market referencing repo rates. In this context, regarding the accounting standard setters' activities, management consider that continuing to apply hedge accounting to the existing hedge relationships using forecast issuances of overnight repos, provides the most relevant accounting.

For further information on Ibor transition, see our Areas of Special interest on page 116.

Hedging instrument impacted by Ibor reform held by HSBC Holdings

	Hedging instrument						
	Impacted by Ibor reform					Not impacted by Ibor reform	Notional amount
	€	£	$	Other	Total		
	$m	$m	$m	$m	$m	$m	$m
Fair value hedges	3,928	5,222	24,500	3,119	36,769	—	36,769
Cash flow hedges	—	—	—	—	—	—	—
At 31 Dec 2019	**3,928**	**5,222**	**24,500**	**3,119**	**36,769**	**—**	**36,769**

16 Financial investments

Carrying amount of financial investments

		2019	2018
	Footnotes	$m	$m
Financial investments measured at fair value through other comprehensive income		**357,577**	344,767
– treasury and other eligible bills		**95,043**	96,642
– debt securities		**260,536**	246,371
– equity securities		**1,913**	1,657
– other instruments	1	**85**	97
Debt instruments measured at amortised cost	2	**85,735**	62,666
– treasury and other eligible bills		**10,476**	679
– debt securities		**75,259**	61,987
At 31 Dec		**443,312**	407,433

1 *'Other instruments' comprises of loans and advances.*
2 *Fair value $89.1bn (2018: $62.1bn).*

Equity instruments measured at fair value through other comprehensive income

Type of equity instruments	Fair value $m	Dividends recognised $m
Investments required by central institutions	**738**	**22**
Business facilitation	**1,124**	**19**
Others	**51**	**9**
At 31 Dec 2019	**1,913**	**50**
Investments required by central institutions	848	34
Business facilitation	758	21
Others	51	9
At 31 Dec 2018	1,657	64

Financial investments at amortised cost and fair value

		2019		2018	
		Amortised cost	**Fair value[1]**	Amortised cost	Fair value[1]
	Footnotes	**$m**	**$m**	$m	$m
US Treasury		**79,633**	**80,589**	54,941	54,763
US Government agencies	2	**26,356**	**26,387**	21,058	20,580
US Government-sponsored entities	2	**8,070**	**8,259**	12,867	12,701
UK Government		**28,621**	**28,973**	20,576	21,083
Hong Kong Government		**47,824**	**47,820**	49,956	49,955
Other governments		**140,510**	**142,511**	142,495	144,099
Asset-backed securities	3	**2,954**	**2,889**	3,579	3,390
Corporate debt and other securities		**101,750**	**107,364**	97,286	98,419
Equities		**1,241**	**1,913**	1,353	1,657
At 31 Dec		**436,959**	**446,705**	404,111	406,647

1 *Included within 'fair value' figures are debt securities issued by banks and other financial institutions of $61bn (2018: $56bn), of which $11bn (2018: $8bn) are guaranteed by various governments.*
2 *Includes securities that are supported by an explicit guarantee issued by the US Government.*
3 *Excludes asset-backed securities included under US Government agencies and sponsored entities.*

Maturities of investments in debt securities at their carrying amount

	Up to 1 year $m	1 to 5 years $m	5 to 10 years $m	Over 10 years $m	Total $m
Debt securities measured at fair value through other comprehensive income	**61,833**	**123,740**	**42,831**	**32,132**	**260,536**
Debt securities measured at amortised cost	**5,472**	**14,395**	**21,431**	**33,961**	**75,259**
At 31 Dec 2019	**67,305**	**138,135**	**64,262**	**66,093**	**335,795**
Debt securities measured at fair value through other comprehensive income	61,598	124,075	36,194	24,504	246,371
Debt securities measured at amortised cost	2,519	10,086	16,065	33,317	61,987
At 31 Dec 2018	64,117	134,161	52,259	57,821	308,358

Contractual maturities and weighted average yields of investment debt securities

	Up to 1 year		1 to 5 years		5 to 10 years		Over 10 years	
	Amount	Yield	Amount	Yield	Amount	Yield	Amount	Yield
	$m	%	$m	%	$m	%	$m	%
Debt securities measured at fair value through other comprehensive income								
US Treasury	6,322	2.1	26,834	2.0	18,208	2.0	3,268	2.9
US Government agencies	—	—	79	2.2	1	4.7	15,581	2.6
US Government-sponsored agencies	725	2.8	167	3.1	1,940	2.8	2,191	3.0
UK Government	4,681	1.3	4,393	1.1	4,443	0.2	2,811	2.8
Hong Kong Government	559	1.3	145	1.8	152	3.2	—	—
Other governments	39,144	2.3	54,689	2.8	11,478	1.7	1,862	3.6
Asset-backed securities	18	2.7	1	0.5	325	3.1	2,610	2.2
Corporate debt and other securities	9,735	2.0	34,921	1.8	4,879	2.2	2,795	3.4
Total amortised cost at 31 Dec 2019	**61,184**		**121,229**		**41,426**		**31,118**	
Total carrying value	**61,833**		**123,740**		**42,831**		**32,132**	
Debt securities measured at amortised cost								
US Treasury	3,010	1.9	4,879	1.8	2,931	1.9	141	4.2
US Government agencies	—	—	13	3.8	19	3.5	10,286	2.6
US Government-sponsored agencies	—	—	482	2.7	551	2.3	2,015	3.2
Hong Kong Government	10	1.6	20	1.6	9	1.4	—	—
Other governments	128	4.4	552	3.4	487	3.1	832	4.2
Asset-backed securities	—	—	—	—	—	—	2	7.5
Corporate debt and other securities	2,324	3.5	8,449	3.4	17,434	3.3	20,685	3.8
Total amortised cost at 31 Dec 2019	**5,472**		**14,395**		**21,431**		**33,961**	
Total carrying value	**5,472**		**14,395**		**21,431**		**33,961**	

The maturity distributions of ABSs are presented in the above table on the basis of contractual maturity dates. The weighted average yield for each range of maturities is calculated by dividing the annualised interest income for the year ended 31 December 2019 by the book amount of debt securities at that date. The yields do not include the effect of related derivatives.

HSBC Holdings

HSBC Holdings carrying amount of financial investments

		2019	2018
	Footnotes	$m	$m
Debt instruments measured at amortised cost	1		
– treasury and other eligible bills		**10,081**	—
– debt securities		**6,025**	—
At 31 Dec		**16,106**	—

1 *The 2019 period includes $16.1bn (2018: nil) of investments in highly liquid securities.*

Financial investments at amortised cost and fair value

	2019		2018	
	Amortised cost	Fair value	Amortised cost	Fair value
	$m	$m	$m	$m
US Treasury	**16,106**	**16,121**	—	—
US Government agencies	—	—	—	—
US Government-sponsored entities	—	—	—	—
At 31 Dec	**16,106**	**16,121**	—	—

Maturities of investments in debt securities at their carrying amount

	Up to 1 year	1 to 5 years	5 to 10 years	Over 10 years	Total
	$m	$m	$m	$m	$m
Debt securities measured at amortised cost	**3,010**	**3,015**	—	—	**6,025**
At 31 Dec 2019	**3,010**	**3,015**	—	—	**6,025**
Debt securities measured at amortised cost	—	—	—	—	—
At 31 Dec 2018	—	—	—	—	—

Contractual maturities and weighted average yields of investment debt securities

	Up to 1 year		1 to 5 years		5 to 10 years		Over 10 years	
	Amount	Yield	Amount	Yield	Amount	Yield	Amount	Yield
	$m	%	$m	%	$m	%	$m	%
Debt securities measured at amortised cost								
US Treasury	3,010	1.9	3,015	1.7	–	–	–	–
US Government agencies	–	–	–	–	–	–	–	–
US Government-sponsored agencies	–	–	–	–	–	–	–	–
Total amortised cost at 31 Dec 2019	3,010		3,015		–		–	
Total carrying value	3,010		3,015		–		–	

The weighted average yield for each range of maturities is calculated by dividing the annualised interest income for the year ended 31 December 2019 by the book amount of debt securities at that date. The yields do not include the effect of related derivatives.

17 Assets pledged, collateral received and assets transferred

Assets pledged

Financial assets pledged as collateral

	2019	2018
	$m	$m
Treasury bills and other eligible securities	14,034	11,470
Loans and advances to banks	1,975	151
Loans and advances to customers	26,017	51,659
Debt securities	60,995	95,210
Equity securities	24,626	22,510
Other	50,231	34,028
Assets pledged at 31 Dec	**177,878**	215,028

Assets pledged as collateral include all assets categorised as encumbered in the disclosure on page 73 of the Pillar 3 Disclosures at 31 December 2019.

The amount of assets pledged to secure liabilities may be greater than the book value of assets utilised as collateral. For example, in the case of securitisations and covered bonds, the amount of liabilities issued plus mandatory over-collateralisation is less than the book value of the pool of assets available for use as collateral. This is also the case where assets are placed with a custodian or a settlement agent that has a floating charge over all the assets placed to secure any liabilities under settlement accounts.

These transactions are conducted under terms that are usual and customary to collateralised transactions including, where relevant, standard securities lending and borrowing, repurchase agreements and derivative margining. HSBC places both cash and non-cash collateral in relation to derivative transactions.

Hong Kong currency notes in circulation are secured by the deposit of funds in respect of which the Hong Kong Government certificates of indebtedness are held.

Financial assets pledged as collateral which the counterparty has the right to sell or repledge

	2019	2018
	$m	$m
Trading assets	63,163	76,121
Financial investments	10,782	15,741
At 31 Dec	**73,945**	91,862

Collateral received

The fair value of assets accepted as collateral relating primarily to standard securities lending, reverse repurchase agreements, swaps of securities and derivative margining that HSBC is permitted to sell or repledge in the absence of default was $468,798m (2018: $482,818m). The fair value of any such collateral sold or repledged was $304,261m (2018: $350,848m).

HSBC is obliged to return equivalent securities. These transactions are conducted under terms that are usual and customary to standard securities lending, reverse repurchase agreements and derivative margining.

Assets transferred

The assets pledged include transfers to third parties that do not qualify for derecognition, notably secured borrowings such as debt securities held by counterparties as collateral under repurchase agreements and equity securities lent under securities lending agreements, as well as swaps of equity and debt securities. For secured borrowings, the transferred asset collateral continues to be recognised in full while a related liability, reflecting the Group's obligation to repurchase the assets for a fixed price at a future date, is also recognised on the balance sheet. Where securities are swapped, the transferred asset continues to be recognised in full. There is no associated liability as the non-cash collateral received is not recognised on the balance sheet. The Group is unable to use, sell or pledge the transferred assets for the duration of the transaction, and remains exposed to interest rate risk and credit risk on these pledged assets. With the exception of 'Other sales' in the following table, the counterparty's recourse is not limited to the transferred assets.

Transferred financial assets not qualifying for full derecognition and associated financial liabilities

	Carrying amount of:		Fair value of:		
	Transferred assets	Associated liabilities	Transferred assets	Associated liabilities	Net position
	$m	$m	$m	$m	$m
At 31 Dec 2019					
Repurchase agreements	**45,831**	**45,671**			
Securities lending agreements	**35,122**	**3,225**			
Other sales (recourse to transferred assets only)	**2,971**	**2,885**	**2,974**	**2,897**	**77**
At 31 Dec 2018					
Repurchase agreements	62,216	60,361			
Securities lending agreements	32,486	2,426			
Other sales (recourse to transferred assets only)	2,647	2,647	2,625	2,630	(5)

18 Interests in associates and joint ventures

Carrying amount of HSBC's interests in associates and joint ventures

	2019	2018
	$m	$m
Interests in associates	**24,384**	22,244
Interests in joint ventures[1]	**90**	163
Interests in associates and joint ventures	**24,474**	22,407

1 *During 2019, HSBC increased its shareholding in HSBC Saudi Arabia, which is now recognised as a subsidiary.*

Principal associates of HSBC

	2019		2018	
	Carrying amount	Fair value[1]	Carrying amount	Fair value[1]
	$m	$m	$m	$m
Bank of Communications Co., Limited	**18,982**	**10,054**	17,754	10,991
The Saudi British Bank	**4,370**	**5,550**	3,557	5,222

1 *Principal associates are listed on recognised stock exchanges. The fair values are based on the quoted market prices of the shares held (Level 1 in the fair value hierarchy).*

		At 31 Dec 2019		
	Footnotes	Country of incorporation and principal place of business	Principal activity	HSBC's interest %
Bank of Communications Co., Limited		**People's Republic of China**	**Banking services**	**19.03**
The Saudi British Bank	1	**Saudi Arabia**	**Banking services**	**29.20**

1 *In June 2019, the merger between The Saudi British Bank ('SABB') and Alawwal bank ('Alawwal') became effective. The merger involved SABB issuing a fixed number of new shares to Alawwal's shareholders in exchange for the transfer of Alawwal's net assets and cancellation of its shares. HSBC's 40.0% interest in SABB reduced to 29.2% of the combined entity, resulting in a dilution gain of $828m recognised in HSBC's consolidated income statement. The dilution gain represents the difference between the carrying amount of HSBC's interest in SABB that was derecognised proportionate to the percentage reduction, and HSBC's share of the increase in the combined entity's net assets. The combined entity continues to be an associate of HSBC.*

A list of all associates and joint ventures is set out in Note 37.

Bank of Communications Co., Limited

The Group's investment in Bank of Communications Co., Limited ('BoCom') is classified as an associate. Significant influence in BoCom was established via representation on BoCom's Board of Directors and participation in a technical cooperation and exchange programme ('TCEP'). Under the TCEP, a number of HSBC staff have been seconded to assist in the maintenance of BoCom's financial and operating policies. Investments in associates are recognised using the equity method of accounting in accordance with IAS 28, whereby the investment is initially recognised at cost and adjusted thereafter for the post-acquisition change in the Group's share of BoCom's net assets. An impairment test is required if there is any indication of impairment.

Impairment testing

At 31 December 2019, the fair value of the Group's investment in BoCom had been below the carrying amount for approximately eight years. As a result, the Group performed an impairment test on the carrying amount, which confirmed that there was no impairment at 31 December 2019 as the recoverable amount as determined by a value-in-use ('VIU') calculation was higher than the carrying value.

	At 31 Dec 2019			At 31 Dec 2018		
	VIU	Carrying value	Fair value	VIU	Carrying value	Fair value
	$bn	$bn	$bn	$bn	$bn	$bn
BoCom	**21.5**	**19.0**	**10.1**	18.0	17.8	11.0

In future periods, the VIU may increase or decrease depending on the effect of changes to model inputs. The main model inputs are described below and are based on factors observed at period-end. The factors that could result in a change in the VIU and an impairment include a short-term underperformance by BoCom, a change in regulatory capital requirements or an increase in uncertainty regarding the future performance of BoCom resulting in a downgrade of the future asset growth or profitability. An increase in the discount rate as a result of an increase in the risk premium or risk-free rates could also result in a reduction of VIU and an impairment. At the point where the carrying value exceeds the VIU, impairment would be recognised.

If the Group did not have significant influence in BoCom, the investment would be carried at fair value rather than the current carrying value.

Basis of recoverable amount

The impairment test was performed by comparing the recoverable amount of BoCom, determined by a VIU calculation, with its carrying amount. The VIU calculation uses discounted cash flow projections based on management's best estimates of future earnings available to ordinary shareholders prepared in accordance with IAS 36. Significant management judgement is required in arriving at the best estimate. There are two main components to the VIU calculation. The first component is management's best estimate of BoCom's earnings, which is based on explicit forecasts over the short to medium term. This results in forecast earnings growth that is lower than recent historical actual growth and also reflects the uncertainty arising from the current economic outlook. Earnings beyond the short to medium term are then extrapolated in perpetuity using a long-term growth rate to derive a terminal value, which comprises the majority of the VIU. The second component is the capital maintenance charge ('CMC'), which is management's forecast of the earnings that need to be withheld in order for BoCom to meet regulatory capital requirements over the forecast period, meaning that CMC is deducted when arriving at management's estimate of future earnings available to ordinary shareholders. The principal inputs to the CMC calculation include estimates of asset growth, the ratio of risk-weighted assets to total assets and the expected minimum regulatory capital requirements. An increase in the CMC as a result of a change to these principal inputs would reduce VIU. Additionally, management considers other factors, including qualitative factors, to ensure that the inputs to the VIU calculation remain appropriate.

Key assumptions in value-in-use calculation

We used a number of assumptions in our VIU calculation, in accordance with the requirements of IAS 36:

- Long-term profit growth rate: 3% (2018: 3%) for periods after 2023, which does not exceed forecast GDP growth in mainland China and is consistent with forecasts by external analysts.
- Long-term asset growth rate: 3% (2018: 3%) for periods after 2023, which is the rate that assets are expected to grow to achieve long-term profit growth of 3%.
- Discount rate: 11.24% (2018: 11.82%). This is based on a capital asset pricing model ('CAPM') calculation for BoCom, using market data. Management also compares the rate derived from the CAPM with discount rates from external sources. The discount rate used is within the range of 10.0% to 15.0% (2018: 10.4% to 15.0%) indicated by external sources.
- Expected credit losses as a percentage of customer advances: 0.95% (2018: ranges from 0.73% to 0.79%) in the short to medium term and reflect increases due to the US-China trade tensions and BoCom's actual results. For periods after 2023, the ratio is 0.76% (2018: 0.70%). This ratio was increased to provide greater weighting to the most recent data points and analyst forecasts.
- Risk-weighted assets as a percentage of total assets: 61% (2018: 62%) for all forecast periods. This is consistent with BoCom's actual results and slightly higher than the forecasts disclosed by external analysts.
- Cost-income ratio: ranges from 37.1% to 38.8% (2018: 38.7% to 39.0%) in the short to medium term. This is slightly above BoCom's actual results in recent years and within the range of forecasts disclosed by external analysts.
- Effective tax rate: ranges from 12.0% to 17.0% (2018: 13.8% to 22.3%) in the short to medium term reflecting BoCom's actual results and an expected increase towards the long-term assumption. For periods after 2023, the rate is 22.5% (2018: 22.5%), which is slightly higher than the historical average.
- Capital requirements: Capital adequacy ratio of 11.5% (2018:11.5%) and tier 1 capital adequacy ratio of 9.5% (2018: 9.5%), based on the minimum regulatory requirements.

The following table shows the change to each key assumption in the VIU calculation that on its own would reduce the headroom to nil:

Key assumption	Changes to key assumption to reduce headroom to nil
• Long-term profit growth rate	• Decrease by 99 basis points
• Long-term asset growth rate	• Increase by 80 basis points
• Discount rate	• Increase by 122 basis points
• Expected credit losses as a percentage of customer advances	• Increase by 16 basis points
• Risk-weighted assets as a percentage of total assets	• Increase by 624 basis points
• Cost-income ratio	• Increase by 373 basis points
• Long-term effective tax rate	• Increase by 900 basis points
• Capital requirements – capital adequacy ratio	• Increase by 118 basis points
• Capital requirements – tier 1 capital adequacy ratio	• Increase by 190 basis points

The following table further illustrates the impact on VIU of reasonably possible changes to key assumptions. This reflects the sensitivity of the VIU to each key assumption on its own and it is possible that more than one favourable and/or unfavourable change may occur at the same time. The selected rates of reasonably possible changes to key assumptions are largely based on external analysts' forecasts, which can change period to period.

Sensitivity of VIU to reasonably possible changes in key assumptions

	Favourable change			Unfavourable change		
		Increase in VIU	VIU		Decrease in VIU	VIU
	bps	$bn	$bn	bps	$bn	$bn
At 31 Dec 2019						
Long-term profit growth rate	**—**	**—**	**21.5**	**(50)**	**(1.3)**	**20.2**
Long-term asset growth rate	**(50)**	**1.4**	**22.9**	**—**	**—**	**21.5**
Discount rate	**(54)**	**1.4**	**22.9**	**56**	**(1.2)**	**20.3**
Expected credit losses as a percentage of customer advances	**2019 to 2023: 90 2024 onwards: 70**	**1.0**	**22.5**	**2019 to 2023: 108 2024 onwards: 81**	**(1.2)**	**20.3**
Risk-weighted assets as a percentage of total assets	**(96)**	**0.4**	**21.9**	**12**	**—**	**21.5**
Cost-income ratio	**(175)**	**1.0**	**22.5**	**95**	**(1.2)**	**20.3**
Long-term effective tax rate	**(352)**	**1.0**	**22.5**	**250**	**(0.7)**	**20.8**
Earnings in short to medium term – compound annual growth rate[1]	**107**	**0.5**	**22.0**	**(346)**	**(2.4)**	**19.1**
Capital requirements – capital adequacy ratio	**—**	**—**	**21.5**	**337**	**(8.2)**	**13.3**
Capital requirements – tier 1 capital adequacy ratio	**—**	**—**	**21.5**	**322**	**(6.0)**	**15.5**
At 31 Dec 2018						
Long-term profit growth rate	100	2.6	20.6	(10)	(0.2)	17.8
Long-term asset growth rate	(10)	0.3	18.3	100	(2.8)	15.3
Discount rate	(142)	3.2	21.3	28	(0.5)	17.5
Expected credit losses as a percentage of customer advances	2018 to 2022: 70 2023 onwards: 65	0.9	18.9	2018 to 2022: 83 2023 onwards: 77	(1.0)	17.0
Risk-weighted assets as a percentage of total assets	(140)	0.5	18.6	80	(0.3)	17.8
Cost-income ratio	(160)	1.1	19.2	200	(1.4)	16.7
Long-term effective tax rate	(280)	0.7	18.7	250	(0.6)	17.5
Earnings in short to medium term – compound annual growth rate[1,2]	204	1.1	19.1	(366)	(1.8)	16.2
Capital requirements – capital adequacy ratio	—	—	18.0	258	(5.0)	13.0
Capital requirements – tier 1 capital adequacy ratio	—	—	18.0	243	(3.2)	14.8

1 *Based on management's explicit forecasts over the short to medium term.*
2 *Amounts at 31 December 2018 have been updated to align with the 2019 approach to describe the impact of the change in isolation.*

Considering the interrelationship of the changes set out in the table above, management estimates that the reasonably possible range of VIU is $18.5bn to $22.8bn (2018: $15.5bn to $19.6bn). The range is based on the favourable/unfavourable change in the earnings in the short- to medium-term and long-term expected credit losses as a percentage of customer advances as set out in the table above. All other long-term assumptions, the discount rate and the basis of the CMC have been kept unchanged when determining the reasonably possible range of the VIU.

Selected financial information of BoCom

The statutory accounting reference date of BoCom is 31 December. For the year ended 31 December 2019, HSBC included the associate's results on the basis of the financial statements for the 12 months ended 30 September 2019, taking into account changes in the subsequent period from 1 October 2019 to 31 December 2019 that would have materially affected the results.

Selected balance sheet information of BoCom

	At 30 Sep	
	2019	2018
	$m	$m
Cash and balances at central banks	**112,239**	125,414
Loans and advances to banks and other financial institutions	**108,026**	102,980
Loans and advances to customers	**730,510**	686,951
Other financial assets	**435,740**	408,136
Other assets	**40,101**	42,106
Total assets	**1,426,616**	1,365,587
Deposits by banks and other financial institutions	**290,492**	304,395
Customer accounts	**868,627**	829,539
Other financial liabilities	**131,772**	94,900
Other liabilities	**23,074**	36,332
Total liabilities	**1,313,965**	1,265,166
Total equity	**112,651**	100,421

Reconciliation of BoCom's total shareholders' equity to the carrying amount in HSBC's consolidated financial statements

	At 30 Sep	
	2019	2018
	$m	$m
HSBC's share of total shareholders' equity	**18,509**	17,275
Goodwill and other intangible assets	**473**	479
Carrying amount	**18,982**	17,754

Selected income statement information of BoCom

	For the 12 months ended 30 Sep	
	2019	2018
	$m	$m
Net interest income	**20,558**	19,295
Net fee and commission income	**6,411**	6,245
Change in expected credit losses and other credit impairment charges	**(7,479)**	(5,602)
Depreciation and amortisation	**(1,934)**	(767)
Tax expense	**(1,636)**	(1,554)
Profit for the year	**11,175**	11,116
Other comprehensive income	**315**	190
Total comprehensive income	**11,490**	11,306
Dividends received from BoCom	**613**	611

Associates and joint ventures

For the year ended 31 December 2019, HSBC's share of associates' and joint ventures' tax on profit was $314m (2018: $306m). This is included within 'Share of profit in associates and joint ventures' in the consolidated income statement.

19 Investments in subsidiaries

Main subsidiaries of HSBC Holdings

	At 31 Dec 2019		
	Place of incorporation or registration	**HSBC's interest %**	**Share class**
Europe			
HSBC Bank plc	**England and Wales**	**100**	**£1 Ordinary, $0.01 Non-cumulative third Dollar Preference**
HSBC UK Bank plc	**England and Wales**	**100**	**£1 Ordinary**
HSBC France	**France**	**99.99**	**€5 Actions**
HSBC Trinkaus & Burkhardt AG	**Germany**	**80.67**	**Stückaktien no par value**
Asia			
Hang Seng Bank Limited	**Hong Kong**	**62.14**	**HK$5 Ordinary**
HSBC Bank (China) Company Limited	**People's Republic of China**	**100**	**CNY1 Ordinary**
HSBC Bank Malaysia Berhad	**Malaysia**	**100**	**RM0.50 Ordinary**
HSBC Life (International) Limited	**Bermuda**	**100**	**HK$1 Ordinary**
The Hongkong and Shanghai Banking Corporation Limited	**Hong Kong**	**100**	**Ordinary no par value**
Middle East and North Africa			
HSBC Bank Middle East Limited	**United Arab Emirates**	**100**	**$1 Ordinary and $1 Cumulative Redeemable Preference shares (CRP)**
North America			
HSBC Bank Canada	**Canada**	**100**	**Common no par value and Preference no par value**
HSBC Bank USA, N.A.	**US**	**100**	**$100 Common and $0.01 Preference**
Latin America			
HSBC Mexico, S.A., Institución de Banca Múltiple, Grupo Financiero HSBC	**Mexico**	**99.99**	**MXN2 Ordinary**

Details of the debt, subordinated debt and preference shares issued by the main subsidiaries to parties external to the Group are included in Note 25 'Debt securities in issue' and Note 28 'Subordinated liabilities', respectively.

A list of all related undertakings is set out in Note 37. The principal countries of operation are the same as the countries and territories of incorporation except for HSBC Life (International) Limited, which operates mainly in Hong Kong.

HSBC is structured as a network of regional banks and locally incorporated regulated banking entities. Each bank is separately capitalised in accordance with applicable prudential requirements and maintains a capital buffer consistent with the Group's risk appetite for the relevant country or region. HSBC's capital management process is incorporated in the annual operating plan, which is approved by the Board.

HSBC Holdings is the primary provider of equity capital to its subsidiaries and also provides them with non-equity capital where necessary. These investments are substantially funded by HSBC Holdings' issuance of equity and non-equity capital, and by profit retention. The increase in HSBC Holdings' investments in subsidiaries during the year is primarily driven by new capital injections of $3,721m (2018: net increase of $65,222m), partially offset by $2,562m impairment charges (2018: net reversal of $2,064m), which includes $2,475m impairment of HSBC Overseas Holdings (UK) Limited.

As part of its capital management process, HSBC Holdings seeks to maintain a balance between the composition of its capital and its investment in subsidiaries. Subject to this, there is no current or foreseen impediment to HSBC Holdings' ability to provide funding for such investments. During 2019, consistent with the Group's capital plan, the Group's subsidiaries did not experience any significant restrictions on paying dividends or repaying loans and advances. Also, there are no foreseen restrictions envisaged with regard to planned dividends or payments. However, the ability of subsidiaries to pay dividends or advance monies to HSBC Holdings depends on, among other things, their respective local regulatory capital and banking requirements, exchange controls, statutory reserves, and financial and operating performance.

The amount of guarantees by HSBC Holdings in favour of other Group entities is set out in Note 32.

Information on structured entities consolidated by HSBC where HSBC owns less than 50% of the voting rights is included in Note 20 'Structured entities'. In each of these cases, HSBC controls and consolidates an entity when it is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

Subsidiaries with significant non-controlling interests

	2019	2018
Hang Seng Bank Limited		
Proportion of ownership interests and voting rights held by non-controlling interests	**37.86%**	37.86%
Place of business	**Hong Kong**	Hong Kong
	$m	$m
Profit attributable to non-controlling interests	**1,229**	1,194
Accumulated non-controlling interests of the subsidiary	**7,262**	6,637
Dividends paid to non-controlling interests	**720**	647
Summarised financial information:		
– total assets	**212,485**	197,867
– total liabilities	**191,819**	179,450
– net operating income before changes in expected credit losses and other credit impairment charges	**5,558**	5,294
– profit for the year	**3,251**	3,159
– total comprehensive income for the year	**3,461**	2,950

20 Structured entities

HSBC is mainly involved with both consolidated and unconsolidated structured entities through the securitisation of financial assets, conduits and investment funds, established either by HSBC or a third party.

Consolidated structured entities

Total assets of HSBC's consolidated structured entities, split by entity type

	Conduits	Securitisations	HSBC managed funds	Other	Total
	$bn	$bn	$bn	$bn	$bn
At 31 Dec 2019	**8.6**	**9.6**	**6.8**	**6.7**	**31.7**
At 31 Dec 2018	9.2	5.7	6.5	4.4	25.8

Conduits

HSBC has established and manages two types of conduits: securities investment conduits ('SICs') and multi-seller conduits.

Securities investment conduits

The SICs purchase highly rated ABSs to facilitate tailored investment opportunities.

- At 31 December 2019, Solitaire, HSBC's principal SIC, held $2.1bn of ABSs (2018: $2.3bn). It is currently funded entirely by commercial paper ('CP') issued to HSBC. Although HSBC continues to provide a liquidity facility, Solitaire has no need to draw on it as long as HSBC purchases its issued CP, which HSBC intends to do for the foreseeable future. At 31 December 2019, HSBC held $3.2bn of CP (2018: $3.4bn).
- As at 31 December 2019, Barion, Malachite and Mazarin are fully redeemed vehicles with no current trading activity.

Multi-seller conduit

HSBC's multi-seller conduit was established to provide access to flexible market-based sources of finance for its clients. Currently, HSBC bears risk equal to the transaction-specific facility offered to the multi-seller conduit, amounting to $12.4bn at 31 December 2019 (2018: $16.1bn). First loss protection is provided by the originator of the assets, and not by HSBC, through transaction-specific credit enhancements. A layer of secondary loss protection is provided by HSBC in the form of programme-wide enhancement facilities.

Securitisations

HSBC uses structured entities to securitise customer loans and advances it originates in order to diversify its sources of funding for asset origination and capital efficiency purposes. The loans and advances are transferred by HSBC to the structured entities for cash or synthetically through credit default swaps, and the structured entities issue debt securities to investors.

HSBC managed funds

HSBC has established a number of money market and non-money market funds. Where it is deemed to be acting as principal rather than agent in its role as investment manager, HSBC controls these funds.

Other

HSBC has entered into a number of transactions in the normal course of business, which include asset and structured finance transactions where it has control of the structured entity. In addition, HSBC is deemed to control a number of third-party managed funds through its involvement as a principal in the funds.

Unconsolidated structured entities

The term 'unconsolidated structured entities' refers to all structured entities not controlled by HSBC. The Group enters into transactions with unconsolidated structured entities in the normal course of business to facilitate customer transactions and for specific investment opportunities.

Nature and risks associated with HSBC interests in unconsolidated structured entities

Total asset values of the entities ($m)	Securitisations	HSBC managed funds	Non-HSBC managed funds	Other	Total
0–500	**91**	**236**	**670**	**70**	**1,067**
500–2,000	**12**	**70**	**642**	**7**	**731**
2,000–5,000	**—**	**28**	**345**	**—**	**373**
5,000–25,000	**—**	**14**	**260**	**—**	**274**
25,000+	**—**	**3**	**39**	**2**	**44**
Number of entities at 31 Dec 2019	**103**	**351**	**1,956**	**79**	**2,489**
	$bn	**$bn**	**$bn**	**$bn**	**$bn**
Total assets in relation to HSBC's interests in the unconsolidated structured entities	**5.3**	**9.1**	**15.1**	**4.2**	**33.7**
– trading assets	**—**	**0.2**	**3.5**	**1.3**	**5**
– financial assets designated and otherwise mandatorily measured at fair value	**—**	**8.4**	**10.7**	**—**	**19.1**
– loans and advances to customers	**5.3**	**—**	**0.4**	**2.3**	**8**
– financial investments	**—**	**0.5**	**0.5**	**—**	**1**
– other assets	**—**	**—**	**—**	**0.6**	**0.6**
Total liabilities in relation to HSBC's interests in the unconsolidated structured entities	**—**	**—**	**—**	**0.3**	**0.3**
– other liabilities	**—**	**—**	**—**	**0.3**	**0.3**
Other off-balance sheet commitments	**0.3**	**0.3**	**3.9**	**0.7**	**5.2**
HSBC's maximum exposure at 31 Dec 2019	**5.6**	**9.4**	**19.0**	**4.6**	**38.6**
Total asset values of the entities ($m)					
0–500	76	243	906	79	1,304
500–2,000	10	56	570	5	641
2,000–5,000	1	17	230	—	248
5,000–25,000	—	5	90	1	96
25,000+	—	2	10	—	12
Number of entities at 31 Dec 2018	87	323	1,806	85	2,301
	$bn	$bn	$bn	$bn	$bn
Total assets in relation to HSBC's interests in the unconsolidated structured entities	3.8	8.3	8.9	4.7	25.7
– trading assets	—	0.1	0.3	1.3	1.7
– financial assets designated and otherwise mandatorily measured at fair value	—	7.3	7.9	—	15.2
– loans and advances to customers	3.8	—	0.3	2.7	6.8
– financial investments	—	0.9	0.4	0.3	1.6
– other assets	—	—	—	0.4	0.4
Total liabilities in relation to HSBC's interests in the unconsolidated structured entities	—	—	—	0.2	0.2
– other liabilities	—	—	—	0.2	0.2
Other off-balance sheet commitments	0.8	0.1	3.3	1.0	5.2
HSBC's maximum exposure at 31 Dec 2018	4.6	8.4	12.2	5.5	30.7

The maximum exposure to loss from HSBC's interests in unconsolidated structured entities represents the maximum loss it could incur as a result of its involvement with these entities regardless of the probability of the loss being incurred.

- For commitments, guarantees and written credit default swaps, the maximum exposure to loss is the notional amount of potential future losses.
- For retained and purchased investments in and loans to unconsolidated structured entities, the maximum exposure to loss is the carrying value of these interests at the balance sheet reporting date.

The maximum exposure to loss is stated gross of the effects of hedging and collateral arrangements that HSBC has entered into in order to mitigate the Group's exposure to loss.

Securitisations

HSBC has interests in unconsolidated securitisation vehicles through holding notes issued by these entities. In addition, HSBC has investments in ABSs issued by third-party structured entities.

HSBC managed funds

HSBC establishes and manages money market funds and non-money market investment funds to provide customers with investment opportunities. Further information on funds under management is provided on page 72.

HSBC, as fund manager, may be entitled to receive management and performance fees based on the assets under management. HSBC may also retain units in these funds.

Non-HSBC managed funds

HSBC purchases and holds units of third-party managed funds in order to facilitate business and meet customer needs.

Other

HSBC has established structured entities in the normal course of business, such as structured credit transactions for customers, to provide finance to public and private sector infrastructure projects, and for asset and structured finance transactions.

In addition to the interests disclosed above, HSBC enters into derivative contracts, reverse repos and stock borrowing transactions with structured entities. These interests arise in the normal course of business for the facilitation of third-party transactions and risk management solutions.

HSBC sponsored structured entities

The amount of assets transferred to and income received from such sponsored structured entities during 2019 and 2018 were not significant.

21 Goodwill and intangible assets

	Footnotes	2019 $m	2018 $m
Goodwill		**5,590**	12,986
Present value of in-force long-term insurance business		**8,945**	7,149
Other intangible assets	1	**5,628**	4,222
At 31 Dec		**20,163**	24,357

1 *Included within other intangible assets is internally generated software with a net carrying value of $4,829m (2018: $3,632m). During the year, capitalisation of internally generated software was $2,086m (2018: $1,781m) and amortisation was $947m (2018: $687m).*

Movement analysis of goodwill

	2019 $m	2018 $m
Gross amount		
At 1 Jan	**22,180**	22,902
Exchange differences	**(154)**	(617)
Other	**58**	(105)
At 31 Dec	**22,084**	22,180
Accumulated impairment losses		
At 1 Jan	**(9,194)**	(9,314)
Impairment losses	**(7,349)**	—
Exchange differences	**49**	120
At 31 Dec	**(16,494)**	(9,194)
Net carrying amount at 31 Dec	**5,590**	12,986

Impairment testing

The Group's impairment test in respect of goodwill allocated to each cash-generating unit ('CGU') is performed at 1 July each year. A review for indicators of impairment is undertaken at each subsequent quarter-end and at 31 December 2019.

31 December 2019 impairment test

Having considered the extent of our 2020 business update, current market conditions and their combined potential impact on HSBC's operations, an interim impairment test was performed at 31 December 2019 for all CGUs. As a result, we recognised $7.3bn of goodwill impairment related to five CGUs: GB&M; Europe – CMB; North America – GPB; Latin America – CMB; and Middle East and North Africa – CMB.

Impairment resulted from a combination of factors, including our macroeconomic outlook, a corresponding judgement to reduce the basis of the long-term growth rate assumption used to estimate value in use ('VIU'), IFRS requirements which limit elements of management-approved forecasts that should be considered when testing goodwill for impairment (see 'Management's judgement in estimating cash flows of a CGU' on page 321) and lower forecast profitability in some businesses. Significant inputs to the VIU calculation are discussed in more detail within 'Basis of the recoverable amount' on page 321. Management considered the sensitivity of certain assumptions and the outcome of reasonably possible alternative scenarios. This resulted in full impairment of goodwill for the five CGUs.

Impairment results and key assumptions in VIU calculation – impaired CGUs

	Carrying amount $bn	of which goodwill $bn	Value in use $bn	Impairment $bn	Discount rate %	Growth rate beyond initial cash flow projections %
Cash-generating unit						
GB&M	**60.7**	**4.0**	**55.8**	**4.0**	**9.5**	**2.0**
Europe – CMB	**20.0**	**2.5**	**17.5**	**2.5**	**9.5**	**1.8**
North America – GPB	**0.9**	**0.4**	**0.5**	**0.4**	**9.5**	**2.1**
Latin America – CMB	**1.3**	**0.3**	**1.0**	**0.3**	**17.0**	**3.6**
Middle East and North Africa – CMB	**2.6**	**0.1**	**1.5**	**0.1**	**13.3**	**2.4**
2019 impairment recognised				**7.3**		

Basis of the recoverable amount

The recoverable amount of all CGUs to which goodwill has been allocated was equal to its VIU at each respective testing date. The VIU is calculated by discounting management's cash flow projections for the CGU. The key assumptions used in the VIU calculation for each individually significant CGU that is not impaired are discussed below.

Key assumptions in VIU calculation – significant CGUs at 31 December 2019

	Goodwill at 31 Dec 2019	Discount rate	Growth rate beyond initial cash flow	Goodwill at 1 Jul 2019	Discount rate	Nominal growth rate beyond initial cash flow	Goodwill at 1 Jul 2018	Discount rate	Nominal growth rate beyond initial cash flow projections
	$m	%	%	$m	%	%	$m	%	%
Cash-generating unit									
Europe – RBWM	**3,464**	**8.3**	**1.7**	**3,496**	**8.3**	**3.2**	3,565	8.1	3.8

At 31 December 2019, aggregate goodwill of $2,126m (1 July 2019: $2,938m; 1 July 2018: $3,061m) had been allocated to CGUs that were not considered individually significant. The Group's CGUs do not carry on their balance sheets any significant intangible assets with indefinite useful lives, other than goodwill.

Management's judgement in estimating the cash flows of a CGU

The cash flow projections for each CGU are based on plans approved by the Board. The Board challenges and endorses planning assumptions in light of internal capital allocation decisions necessary to support our strategy, current market conditions and macroeconomic outlook. For the 31 December 2019 interim impairment test, cash flow projections until the end of Q1 2024 were considered. As required by IFRSs, estimates of future cash flows exclude estimated cash inflows or outflows that are expected to arise from restructuring initiatives before an entity has a constructive obligation to carry out the plan, and would therefore have recognised a provision for restructuring costs. Our business update includes plans to reduce operating costs by approximately $4.5bn by 2022, incurring costs to achieve these reductions of $6.0bn. Accordingly, we have excluded these components of the plan approved by the Board as they relate to individual CGUs when calculating VIU.

Discount rate

The rate used to discount the cash flows is based on the cost of capital assigned to each CGU, which is derived using a capital asset pricing model ('CAPM'). CAPM depends on a number of inputs reflecting financial and economic variables, including the risk-free rate and a premium to reflect the inherent risk of the business being evaluated. These variables are based on the market's assessment of the economic variables and management's judgement. The discount rates for each CGU are refined to reflect the rates of inflation for the countries within which the CGU operates. In addition, for the purposes of testing goodwill for impairment, management supplements this process by comparing the discount rates derived using the internally generated CAPM, with the cost of capital rates produced by external sources for businesses operating in similar markets.

Long-term growth rate

The long-term growth rate is used to extrapolate the cash flows in perpetuity because of the long-term perspective within the Group of business units making up the CGUs. Prior to the 31 December 2019 impairment test, these growth rates reflected GDP and inflation (nominal GDP) for the countries within which the CGU operates or from which it derives revenue. At 31 December 2019 we considered the extent to which growth rates based on nominal GDP data remained appropriate given the uncertainty in the macroeconomic environment from the impact of social unrest in Hong Kong, trade disagreements between the US and China and the UK's withdrawal from the EU. We anticipate that when global growth does stabilise it will be at a slightly lower level than recent years. As a result, we considered it appropriate to base the long-term growth rate assumption on inflation data, moving away from a higher nominal GDP basis. This judgement had a material impact on the goodwill impairment outcome.

Sensitivities of key assumptions in calculating VIU

At 31 December 2019, Europe – RBWM was sensitive to reasonably possible adverse changes in key assumptions supporting the recoverable amount. In making an estimate of reasonably possible changes to assumptions, management considers the available evidence in respect of each input to the model, such as the external range of discount rates observable, historical performance against forecast and risks attaching to the key assumptions underlying cash flow projections. A reasonable change in a single key assumption may not result in impairment. Though taken together a combination of reasonable changes in key assumptions could result in a recoverable amount that is lower than the CGU's carrying amount.

	Input	Key assumptions	Associated risks	Reasonably possible change
Cash-generating unit				
Europe – RBWM	Cash flow projections	• Level of interest rates and yield curves. • Competitors' position within the market. • Level and change in unemployment rates.	• Uncertain regulatory environment. • Customer remediation and regulatory actions.	• Cash flow projections decrease by 30%. This does not result in an impairment.
	Discount rate	• Discount rate used is a reasonable estimate of a suitable market rate for the profile of the business.	• External evidence suggests that the rate used is not appropriate to the business.	• Discount rate increases by 100 bps. This does not result in an impairment.

Sensitivity of VIU to reasonably possible changes in key assumptions and changes to current assumptions to achieve nil headroom

In $ billions (unless otherwise stated)	Europe – RBWM $bn
At 31 December 2019	
Carrying amount	**10.1**
VIU	**16.7**
Impact on VIU	
100 bps increase in the discount rate – single variable	**(2.3)**
30% decrease in cash flow projections – single variable	**(5.6)**
Cumulative impact of all changes	**(7.1)**
Changes to key assumption to reduce headroom to NIL – single variable	
Discount rate – bps	**397**
Cash flows – %	**(39.4)**

Present value of in-force long-term insurance business

When calculating the present value of in-force long-term ('PVIF') insurance business, expected cash flows are projected after adjusting for a variety of assumptions made by each insurance operation to reflect local market conditions and management's judgement of future trends and uncertainty in the underlying assumptions is reflected by applying margins (as opposed to a cost of capital methodology) including valuing the cost of policyholder options and guarantees using stochastic techniques.

Actuarial Control Committees of each key insurance entity meet on a quarterly basis to review and approve PVIF assumptions. All changes to non-economic assumptions, economic assumptions that are not observable and model methodologies must be approved by the Actuarial Control Committee.

Movements in PVIF

	Footnotes	2019 $m	2018 $m
As at 31 Dec 2017		**7,149**	6,610
Impact on transition to IFRS 9		**NA**	(78)
At 1 Jan		**7,149**	6,532
Change in PVIF of long-term insurance business		**1,749**	673
– value of new business written during the year		**1,225**	1,117
– expected return	1	**(836)**	(719)
– assumption changes and experience variances (see below)		**1,378**	292
– other adjustments		**(18)**	(17)
Exchange differences and other movements		**47**	(56)
At 31 Dec		**8,945**	7,149

1 *'Expected return' represents the unwinding of the discount rate and reversal of expected cash flows for the period.*

Assumption changes and experience variances

Included within this line item are:

- $1,126m (2018: $(56)m), directly offsetting interest rate-driven changes to the valuation of liabilities under insurance contracts.
- $36m (2018: $455m), reflecting the future expected sharing of returns with policyholders on contracts with discretionary participation features ('DPF'), to the extent this sharing is not already included in liabilities under insurance contracts.
- $216m (2018: $(107)m), driven by other assumptions changes and experience variances.

Key assumptions used in the computation of PVIF for main life insurance operations

Economic assumptions are set in a way that is consistent with observable market values. The valuation of PVIF is sensitive to observed market movements and the impact of such changes is included in the sensitivities presented below.

	2019		2018	
	Hong Kong	France[1]	Hong Kong	France[1]
	%	%	%	%
Weighted average risk-free rate	**1.84**	**0.44**	2.29	1.52
Weighted average risk discount rate	**5.44**	**1.27**	5.90	2.35
Expense inflation	**3.00**	**1.70**	3.00	1.70

1 *For 2019, the calculation of France's PVIF assumes a risk discount rate of 1.27% (2018: 2.35%) plus a risk margin of $130m (2018: $109m).*

Sensitivity to changes in economic assumptions

The Group sets the risk discount rate applied to the PVIF calculation by starting from a risk-free rate curve and adding explicit allowances for risks not reflected in the best-estimate cash flow modelling. Where the insurance operations provide options and guarantees to policyholders the cost of these options and guarantees is an explicit reduction to PVIF, unless it is already allowed for as an explicit addition to the technical provisions required by regulators. For further details of these guarantees and the impact of changes in economic assumptions on our insurance manufacturing subsidiaries, see page 186.

Sensitivity to changes in non-economic assumptions

Policyholder liabilities and PVIF are determined by reference to non-economic assumptions, including mortality and/or morbidity, lapse rates and expense rates. For further details on the impact of changes in non-economic assumptions on our insurance manufacturing operations, see page 187.

22 Prepayments, accrued income and other assets

	Footnotes	2019 $m	2018 $m
Prepayments and accrued income		**9,057**	8,715
Settlement accounts		**14,744**	13,957
Cash collateral and margin receivables		**49,148**	33,202
Assets held for sale		**123**	735
Bullion		**14,830**	13,753
Endorsements and acceptances		**10,198**	9,623
Reinsurers' share of liabilities under insurance contracts (Note 4)		**3,592**	2,506
Employee benefit assets (Note 5)		**8,280**	7,934
Right-of-use assets	1	**4,222**	N/A
Owned property, plant and equipment		**10,480**	10,060
Other accounts		**12,006**	10,086
At 31 Dec		**136,680**	110,571

1 Right-of-use assets have been recognised from 1 January 2019 following the adoption of IFRS 16. Comparatives have not been restated.

Prepayments, accrued income and other assets include $92,979m (2018: $74,151m) of financial assets, the majority of which are measured at amortised cost.

23 Trading liabilities

	Footnotes	2019 $m	2018 $m
Deposits by banks	1	**4,187**	4,871
Customer accounts	1	**6,999**	8,614
Other debt securities in issue (Note 25)		**1,404**	1,400
Other liabilities – net short positions in securities		**70,580**	69,546
At 31 Dec		**83,170**	84,431

1 'Deposits by banks' and 'Customer accounts' include repos, stock lending and other amounts.

24 Financial liabilities designated at fair value

HSBC

	Footnotes	2019 $m	2018 $m
Deposits by banks and customer accounts	1	**17,660**	19,003
Liabilities to customers under investment contracts		**5,893**	5,458
Debt securities in issue (Note 25)		**130,364**	109,351
Subordinated liabilities (Note 28)		**10,130**	14,282
Preferred securities (Note 28)		**419**	411
At 31 Dec		**164,466**	148,505

1 Structured deposits placed at HSBC Bank USA and HSBC Trust Company (Delaware) National Association are insured by the Federal Deposit Insurance Corporation, a US government agency, up to $250,000 per depositor.

The carrying amount of financial liabilities designated at fair value was $6,120m more than the contractual amount at maturity (2018: $11,496m less). The cumulative amount of change in fair value attributable to changes in credit risk was a loss of $2,877m (2018: loss of $209m).

HSBC Holdings

	2019 $m	2018 $m
Debt securities in issue (Note 25)	**24,687**	17,767
Subordinated liabilities (Note 28)	**5,616**	7,282
At 31 Dec	**30,303**	25,049

The carrying amount of financial liabilities designated at fair value was $2,227m more than the contractual amount at maturity (2018: $920m more). The cumulative amount of change in fair value attributable to changes in credit risk was a loss of $1,386m (2018: loss of $812m).

25 Debt securities in issue

HSBC

	2019 $m	2018 $m
Bonds and medium-term notes	**180,969**	162,277
Other debt securities in issue	**55,354**	33,816
Total debt securities in issue	**236,323**	196,093
Included within:		
– trading liabilities (Note 23)	**(1,404)**	(1,400)
– financial liabilities designated at fair value (Note 24)	**(130,364)**	(109,351)
At 31 Dec	**104,555**	85,342

HSBC Holdings

	2019 $m	2018 $m
Debt securities	**81,531**	68,567
Included within:		
– financial liabilities designated at fair value (Note 24)	**(24,687)**	(17,767)
At 31 Dec	**56,844**	50,800

26 Accruals, deferred income and other liabilities

	2019 $m	2018 $m
Accruals and deferred income	**11,808**	11,296
Settlement accounts	**14,356**	13,022
Cash collateral and margin payables	**56,646**	41,044
Endorsements and acceptances	**10,127**	9,633
Employee benefit liabilities (Note 5)	**1,771**	2,167
Lease liabilities[1]	**4,604**	N/A
Other liabilities	**18,844**	20,218
At 31 Dec	**118,156**	97,380

1 *Lease liabilities have been recognised from 1 January 2019 following the adoption of IFRS 16. Comparatives have not been restated.*

Accruals, deferred income and other liabilities include $111,395m (2018: $87,390m) of financial liabilities, the majority of which are measured at amortised cost.

27 Provisions

	Restructuring costs $m	Legal proceedings and regulatory matters $m	Customer remediation $m	Other provisions $m	Total $m
Provisions (excluding contractual commitments)					
At 1 Jan 2019	**130**	**1,128**	**788**	**357**	**2,403**
Additions	**402**	**282**	**1,674**	**223**	**2,581**
Amounts utilised	**(203)**	**(660)**	**(837)**	**(81)**	**(1,781)**
Unused amounts reversed	**(34)**	**(158)**	**(49)**	**(108)**	**(349)**
Exchange and other movements	**61**	**13**	**70**	**(111)**	**33**
At 31 Dec 2019	**356**	**605**	**1,646**	**280**	**2,887**
Contractual commitments[1]					
At 1 Jan 2019					**517**
Net change in expected credit loss provision and other movements					**(6)**
At 31 Dec 2019					**511**
Total provisions					
At 31 Dec 2018					**2,920**
At 31 Dec 2019					**3,398**

	Restructuring costs	Legal proceedings and regulatory matters	Customer remediation	Other provisions	Total
	$m	$m	$m	$m	$m
Provisions (excluding contractual commitments)					
At 31 Dec 2017	334	1,501	1,454	469	3,758
Additions	73	1,132	288	232	1,725
Amounts utilised	(158)	(1,255)	(838)	(143)	(2,394)
Unused amounts reversed	(107)	(279)	(90)	(131)	(607)
Exchange and other movements	(12)	29	(26)	(70)	(79)
At 31 Dec 2018	130	1,128	788	357	2,403
Contractual commitments[1]					
At 1 Jan 2018					537
Net change in expected credit loss provision and other movements					(20)
At 31 Dec 2018					517
Total provisions					
At 31 Dec 2017					4,011
At 31 Dec 2018					2,920

1 *Contractual commitments include the provision for contingent liabilities measured under IFRS 9 'Financial Instruments' in respect of financial guarantees and the expected credit loss provision on off-balance sheet guarantees and commitments.*

Further details of 'Legal proceedings and regulatory matters' are set out in Note 34. Legal proceedings include civil court, arbitration or tribunal proceedings brought against HSBC companies (whether by way of claim or counterclaim) or civil disputes that may, if not settled, result in court, arbitration or tribunal proceedings. Regulatory matters refer to investigations, reviews and other actions carried out by, or in response to the actions of, regulators or law enforcement agencies in connection with alleged wrongdoing by HSBC.

Customer remediation refers to HSBC's activities to compensate customers for losses or damages associated with a failure to comply with regulations or to treat customers fairly. Customer remediation is often initiated by HSBC in response to customer complaints and/or industry developments in sales practices and is not necessarily initiated by regulatory action. Further details of customer remediation are set out in this note.

Refer to Note 32 for further information on the impact of IFRS 9 on undrawn loan commitments and financial guarantees, presented in 'Contractual commitments'. This provision results from the adoption of IFRS 9 and has no comparatives. Further analysis of the movement in the expected credit loss provision is disclosed within the 'Reconciliation of allowances for loans and advances to banks and customers including loan commitments and financial guarantees' table on page 135.

Payment protection insurance

At 31 December 2019, $1.1bn (2018: $555m) of the customer remediation provision relates to the estimated liability for redress in respect of the possible mis-selling of payment protection insurance ('PPI') policies in previous years.

Payments totalling $750m were made during 2019. An increase in provisions of $1.2bn was recognised during the year, primarily reflecting the deadline of 29 August 2019 for bringing complaints announced by the FCA, and leading to:

- a higher than expected increase in the number of inbound complaints received prior to 29 August 2019;
- the effect on the total number of inbound complaints as a result of treating customer information requests relating to PPI policies received between 29 June 2019 and 29 August 2019 as complaints;
- the additional operational expenses related to the increases in populations of potential claims;
- an industry-wide exercise by the Official Receiver to pursue redress amounts in respect of bankrupt and insolvent customers; and
- an increased volume of actual or forecast legal claims for PPI mis-selling, which is not affected by the deadline of 29 August 2019.

The estimated liability for redress for both single and regular premium policies is calculated on the basis of a refund of the total premiums paid by the customer plus simple interest of 8% per annum (or the rate inherent in the related loan product where higher).

Future estimated redress levels are based on historical redress paid to customers per policy.

At 31 December 2019, contact was made with customers who collectively held 3.0 million policies, representing 56% of total policies sold. A total of 5.4 million PPI policies have been sold since 2000, generating estimated revenue of $3.4bn at 2019. The gross written premiums on these policies were approximately $4.5bn. Although the deadline for bringing complaints has passed, customers can still commence litigation for PPI mis-selling. Provision has been made for the best estimate of any obligation to meet those claims. Given the limited period following the complaints time bar, the volume and quality of future claims through legal channels remains uncertain. During the second half of 2019, we received an increasing number of legal claims and Letters Before Action. Our provision estimates that approximately 45,000 claims will be settled in the future.

The following table summarises the cumulative number of information requests received between 29 June and 29 August 2019, and the number of claims expected to be assessed in the future, excluding legal claims:

Cumulative PPI complaints received to 31 December 2019

	Footnotes	Cumulative actual to 31 Dec 2019
Information requests received during autoconversion period (000s)	1	**1,889**
Information requests awaiting evaluation (000s)		**234**
Remaining autoconverted claims anticipated to be worked (000s)	1	**167**
Remaining reactive claims anticipated to be worked (000s)	1	**44**
Total remaining claims anticipated to be worked (000s)	1	**211**
Average uphold rate per claim	2	**86**
Average redress per claim ($)	3	**3,226**

1 *Excludes invalid claims for which no PPI policy exists.*
2 *Including inbound and autoconverted claims, but excludes FOS complaints.*
3 *Including inbound and autoconverted claims, but excludes claims from the Official Receiver.*

The PPI provision is based upon assumptions and estimates taken from historical experience. The profile of cases yet to be assessed could therefore vary leading to different uphold rates or average redress levels being used to arrive at the provision.

We continued to monitor available information up until the date of the approval of the financial statements to ensure the provision estimate was appropriate.

Sensitivity to key assumptions

- A 10% increase/decrease in the uphold rate for complaints yet to be worked would increase/decrease the redress provision by approximately $40m.
- A 10% increase/decrease in the average redress for complaints yet to be worked would increase/decrease the redress provision by approximately $56m.
- An increase/decrease in settled legal claim volumes of 10,000 would increase/decrease the redress provision by approximately $29m.

28 Subordinated liabilities

HSBC's subordinated liabilities

	2019	2018
	$m	$m
At amortised cost	**24,600**	22,437
– subordinated liabilities	**22,775**	20,651
– preferred securities	**1,825**	1,786
Designated at fair value (Note 24)	**10,549**	14,693
– subordinated liabilities	**10,130**	14,282
– preferred securities	**419**	411
At 31 Dec	**35,149**	37,130
Issued by HSBC subsidiaries	**12,363**	13,168
Issued by HSBC Holdings	**22,786**	23,962

Subordinated liabilities rank behind senior obligations and generally count towards the capital base of HSBC. Capital securities may be called and redeemed by HSBC subject to prior notification to the PRA and, where relevant, the consent of the local banking regulator. If not redeemed at the first call date, coupons payable may step up or become floating rate based on interbank rates. On subordinated liabilities other than floating rate notes, interest is payable at fixed rates of up to 10.176%.

The balance sheet amounts disclosed in the following table are presented on an IFRS basis and do not reflect the amount that the instruments contribute to regulatory capital, principally due to regulatory amortisation and regulatory eligibility limits.

HSBC's subsidiaries subordinated liabilities in issue

		Footnotes	First call date	Maturity date	2019 $m	2018 $m
Additional tier 1 capital securities guaranteed by HSBC Holdings		1				
$900m	10.176% non-cumulative step-up perpetual preferred securities, series 2		Jun 2030		**900**	892
					900	892
Additional tier 1 capital securities guaranteed by HSBC Bank plc		1				
£300m	5.862% non-cumulative step-up perpetual preferred securities		Apr 2020		**420**	411
£700m	5.844% non-cumulative step-up perpetual preferred securities		Nov 2031		**925**	894
					1,345	1,305
Tier 2 securities issued by HSBC Bank plc						
$750m	Undated floating rate primary capital notes		Jun 1990		**750**	750
$500m	Undated floating rate primary capital notes		Sep 1990		**500**	500
$300m	Undated floating rate primary capital notes, series 3		Jun 1992		**300**	300
$300m	7.65% subordinated notes		—	May 2025	**300**	300
					1,850	1,850
£300m	6.50% subordinated notes		—	Jul 2023	**396**	382
£350m	5.375% callable subordinated step-up notes	2	Nov 2025	Nov 2030	**549**	513
£500m	5.375% subordinated notes		—	Aug 2033	**875**	757
£225m	6.25% subordinated notes		—	Jan 2041	**296**	286
£600m	4.75% subordinated notes		—	Mar 2046	**785**	758
					4,751	4,546
Tier 2 securities issued by The Hongkong and Shanghai Banking Corporation Ltd						
$400m	Primary capital undated floating rate notes (third series)		Jul 1991		**400**	400
					400	400
Tier 2 securities issued by HSBC Bank Malaysia Berhad						
MYR500m	5.05% subordinated bonds		Nov 2022	Nov 2027	**122**	121
					122	121
Tier 2 securities issued by HSBC USA Inc.						
$750m	5.00% subordinated notes	6	—	Sep 2020	**748**	747
$250m	7.20% subordinated debentures	6	—	Jul 2097	**221**	221
	Other subordinated liabilities each less than $150m	3			**202**	269
					1,171	1,237
Tier 2 securities issued by HSBC Bank USA, N.A.						
$1,250m	4.875% subordinated notes		—	Aug 2020	**1,246**	1,226
$1,000m	5.875% subordinated notes	4	—	Nov 2034	**463**	1,106
$750m	5.625% subordinated notes	4	—	Aug 2035	**496**	829
$700m	7.00% subordinated notes		—	Jan 2039	**700**	697
					2,905	3,858
Tier 2 securities issued by HSBC Finance Corporation						
$2,939m	6.676% senior subordinated notes	5, 6	—	Jan 2021	**507**	507
Tier 2 securities issued by HSBC Bank Canada						
	Other subordinated liabilities each less than $150m		Oct 1996	Nov 2083	**26**	29
					26	29
Securities issued by other HSBC subsidiaries						
Other subordinated liabilities each less than $200m		3			**236**	273
Subordinated liabilities issued by HSBC subsidiaries at 31 Dec		7			**12,363**	13,168

1 *See paragraph below, 'Guaranteed by HSBC Holdings or HSBC Bank plc'.*
2 *The interest rate payable after November 2025 is the sum of the three-month sterling Libor plus 1.5 percentage points.*
3 *Some securities included here are ineligible for inclusion in the capital base of HSBC.*
4 *HSBC tendered for these securities in November 2019. The principal balance is $358m and $383m respectively. The original notional of these securities are $1,000m and $750m respectively.*
5 *HSBC tendered for these securities in 2017. In January 2018, a further tender was conducted. The principal balance is $507m. The original notional of these securities is $2,939m.*
6 *These securities are ineligible for inclusion in the capital base of HSBC.*
7 *Approximately $60m of these securities were held by HSBC Holdings.*

HSBC Holdings' subordinated liabilities

	2019	2018
	$m	$m
At amortised cost	**18,361**	17,715
Designated at fair value (Note 24)	**5,616**	7,282
At 31 Dec	**23,977**	24,997

HSBC Holdings' subordinated liabilities in issue

		Footnotes	First call date	Maturity date	2019 $m	2018 $m
Tier 2 securities issued by HSBC Holdings						
Amounts owed to third parties						
$2,000m	4.25% subordinated notes	2,3	—	Mar 2024	**2,076**	2,001
$1,500m	4.25% subordinated notes	2	—	Aug 2025	**1,611**	1,494
$1,500m	4.375% subordinated notes	2	—	Nov 2026	**1,626**	1,470
$488m	7.625% subordinated notes	1	—	May 2032	**545**	549
$222m	7.35% subordinated notes	1	—	Nov 2032	**245**	246
$2,000m	6.5% subordinated notes	1	—	May 2036	**2,036**	2,040
$2,500m	6.5% subordinated notes	1	—	Sep 2037	**2,738**	2,419
$1,500m	6.8% subordinated notes	1	—	Jun 2038	**1,490**	1,489
$1,500m	5.25% subordinated notes	2,3	—	Mar 2044	**1,886**	1,661
£650m	5.75% subordinated notes	2	—	Dec 2027	**1,059**	960
£650m	6.75% subordinated notes	2	—	Sep 2028	**855**	826
£750m	7.0% subordinated notes	2	—	Apr 2038	**1,064**	992
£900m	6.0% subordinated notes	2	—	Mar 2040	**1,294**	1,156
€1,750m	6.0% subordinated notes	2	—	Jun 2019	**—**	2,125
€1,500m	3.375% subordinated notes	2,3	Jan 2019	Jan 2024	**—**	1,719
€1,500m	3.0% subordinated notes	2	—	Jun 2025	**1,736**	1,725
€1,000m	3.125% subordinated notes	2	—	Jun 2028	**1,321**	1,233
					21,582	24,105
Amounts owed to HSBC undertakings						
$900m	10.176% subordinated step-up cumulative notes		Jun 2030	Jun 2040	**892**	892
					892	892
Other securities issued by HSBC Holdings						
Amounts owed to third parties						
$1,500m	5.625% contingent convertible securities	4	Nov 2019	Jan 2020	**1,503**	—
					1,503	—
At 31 Dec					**23,977**	24,997

1 *Amounts owed to third parties represent securities included in the capital base of HSBC as tier 2 securities in accordance with the grandfathering provisions under CRR II. Prior period figures are included on a CRD IV basis.*
2 *These securities are included in the capital base of HSBC as fully CRR II-compliant tier 2 securities on an end point basis.*
3 *These subordinated notes are measured at amortised cost in HSBC Holdings, where the interest rate risk is hedged using a fair value hedge, while they are measured at fair value in the Group.*
4 *This security was called by HSBC Holdings on 22 November 2019 and was redeemed and cancelled on 17 January 2020. Between the date of exercise of the call option and the redemption, this security was considered to be a subordinated liability. Refer to Note 31 for further details on additional Tier 1 securities.*

Guaranteed by HSBC Holdings or HSBC Bank plc

Capital securities guaranteed by HSBC Holdings or HSBC Bank plc were issued by the Jersey limited partnerships. The proceeds of these were lent to the respective guarantors by the limited partnerships in the form of subordinated notes. They qualify as additional tier 1 capital for HSBC under CRR II by virtue of the application of grandfathering provisions. The two capital securities guaranteed by HSBC Bank plc also qualify as additional tier 1 capital for HSBC Bank plc (on a solo and a consolidated basis) under CRR II by virtue of the same grandfathering process.

These preferred securities, together with the guarantee, are intended to provide investors with rights to income and capital distributions and distributions upon liquidation of the relevant issuer that are equivalent to the rights that they would have had if they had purchased non-cumulative perpetual preference shares of the relevant issuer. There are limitations on the payment of distributions if such payments are prohibited under UK banking regulations or other requirements, if a payment would cause a breach of HSBC's capital adequacy requirements, or if HSBC Holdings or HSBC Bank plc has insufficient distributable reserves (as defined).

HSBC Holdings and HSBC Bank plc have individually covenanted that, if prevented under certain circumstances from paying distributions on the preferred securities in full, they will not pay dividends or other distributions in respect of their ordinary shares, or repurchase or redeem their ordinary shares, until the distribution on the preferred securities has been paid in full.

If the consolidated total capital ratio of HSBC Holdings falls below the regulatory minimum required or if the Directors expect it to do so in the near term, provided that proceedings have not been commenced for the liquidation, dissolution or winding up of HSBC Holdings, the holders' interests in the preferred securities guaranteed by HSBC Holdings will be exchanged for interests in preference shares issued by HSBC Holdings that have economic terms which are in all material respects equivalent to the preferred securities and their guarantee.

If any of the two issues guaranteed by HSBC Bank plc are outstanding in April 2049 or November 2048 respectively, or if the total capital ratio of HSBC Bank plc (on a solo or consolidated basis) falls below the regulatory minimum required, or if the Directors expect it to do so in the near term, provided that proceedings have not been commenced for the liquidation, dissolution or winding up of HSBC Bank plc, the holders' interests in the preferred securities guaranteed by HSBC Bank plc will be exchanged for interests in preference shares issued by HSBC Bank plc that have economic terms which are in all material respects equivalent to the preferred securities and their guarantee.

Tier 2 securities

Tier 2 capital securities are either perpetual or dated subordinated securities on which there is an obligation to pay coupons. These capital securities are included within HSBC's regulatory capital base as tier 2 capital under CRR II, either as fully eligible capital or by virtue of the application of grandfathering provisions. In accordance with CRR II, the capital contribution of all tier 2 securities is amortised for regulatory purposes in their final five years before maturity.

29 Maturity analysis of assets, liabilities and off-balance sheet commitments

The table on page 330 provides an analysis of consolidated total assets, liabilities and off-balance sheet commitments by residual contractual maturity at the balance sheet date. These balances are included in the maturity analysis as follows:

- Trading assets and liabilities (including trading derivatives but excluding reverse repos, repos and debt securities in issue) are included in the 'Due not more than 1 month' time bucket, because trading balances are typically held for short periods of time.
- Financial assets and liabilities with no contractual maturity (such as equity securities) are included in the 'Due over 5 years' time bucket. Undated or perpetual instruments are classified based on the contractual notice period, which the counterparty of the instrument is entitled to give. Where there is no contractual notice period, undated or perpetual contracts are included in the 'Due over 5 years' time bucket.
- Non-financial assets and liabilities with no contractual maturity are included in the 'Due over 5 years' time bucket.
- Financial instruments included within assets and liabilities of disposal groups held for sale are classified on the basis of the contractual maturity of the underlying instruments and not on the basis of the disposal transaction.
- Liabilities under insurance contracts are included in the 'Due over 5 years' time bucket. Liabilities under investment contracts are classified in accordance with their contractual maturity. Undated investment contracts are included in the 'Due over 5 years' time bucket, although such contracts are subject to surrender and transfer options by the policyholders.
- Loan and other credit-related commitments are classified on the basis of the earliest date they can be drawn down.

Maturity analysis of assets, liabilities and off-balance sheet commitments

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash and balances at central banks	154,099	–	–	–	–	–	–	–	154,099
Items in the course of collection from other banks	4,956	–	–	–	–	–	–	–	4,956
Hong Kong Government certificates of indebtedness	38,380	–	–	–	–	–	–	–	38,380
Trading assets	252,009	644	412	62	452	152	540	–	254,271
Financial assets designated or otherwise mandatorily measured at fair value	4,846	74	381	200	422	780	2,356	34,568	43,627
Derivatives	241,941	150	24	27	22	112	294	425	242,995
Loans and advances to banks	41,554	7,826	4,877	2,592	2,859	6,848	2,005	642	69,203
Loans and advances to customers	190,675	82,379	61,254	36,005	36,755	106,203	227,811	295,661	1,036,743
– personal	51,893	14,547	8,562	7,245	6,931	22,923	66,761	252,275	431,137
– corporate and commercial	118,585	61,629	45,924	25,006	25,069	71,751	147,139	39,958	535,061
– financial	20,197	6,203	6,768	3,754	4,755	11,529	13,911	3,428	70,545
Reverse repurchase agreements – non-trading	164,741	38,997	17,933	8,226	6,305	2,298	2,362	–	240,862
Financial investments	36,128	64,472	35,795	17,485	18,202	48,427	90,193	132,610	443,312
Accrued income and other financial assets	80,661	5,544	2,532	915	495	432	363	2,037	92,979
Financial assets at 31 Dec 2019	1,209,990	200,086	123,208	65,512	65,512	165,252	325,924	465,943	2,621,427
Non-financial assets	–	–	–	–	–	–	–	93,725	93,725
Total assets at 31 Dec 2019	1,209,990	200,086	123,208	65,512	65,512	165,252	325,924	559,668	2,715,152
Off-balance sheet commitments received									
Loan and other credit-related commitments	63,199	–	–	–	–	–	–	–	63,199
Financial liabilities									
Hong Kong currency notes in circulation	38,380	–	–	–	–	–	–	–	38,380
Deposits by banks	46,397	4,167	2,773	454	844	2,455	876	1,056	59,022
Customer accounts[1]	1,287,358	81,038	38,343	11,530	11,342	5,275	4,075	154	1,439,115
– personal	646,843	49,405	29,320	8,484	6,852	3,631	2,646	71	747,252
– corporate and commercial	479,763	24,214	7,162	2,621	3,009	1,119	1,388	41	519,317
– financial	160,752	7,419	1,861	425	1,481	525	41	42	172,546
Repurchase agreements – non-trading	132,042	3,402	1,579	1,882	59	354	2	1,024	140,344
Items in the course of transmission to other banks	4,817	–	–	–	–	–	–	–	4,817
Trading liabilities	82,130	209	265	148	102	287	29	–	83,170
Financial liabilities designated at fair value	12,844	4,667	4,236	4,552	5,196	26,081	43,534	63,356	164,466
– debt securities in issue: covered	–	–	–	–	1,139	–	2,663	1,159	4,961
– debt securities in issue: unsecured	8,884	2,046	2,946	3,757	3,030	22,950	34,753	47,036	125,402
– subordinated liabilities and preferred securities	23	–	–	–	–	–	2,131	8,396	10,550
– other	3,937	2,621	1,290	795	1,027	3,131	3,987	6,765	23,553
Derivatives	237,901	105	73	10	18	68	540	782	239,497
Debt securities in issue	8,183	17,374	12,799	13,152	11,382	14,572	20,048	7,045	104,555
– covered bonds	–	–	–	–	–	749	998	–	1,747
– otherwise secured	2,015	2	248	161	–	219	958	1,663	5,266
– unsecured	6,168	17,372	12,551	12,991	11,382	13,604	18,092	5,382	97,542
Accruals and other financial liabilities	87,796	9,078	3,914	1,244	2,058	1,592	2,823	2,890	111,395
Subordinated liabilities	1,502	–	22	1,993	100	755	424	19,804	24,600
Total financial liabilities at 31 Dec 2019	1,939,350	120,040	64,004	34,965	31,101	51,439	72,351	96,111	2,409,361
Non-financial liabilities	–	–	–	–	–	–	–	113,123	113,123
Total liabilities at 31 Dec 2019	1,939,350	120,040	64,004	34,965	31,101	51,439	72,351	209,234	2,522,484
Off-balance sheet commitments given									
Loan and other credit-related commitments	794,336	600	590	313	551	442	458	318	797,608
– personal	221,952	40	39	56	167	208	392	299	223,153
– corporate and commercial	460,569	117	96	52	381	218	66	19	461,518
– financial	111,815	443	455	205	3	16	–	–	112,937

Maturity analysis of assets, liabilities and off-balance sheet commitments (continued)

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash and balances at central banks	162,843	—	—	—	—	—	—	—	162,843
Items in the course of collection from other banks	5,787	—	—	—	—	—	—	—	5,787
Hong Kong Government certificates	35,859	—	—	—	—	—	—	—	35,859
Trading assets	235,443	264	707	744	104	197	671	—	238,130
Financial assets designated at fair value	7,743	49	371	145	334	918	2,415	29,136	41,111
Derivatives	206,925	15	57	79	18	69	328	334	207,825
Loans and advances to banks	40,114	10,421	3,486	2,004	3,282	7,158	4,508	1,194	72,167
Loans and advances to customers	178,613	72,072	58,680	38,394	37,333	101,267	219,841	275,496	981,696
– personal	41,967	8,736	8,237	7,581	7,240	24,942	63,061	229,626	391,390
– corporate and commercial	118,294	58,623	45,918	27,001	25,597	67,093	143,959	42,540	529,025
– financial	18,352	4,713	4,525	3,812	4,496	9,232	12,821	3,330	61,281
Reverse repurchase agreements	172,795	41,084	13,308	5,763	3,574	5,253	1,027	—	242,804
Financial investments	40,421	58,731	30,464	15,707	15,357	41,866	92,846	112,041	407,433
Accrued income and other financial assets	62,067	6,893	2,403	561	307	349	731	2,237	75,548
Financial assets at 31 Dec 2018	1,148,610	189,529	109,476	63,397	60,309	157,077	322,367	420,438	2,471,203
Non-financial assets	—	—	—	—	—	—	—	86,921	86,921
Total assets at 31 Dec 2018	1,148,610	189,529	109,476	63,397	60,309	157,077	322,367	507,359	2,558,124
Off-balance sheet commitments received									
Loan and other credit-related commitments	73,464	—	—	—	1	3	98	656	74,222
Financial liabilities									
Hong Kong currency notes in circulation	35,859	—	—	—	—	—	—	—	35,859
Deposits by banks	42,406	3,457	1,043	784	542	5,558	1,655	886	56,331
Customer accounts[1]	1,225,919	66,990	31,315	17,218	13,760	4,122	3,194	125	1,362,643
– personal	612,325	38,132	21,218	11,483	8,282	2,853	2,623	53	696,969
– corporate and commercial	457,661	22,922	8,029	4,599	4,317	1,092	509	29	499,158
– financial	155,933	5,936	2,068	1,136	1,161	177	62	43	166,516
Repurchase agreements – non-trading	154,383	8,140	1,750	629	73	408	501	—	165,884
Items in the course of transmission to other banks	5,641	—	—	—	—	—	—	—	5,641
Trading liabilities	82,867	251	326	633	81	235	36	2	84,431
Financial liabilities designated at fair value	3,813	4,476	6,878	3,076	3,481	12,545	53,615	60,621	148,505
– debt securities in issue: covered bonds	—	—	205	—	—	1,190	2,721	1,137	5,253
– debt securities in issue: unsecured	981	1,562	2,659	2,290	2,353	9,143	47,443	37,633	104,064
– subordinated liabilities and preferred securities	—	—	2,125	—	—	—	—	12,568	14,693
– other	2,832	2,914	1,889	786	1,128	2,212	3,451	9,283	24,495
Derivatives	203,962	62	135	191	144	560	159	622	205,835
Debt securities in issue	6,777	11,194	12,556	8,075	3,330	10,670	19,713	13,027	85,342
– covered bonds	—	—	—	—	—	—	748	—	748
– otherwise secured	2,166	1,100	30	—	—	394	944	1,412	6,046
– unsecured	4,611	10,094	12,526	8,075	3,330	10,276	18,021	11,615	78,548
Accruals and other financial liabilities	69,958	8,986	3,296	659	1,269	885	1,027	1,300	87,380
Subordinated liabilities	6	89	3	—	—	1,996	1,384	18,959	22,437
Total financial liabilities at 31 Dec 2018	1,831,591	103,645	57,302	31,265	22,680	36,979	81,284	95,542	2,260,288
Non-financial liabilities	—	—	—	—	—	—	—	103,587	103,587
Total liabilities at 31 Dec 2018	1,831,591	103,645	57,302	31,265	22,680	36,979	81,284	199,129	2,363,875
Off-balance sheet commitments given									
Loan and other credit-related commitments	769,311	5,281	941	1,972	1,257	361	731	412	780,266
– personal	203,622	974	59	32	201	280	556	331	206,055
– corporate and commercial	441,199	2,694	799	1,895	974	34	150	73	447,818
– financial	124,490	1,613	83	45	82	47	25	8	126,393

1 *'Customer accounts' includes $408,090m (2018: $364,729m) insured by guarantee schemes.*

HSBC Holdings

Maturity analysis of assets, liabilities and off-balance sheet commitments (continued)

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash at bank and in hand:									
– balances with HSBC undertakings	2,382	–	–	–	–	–	–	–	2,382
Derivatives	596	–	–	–	–	–	230	1,176	2,002
Loans and advances to HSBC undertakings	102	672	120	25	–	600	1,909	6,790	10,218
Financial assets with HSBC undertakings designated and otherwise mandatorily measured at fair value	–	–	–	–	–	458	24,845	36,661	61,964
Financial investments	2,754	3,493	1,873	2,251	2,721	3,014	–	–	16,106
Accrued income and other financial assets	93	277	97	48	16	12	–	–	543
Total financial assets at 31 Dec 2019	5,927	4,442	2,090	2,324	2,737	4,084	26,984	44,627	93,215
Non-financial assets	–	–	–	–	–	–	–	162,025	162,025
Total assets at 31 Dec 2019	5,927	4,442	2,090	2,324	2,737	4,084	26,984	206,652	255,240
Financial liabilities									
Amounts owed to HSBC undertakings	–	464	–	–	–	–	–	–	464
Financial liabilities designated at fair value	–	–	–	–	–	5,651	6,710	17,942	30,303
– debt securities in issue	–	–	–	–	–	5,651	6,710	12,326	24,687
– subordinated liabilities and preferred securities	–	–	–	–	–	–	–	5,616	5,616
Derivatives	1,838	–	–	–	–	20	85	78	2,021
Debt securities in issue	–	–	–	–	–	10,134	23,786	22,924	56,844
Accruals and other financial liabilities	900	574	303	55	10	–	–	35	1,877
Subordinated liabilities	1,503	–	–	–	–	–	2,076	14,782	18,361
31 Dec 2019	4,241	1,038	303	55	10	15,805	32,657	55,761	109,870
Non-financial liabilities	–	–	–	–	–	–	–	326	326
Total liabilities at 31 Dec 2019	4,241	1,038	303	55	10	15,805	32,657	56,087	110,196
Off-balance sheet commitments									
Undrawn formal standby facilities, credit lines and other commitments to lend	–	–	–	–	–	–	–	–	–

Maturity analysis of assets, liabilities and off-balance sheet commitments (continued)

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets									
Cash at bank and in hand:									
– balances with HSBC undertakings	3,509	—	—	—	—	—	—	—	3,509
Derivatives	540	—	—	—	—	—	—	167	707
Loans and advances to HSBC undertakings	3,052	11,563	158	968	1	—	14,062	26,340	56,144
Loans and advances to HSBC undertakings designated at fair value	—	—	—	—	—	—	8,116	15,397	23,513
Financial investments in HSBC undertakings	—	—	—	—	—	—	—	—	—
Accrued income and other financial assets	33	27	—	—	—	—		—	60
Total financial assets at 31 Dec 2018	7,134	11,590	158	968	1	—	22,178	41,904	83,933
Non-financial assets	—	—	—	—	—	—	—	161,248	161,248
Total assets at 31 Dec 2018	7,134	11,590	158	968	1	—	22,178	203,152	245,181
Financial liabilities									
Amounts owed to HSBC undertakings	—	949	—	—	—	—	—	—	949
Financial liabilities designated at fair value	—	—	2,125	—	—	—	12,306	10,618	25,049
– debt securities in issue	—	—	—	—	—	—	12,306	5,461	17,767
– subordinated liabilities and preferred securities	—	—	2,125	—	—	—	—	5,157	7,282
Derivatives	1,321	—	—	—	—	—	339	499	2,159
Debt securities in issue	—	—	—	—	—	—	23,770	27,030	50,800
Accruals and other financial liabilities	319	353	188	36	5	—	—	41	942
Subordinated liabilities	—	—	—	—	—	—	—	17,715	17,715
Total financial liabilities at 31 Dec 2018	1,640	1,302	2,313	36	5	—	36,415	55,903	97,614
Non-financial liabilities	—	—	—	—	—	—	—	214	214
Total liabilities at 31 Dec 2018	1,640	1,302	2,313	36	5	—	36,415	56,117	97,828
Off-balance sheet commitments given									
Undrawn formal standby facilities, credit lines and other commitments to lend	—	—	—	—	—	—	—	—	—

Contractual maturity of financial liabilities

The following table shows, on an undiscounted basis, all cash flows relating to principal and future coupon payments (except for trading liabilities and derivatives not treated as hedging derivatives). For this reason, balances in the following table do not agree directly with those in our consolidated balance sheet. Undiscounted cash flows payable in relation to hedging derivative liabilities are classified according to their contractual maturities. Trading liabilities and derivatives not treated as hedging derivatives are included in the 'Due not more than 1 month' time bucket and not by contractual maturity.

In addition, loans and other credit-related commitments and financial guarantees are generally not recognised on our balance sheet. The undiscounted cash flows potentially payable under loan and other credit-related commitments and financial guarantees are classified on the basis of the earliest date they can be called.

Cash flows payable by HSBC under financial liabilities by remaining contractual maturities

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 1 year	Due over 1 year but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m
Deposits by banks	**46,471**	**4,167**	**4,227**	**3,371**	**1,084**	**59,320**
Customer accounts	**1,288,577**	**81,037**	**62,105**	**9,900**	**191**	**1,441,810**
Repurchase agreements – non-trading	**132,156**	**3,403**	**3,565**	**368**	**1,036**	**140,528**
Trading liabilities	**83,170**	**—**	**—**	**—**	**—**	**83,170**
Financial liabilities designated at fair value	**13,447**	**4,666**	**14,747**	**76,155**	**68,045**	**177,060**
Derivatives	**237,897**	**105**	**522**	**1,076**	**1,691**	**241,291**
Debt securities in issue	**8,757**	**17,374**	**38,423**	**36,584**	**8,177**	**109,315**
Subordinated liabilities	**1,847**	**—**	**2,908**	**5,197**	**27,892**	**37,844**
Other financial liabilities	**127,898**	**9,079**	**6,792**	**5,637**	**2,992**	**152,398**
	1,940,220	**119,831**	**133,289**	**138,288**	**111,108**	**2,442,736**
Loan and other credit-related commitments	**795,243**	**601**	**561**	**886**	**317**	**797,608**
Financial guarantees[1]	**20,007**	**37**	**102**	**68**	**—**	**20,214**
At 31 Dec 2019	**2,755,470**	**120,469**	**133,952**	**139,242**	**111,425**	**3,260,558**
Proportion of cash flows payable in period	**85%**	**4%**	**4%**	**4%**	**3%**	
Deposits by banks	42,569	3,457	2,419	7,507	556	56,508
Customer accounts	1,226,828	66,990	62,963	7,617	130	1,364,528
Repurchase agreements – non-trading	154,541	8,140	2,487	950	—	166,118
Trading liabilities	84,431	—	—	—	—	84,431
Financial liabilities designated at fair value	4,478	4,476	15,591	75,578	89,261	189,384
Derivatives	204,360	62	927	2,065	1,323	208,737
Debt securities in issue	7,295	11,194	24,902	36,599	13,656	93,646
Subordinated liabilities	349	89	793	7,600	27,670	36,501
Other financial liabilities	110,337	8,987	4,694	2,367	1,260	127,645
	1,835,188	103,395	114,776	140,283	133,856	2,327,498
Loan and other credit-related commitments	772,557	5,279	1,109	944	377	780,266
Financial guarantees[1]	22,942	113	289	160	14	23,518
At 31 Dec 2018	2,630,687	108,787	116,174	141,387	134,247	3,131,282
Proportion of cash flows payable in period	84%	3%	4%	5%	4%	

1 *Excludes performance guarantee contracts to which the impairment requirements in IFRS 9 are not applied.*

HSBC Holdings

HSBC Holdings' primary sources of liquidity are dividends received from subsidiaries, interest on and repayment of intra-Group loans and securities, and interest earned on its own liquid funds. HSBC Holdings also raises funds in the debt capital markets to meet the Group's minimum requirement for own funds and eligible liabilities. HSBC Holdings uses this liquidity to meet its obligations, including interest and principal repayments on external debt liabilities, operating expenses and collateral on derivative transactions.

HSBC Holdings is also subject to contingent liquidity risk by virtue of credit-related commitments and guarantees and similar contracts issued relating to its subsidiaries. Such commitments and guarantees are only issued after due consideration of HSBC Holdings' ability to finance the commitments and guarantees and the likelihood of the need arising.

HSBC Holdings actively manages the cash flows from its subsidiaries to optimise the amount of cash held at the holding company level. During 2019, consistent with the Group's capital plan, the Group's subsidiaries did not experience any significant restrictions on paying dividends or repaying loans and advances. Also, there are no foreseen restrictions envisaged with regard to planned dividends or payments. However, the ability of subsidiaries to pay dividends or advance monies to HSBC Holdings depends on, among other things, their respective local regulatory capital and banking requirements, exchange controls, statutory reserves, and financial and operating performance.

HSBC Holdings currently has sufficient liquidity to meet its present requirements.

Liquidity risk in HSBC Holdings is overseen by Holdings ALCO. This risk arises because of HSBC Holdings' obligation to make payments to debt holders as they fall due and to pay its operating expenses. The liquidity risk related to these cash flows is managed by matching external debt obligations with internal loan cash flows and by maintaining an appropriate liquidity buffer that is monitored by Holdings ALCO.

The balances in the following table are not directly comparable with those on the balance sheet of HSBC Holdings as the table incorporates, on an undiscounted basis, all cash flows relating to principal and future coupon payments (except for derivatives not treated as hedging derivatives). Undiscounted cash flows payable in relation to hedging derivative liabilities are classified according to their contractual maturities. Derivatives not treated as hedging derivatives are included in the 'On demand' time bucket.

In addition, loan commitments and financial guarantees and similar contracts are generally not recognised on our balance sheet. The undiscounted cash flows potentially payable under financial guarantees and similar contracts are classified on the basis of the earliest date on which they can be called.

Cash flows payable by HSBC Holdings under financial liabilities by remaining contractual maturities

	Footnotes	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 1 year	Due over 1 year but not more than 5 years	Due over 5 years	Total
		$m	$m	$m	$m	$m	$m
Amounts owed to HSBC undertakings		**—**	**464**	**—**	**—**	**—**	**464**
Financial liabilities designated at fair value		**88**	**168**	**784**	**14,776**	**18,184**	**34,000**
Derivatives		**1,838**	**—**	**—**	**105**	**78**	**2,021**
Debt securities in issue		**128**	**244**	**1,137**	**38,690**	**25,310**	**65,509**
Subordinated liabilities		**1,588**	**154**	**718**	**5,743**	**21,533**	**29,736**
Other financial liabilities		**956**	**519**	**365**	**—**	**—**	**1,840**
		4,598	**1,549**	**3,004**	**59,314**	**65,105**	**133,570**
Loan commitments		**—**	**—**	**—**	**—**	**—**	**—**
Financial guarantees	1	**11,061**	**—**	**—**	**—**	**—**	**11,061**
At 31 Dec 2019		**15,659**	**1,549**	**3,004**	**59,314**	**65,105**	**144,631**
Amounts owed to HSBC undertakings		—	949	—	—	—	949
Financial liabilities designated at fair value		—	237	2,656	14,384	11,653	28,930
Derivatives		1,321	—	—	339	499	2,159
Debt securities in issue		—	379	1,159	29,178	30,801	61,517
Subordinated liabilities		—	248	757	4,019	25,311	30,335
Other financial liabilities		—	675	228	—	—	903
		1,321	2,488	4,800	47,920	68,264	124,793
Loan commitments		—	—	—	—	—	—
Financial guarantees	1	8,627	—	—	—	—	8,627
At 31 Dec 2018		9,948	2,488	4,800	47,920	68,264	133,420

1 *Excludes performance guarantee contracts to which the impairment requirements in IFRS 9 are not applied.*

30 Offsetting of financial assets and financial liabilities

In the following table, the 'Amounts not set off in the balance sheet' include transactions where:

- the counterparty has an offsetting exposure with HSBC and a master netting or similar arrangement is in place with a right to set off only in the event of default, insolvency or bankruptcy, or the offset criteria are otherwise not satisfied; and
- in the case of derivatives and reverse repurchase/repurchase, stock borrowing/lending and similar agreements, cash and non-cash collateral has been received/pledged.

For risk management purposes, the net amounts of loans and advances to customers are subject to limits, which are monitored and the relevant customer agreements are subject to review and updated, as necessary, to ensure the legal right to set off remains appropriate.

Offsetting of financial assets and financial liabilities

	Footnotes	Amounts subject to enforceable netting arrangements								
					Amounts not set off in the balance sheet					
		Gross amounts	Amounts offset	Net amounts in the balance sheet	Financial instruments	Non-cash collateral	Cash collateral	Net amount	Amounts not subject to enforceable netting arrangements[5]	Total
		$m	$m	$m	$m	$m	$m	$m	$m	$m
Financial assets										
Derivatives (Note 15)	1	**277,261**	**(41,739)**	**235,522**	**(171,371)**	**(13,095)**	**(47,404)**	**3,652**	**7,473**	**242,995**
Reverse repos, stock borrowing and similar agreements classified as:	2									
– trading assets		**21,465**	**(280)**	**21,185**	**(1,553)**	**(19,630)**	**—**	**2**	**165**	**21,350**
– non-trading assets		**348,561**	**(134,772)**	**213,789**	**(28,826)**	**(184,495)**	**(189)**	**279**	**27,549**	**241,338**
Loans and advances to customers	3	**33,039**	**(10,128)**	**22,911**	**(18,893)**	**—**	**—**	**4,018**	**735**	**23,646**
At 31 Dec 2019		**680,326**	**(186,919)**	**493,407**	**(220,643)**	**(217,220)**	**(47,593)**	**7,951**	**35,922**	**529,329**
Derivatives (Note 15)	1	250,275	(49,711)	200,564	(145,785)	(9,986)	(38,031)	6,762	7,261	207,825
Reverse repos, stock borrowing and similar agreements classified as:	2									
– trading assets		18,217	(790)	17,427	(1,244)	(16,179)	—	4	853	18,280
– non-trading assets		372,358	(167,313)	205,045	(21,788)	(182,995)	(100)	162	37,759	242,804
Loans and advances to customers	3	40,534	(12,468)	28,066	(21,245)	—	—	6,821	536	28,602
At 31 Dec 2018		681,384	(230,282)	451,102	(190,062)	(209,160)	(38,131)	13,749	46,409	497,511
Financial liabilities										
Derivatives (Note 15)	1	**275,286**	**(41,739)**	**233,547**	**(171,371)**	**(20,137)**	**(37,844)**	**4,195**	**5,950**	**239,497**
Repos, stock lending and similar agreements classified as:	2									
– trading liabilities		**10,494**	**(280)**	**10,214**	**(1,553)**	**(8,656)**	**—**	**5**	**46**	**10,260**
– non-trading liabilities		**232,675**	**(134,772)**	**97,903**	**(28,826)**	**(68,638)**	**(357)**	**82**	**42,441**	**140,344**
Customer accounts	4	**36,750**	**(10,128)**	**26,622**	**(18,893)**	**—**	**—**	**7,729**	**31**	**26,653**
At 31 Dec 2019		**555,205**	**(186,919)**	**368,286**	**(220,643)**	**(97,431)**	**(38,201)**	**12,011**	**48,468**	**416,754**
Derivatives (Note 15)	1	248,123	(49,711)	198,412	(145,785)	(14,895)	(29,998)	7,734	7,423	205,835
Repos, stock lending and similar agreements classified as:	2									
– trading liabilities		13,169	(790)	12,379	(1,244)	(11,133)	—	2	114	12,493
– non-trading liabilities		274,367	(167,313)	107,054	(21,788)	(85,087)	(164)	15	58,830	165,884
Customer accounts	4	40,286	(12,468)	27,818	(21,245)	—	—	6,573	11	27,829
At 31 Dec 2018		575,945	(230,282)	345,663	(190,062)	(111,115)	(30,162)	14,324	66,378	412,041

1 *At 31 December 2019, the amount of cash margin received that had been offset against the gross derivatives assets was $2,350m (2018: $3,935m). The amount of cash margin paid that had been offset against the gross derivatives liabilities was $8,303m (2018: $5,888m).*
2 *For the amount of repos, reverse repos, stock lending, stock borrowing and similar agreements recognised on the balance sheet within 'Trading assets' $21,350m (2018: $18,280m) and 'Trading liabilities' $10,260m (2018: $12,493m), see the 'Funding sources and uses' table on page 169.*
3 *At 31 December 2019, the total amount of 'Loans and advances to customers' was $1,036,743m (2018: $981,696m), of which $22,911m (2018: $28,066m) was subject to offsetting.*
4 *At 31 December 2019, the total amount of 'Customer accounts' was $1,439,115m (2018: $1,362,643m), of which $26,622m (2018: $27,818m) was subject to offsetting.*
5 *These exposures continue to be secured by financial collateral, but we may not have sought or been able to obtain a legal opinion evidencing enforceability of the right of offset.*

31 Called up share capital and other equity instruments

Called up share capital and share premium

HSBC Holdings ordinary shares of $0.50 each, issued and fully paid

	Footnotes	2019		2018	
		Number	$m	Number	$m
At 1 Jan		**20,360,841,496**	**10,180**	20,320,716,258	10,160
Shares issued under HSBC employee share plans		**71,588,032**	**36**	83,740,460	42
Shares issued in lieu of dividends		**341,872,011**	**171**	166,850,869	83
Less: Shares repurchased and cancelled		**(135,776,994)**	**(68)**	(210,466,091)	(105)
At 31 Dec	1	**20,638,524,545**	**10,319**	20,360,841,496	10,180

HSBC Holdings 6.20% non-cumulative US dollar preference shares, Series A

		2019		2018	
	Footnotes	Number	$m	Number	$m
At 1 Jan and 31 Dec	2	**1,450,000**	**—**	1,450,000	—

HSBC Holdings share premium

	2019	2018
	$m	$m
At 31 Dec	**13,959**	13,609

Total called up share capital and share premium

	2019	2018
	$m	$m
At 31 Dec	**24,278**	23,789

1 *All HSBC Holdings ordinary shares in issue, excluding 325,273,407 shares held in treasury, confer identical rights, including in respect of capital, dividends and voting.*
2 *Included in the capital base of HSBC as additional tier 1 capital in accordance with the CRR II rules, by virtue of the application of grandfathering provisions.*

HSBC Holdings 6.20% non-cumulative US dollar preference shares, Series A of $0.01

HSBC Holdings pays dividends on 6.20% non-cumulative US dollar preference shares, Series A of $0.01 each ('dollar preference shares') quarterly, at the discretion of the Board. The Board will not declare a dividend on them if this would stop the Group from meeting the PRA's capital adequacy requirements, or if profit available for distribution as dividends is insufficient to also pay dividends on other shares that are equally entitled and scheduled on the same date.

HSBC Holdings may not declare or pay dividends on shares ranking lower in the right to dividends than dollar preference shares, or redeem or purchase any of its other shares ranking equal or lower than dollar preference shares, unless it has fully paid, or set aside an amount to fully pay, the dividends on the dollar preference shares for the then current dividend period.

The dollar preference shares carry no rights to conversion into ordinary shares. Holders of dollar preference shares are only entitled to attend and vote at shareholder meetings if dividends on these shares have not been paid in full on four consecutive dividend payment dates. In such circumstances, holders of these shares are entitled to vote at shareholder meetings until HSBC Holdings has paid a full dividend on them. These securities can be redeemed by HSBC at any time, subject to prior approval by the PRA.

HSBC Holdings non-cumulative preference share of £0.01

The one non-cumulative sterling preference share of £0.01 ('sterling preference share') has been in issue since 29 December 2010 and is held by a subsidiary of HSBC Holdings. Dividends are paid quarterly at the sole and absolute discretion of the Board. The sterling preference share carries no rights of conversion into ordinary shares of HSBC Holdings and no right to attend or vote at shareholder meetings of HSBC Holdings. These securities can be redeemed by HSBC at any time, subject to prior approval by the PRA.

Other equity instruments

HSBC Holdings includes three types of additional tier 1 capital securities in its tier 1 capital. Two are presented in this Note and they are the HSBC Holdings non-cumulative preference shares outlined above and the contingent convertible securities described below. These are accounted for as equity because HSBC does not have an obligation to transfer cash or a variable number of its own ordinary shares to holders under any circumstances outside its control. See Note 28 for additional tier 1 securities accounted for as liabilities.

Additional tier 1 capital – contingent convertible securities

HSBC Holdings continues to issue contingent convertible securities that are included in its capital base as fully CRR II-compliant additional tier 1 capital securities on an end point basis. These securities are marketed principally and subsequently allotted to corporate investors and fund managers. The net proceeds of the issuances are used for HSBC Holdings' general corporate purposes and to further strengthen its capital base to meet requirements under CRR II. These securities bear a fixed rate of interest until their initial call dates. After the initial call dates, if they are not redeemed, the securities will bear interest at rates fixed periodically in advance for five-year periods based on credit spreads, fixed at issuance, above prevailing market rates. Interest on the contingent convertible securities will be due and payable only at the sole discretion of HSBC Holdings, and HSBC Holdings has sole and absolute discretion at all times to cancel for any reason (in whole or part) any interest payment that would otherwise be payable on any payment date. Distributions will not be paid if they are prohibited under UK banking regulations or if the Group has insufficient reserves or fails to meet the solvency conditions defined in the securities' terms.

The contingent convertible securities are undated and are repayable at the option of HSBC Holdings in whole at the initial call date or on any fifth anniversary after this date. In addition, the securities are repayable at the option of HSBC in whole for certain regulatory or tax reasons. Any repayments require the prior consent of the PRA. These securities rank *pari passu* with HSBC Holdings' dollar and sterling preference shares and therefore rank ahead of ordinary shares. The contingent convertible securities will be converted into fully paid ordinary shares of HSBC Holdings at a predetermined price, should HSBC's consolidated end point CET1 ratio fall below 7.0%. Therefore, in accordance with the terms of the securities, if the end point CET1 ratio breaches the 7.0% trigger, the securities will convert into ordinary shares at fixed contractual conversion prices in the issuance currencies of the relevant securities, equivalent to £2.70 at the prevailing rate of exchange on the issuance date, subject to anti-dilution adjustments.

HSBC's additional tier 1 capital – contingent convertible securities in issue which are accounted for in equity

		Footnotes	First call date	2019 $m	2018 $m
$1,500m	5.625% perpetual subordinated contingent convertible securities	1	Nov 2019	**—**	1,494
$2,000m	6.875% perpetual subordinated contingent convertible securities		Jun 2021	**1,995**	1,998
$2,250m	6.375% perpetual subordinated contingent convertible securities		Sep 2024	**2,240**	2,244
$2,450m	6.375% perpetual subordinated contingent convertible securities		Mar 2025	**2,453**	2,460
$3,000m	6.000% perpetual subordinated contingent convertible securities		May 2027	**2,993**	2,997
$2,350m	6.250% perpetual subordinated contingent convertible securities		Mar 2023	**2,346**	2,347
$1,800m	6.500% perpetual subordinated contingent convertible securities		Mar 2028	**1,797**	1,798
€1,500m	5.250% perpetual subordinated contingent convertible securities		Sep 2022	**1,940**	1,943
€1,000m	6.000% perpetual subordinated contingent convertible securities		Sep 2023	**1,119**	1,120
€1,250m	4.750% perpetual subordinated contingent convertible securities		Jul 2029	**1,418**	1,420
£1,000m	5.875% perpetual subordinated contingent convertible securities		Sep 2026	**1,299**	1,299
SGD1,000m	4.700% perpetual subordinated contingent convertible securities		Jun 2022	**722**	723
SGD750m	5.000% perpetual subordinated contingent convertible securities		Sep 2023	**549**	549
At 31 Dec				**20,871**	22,392

1 *This security was called by HSBC Holdings on 22 November 2019 and was redeemed and cancelled on 17 January 2020. Between the date of exercise of the call option and the redemption, this security was considered to be a subordinated liability. Please refer to Note 28.*

Shares under option

For details of the options outstanding to subscribe for HSBC Holdings ordinary shares under the HSBC Holdings savings-related share option plan, see Note 5.

Aggregate options outstanding under these plans

31 Dec 2019			31 Dec 2018		
Number of HSBC Holdings ordinary shares	**Period of exercise**	**Exercise price**	Number of HSBC Holdings ordinary shares	Period of exercise	Exercise price
65,060,681	**2019 to 2025**	**£4.0472–£5.9640**	57,065,513	2018 to 2024	£4.0472–£5.9640

Maximum obligation to deliver HSBC Holdings ordinary shares

At 31 December 2019, the maximum obligation to deliver HSBC Holdings ordinary shares under all of the above option arrangements and the HSBC International Employee Share Purchase Plan, together with GPSP awards, long-term incentive awards and deferred share awards granted under the HSBC Share Plan 2011, was 163,567,253 (2018: 152,667,912). The total number of shares at 31 December 2019 held by employee benefit trusts that may be used to satisfy such obligations to deliver HSBC Holdings ordinary shares was 5,397,395 (2018: 5,928,890).

32 Contingent liabilities, contractual commitments and guarantees

		HSBC		HSBC Holdings[1]	
		2019	2018	**2019**	2018
	Footnotes	**$m**	$m	**$m**	$m
Guarantees and other contingent liabilities:					
– financial guarantees		**20,214**	23,518	**11,061**	8,627
– performance and other guarantees		**75,933**	71,484	**–**	–
– other contingent liabilities		**1,576**	1,408	**289**	215
At 31 Dec		**97,723**	96,410	**11,350**	8,842
Commitments:	2				
– documentary credits and short-term trade-related transactions		**6,316**	7,083	**—**	—
– forward asset purchases and forward deposits placed		**56,326**	67,265	**—**	—
– standby facilities, credit lines and other commitments to lend		**734,966**	705,918	**—**	—
At 31 Dec		**797,608**	780,266	**—**	—

1 *Guarantees by HSBC Holdings are all in favour of other Group entities.*
2 *Includes $600,029m of commitments at 31 December 2019 (31 December 2018: $592,008m), to which the impairment requirements in IFRS 9 are applied where HSBC has become party to an irrevocable commitment.*

The preceding table discloses the nominal principal amounts of off-balance sheet liabilities and commitments for the Group, which represent the maximum amounts at risk should the contracts be fully drawn upon and the clients default. As a significant portion of guarantees and commitments are expected to expire without being drawn upon, the total of the nominal principal amounts is not indicative of future liquidity requirements. The expected credit loss provision relating to guarantees and commitments under IFRS 9 is disclosed in Note 27.

The majority of the guarantees have a term of less than one year, while guarantees with terms of more than one year are subject to HSBC's annual credit review process.

Contingent liabilities arising from legal proceedings, regulatory and other matters against Group companies are disclosed in Notes 27 and 34.

Financial Services Compensation Scheme

The Financial Services Compensation Scheme ('FSCS') has provided compensation to customers of financial services firms that have failed. Following the financial crisis, the compensation paid out to customers was initially funded through loans from HM Treasury, which were fully repaid in 2018 by the FSCS. The Group could be liable to pay a proportion of any future amounts that the FSCS borrows from HM Treasury to the extent the industry levies imposed to date are not sufficient to cover the compensation due to customers in any future possible collapse. The ultimate FSCS levy to the industry as a result of a collapse cannot currently be estimated reliably. It is dependent on various uncertain factors including the potential recoveries of assets by the FSCS, changes in the level of protected products (including deposits and investments) and the population of FSCS members at the time.

Associates

HSBC's share of associates' contingent liabilities, contractual commitments and guarantees amounted to $46.7bn at 31 December 2019 (2018: $48.5bn). No matters arose where HSBC was severally liable.

33 Finance lease receivables

HSBC leases a variety of assets to third parties under finance leases, including transport assets (such as aircraft), property and general plant and machinery. At the end of lease terms, assets may be sold to third parties or leased for further terms. Rentals are calculated to recover the cost of assets less their residual value, and earn finance income.

	2019			2018		
	Total future minimum payments	**Unearned finance income**	**Present value**	Total future minimum payments[1]	Unearned finance income[1]	Present value[1]
	$m	**$m**	**$m**	$m	$m	$m
Lease receivables:						
No later than one year	**1,674**	**(157)**	**1,517**	2,229	(196)	2,033
One to two years	**1,634**	**(155)**	**1,479**	N/A	N/A	N/A
Two to three years	**1,889**	**(151)**	**1,738**	N/A	N/A	N/A
Three to four years	**1,704**	**(136)**	**1,568**	N/A	N/A	N/A
Four to five years	**1,558**	**(132)**	**1,426**	N/A	N/A	N/A
Later than one year and no later than five years	**6,785**	**(574)**	**6,211**	7,420	(628)	6,792
Later than five years	**6,136**	**(614)**	**5,522**	5,032	(619)	4,413
At 31 Dec	**14,595**	**(1,345)**	**13,250**	14,681	(1,443)	13,238

1 *The disclosure requirements of IFRS 16 were adopted from 1 January 2019. Comparatives have not been restated.*

34 Legal proceedings and regulatory matters

HSBC is party to legal proceedings and regulatory matters in a number of jurisdictions arising out of its normal business operations. Apart from the matters described below, HSBC considers that none of these matters are material. The recognition of provisions is determined in accordance with the accounting policies set out in Note 1. While the outcome of legal proceedings and regulatory matters is inherently uncertain, management believes that, based on the information available to it, appropriate provisions have been made in respect of these matters as at 31 December 2019 (see Note 27). Where an individual provision is material, the fact that a provision has been made is stated and quantified, except to the extent that doing so would be seriously prejudicial. Any provision recognised does not constitute an admission of wrongdoing or legal liability. It is not practicable to provide an aggregate estimate of potential liability for our legal proceedings and regulatory matters as a class of contingent liabilities.

Bernard L. Madoff Investment Securities LLC

Bernard L. Madoff ('Madoff') was arrested in December 2008 and later pleaded guilty to running a Ponzi scheme. His firm, Bernard L. Madoff Investment Securities LLC ('Madoff Securities'), is being liquidated in the US by a trustee (the 'Trustee').

Various non-US HSBC companies provided custodial, administration and similar services to a number of funds incorporated outside the US whose assets were invested with Madoff Securities. Based on information provided by Madoff Securities as at 30 November 2008, the purported aggregate value of these funds was $8.4bn, including fictitious profits reported by Madoff.

Based on information available to HSBC, the funds' actual transfers to Madoff Securities minus their actual withdrawals from Madoff Securities during the time HSBC serviced the funds are estimated to have totalled approximately $4bn. Various HSBC companies have been named as defendants in lawsuits arising out of Madoff Securities' fraud.

US litigation: The Trustee has brought lawsuits against various HSBC companies and others in the US Bankruptcy Court for the Southern District of New York (the 'US Bankruptcy Court'), seeking recovery of transfers from Madoff Securities to HSBC in an amount not yet pleaded or determined. HSBC and other parties to the actions have moved to dismiss the Trustee's claims. The US Bankruptcy Court granted HSBC's motion to dismiss with respect to certain of the Trustee's claims in November 2016. In February 2019, the US Court of Appeals for the Second Circuit (the 'Second Circuit Court of Appeals') reversed that dismissal and remanded the cases to the US Bankruptcy Court. In August 2019, HSBC and other parties filed a petition for writ of certiorari to the US Supreme Court seeking review of the Second Circuit Court of Appeals decision. Further proceedings in the US Bankruptcy Court have been stayed pending the resolution of that petition.

Fairfield Sentry Limited, Fairfield Sigma Limited and Fairfield Lambda Limited (together, 'Fairfield') (in liquidation since July 2009) have brought a lawsuit in the US against fund shareholders, including HSBC companies that acted as nominees for clients, seeking restitution of redemption payments. In December 2018, the US Bankruptcy Court issued an opinion, which ruled in favour of the defendants' motion to dismiss in respect of certain claims by the liquidators for Fairfield and granted a motion by the liquidators to file amended complaints. As a result of that opinion, all claims against one of the HSBC companies have been dismissed, and certain claims against the remaining HSBC defendants have also been dismissed. In May 2019, the liquidators appealed certain issues from the US Bankruptcy Court opinion to the US District Court for the Southern District of New York (the 'New York District Court').

UK litigation: The Trustee has filed a claim against various HSBC companies in the High Court of England and Wales, seeking recovery of transfers from Madoff Securities to HSBC in an amount not yet pleaded or determined. The deadline for service of the claim has been extended to September 2020 for UK-based defendants and November 2020 for all other defendants.

Bermuda litigation: In January 2009, Kingate Global Fund Limited and Kingate Euro Fund Limited (together, 'Kingate') brought an action against HSBC Bank Bermuda Limited ('HBBM') for recovery of funds held in Kingate's accounts, fees and dividends. In June 2019, the Trustee, Kingate and HBBM entered into a global settlement agreement pursuant to which the Trustee and Kingate released HBBM from any and all claims arising out of or relating to Kingate including all pending litigation in the US, UK and Bermuda. Following court approval of the settlement in the US, Bermuda and British Virgin Islands, the Bermuda action was discontinued in October 2019, and the Trustee dismissed certain of its US claims against HBBM in November 2019.

Cayman Islands litigation: In February 2013, Primeo Fund ('Primeo') (in liquidation since April 2009) brought an action against HSBC Securities Services Luxembourg ('HSSL') and Bank of Bermuda (Cayman) Limited (now known as HSBC Cayman Limited), alleging breach of contract and breach of fiduciary duty and claiming damages and equitable compensation. The trial concluded in February 2017 and, in August 2017, the court dismissed all claims against the defendants. In September 2017, Primeo appealed to the Court of Appeal of the Cayman Islands and, in June 2019, the Court of Appeal of the Cayman Islands dismissed Primeo's claims against HSSL and HSBC Cayman Limited. In August 2019, Primeo filed a notice of appeal to the UK Privy Council and, in September 2019, HSSL and HSBC Cayman Limited indicated that they will seek to dismiss the appeal.

Luxembourg litigation: In April 2009, Herald Fund SPC ('Herald') (in liquidation since July 2013) brought an action against HSSL before the Luxembourg District Court, seeking restitution of cash and securities that Herald purportedly lost because of Madoff Securities' fraud, or money damages. The Luxembourg District Court dismissed Herald's securities restitution claim, but reserved Herald's cash restitution claim and its claim for money damages. Herald has appealed this judgment to the Luxembourg Court of Appeal, where the matter is pending. In late 2018, Herald brought additional claims against HSSL and HSBC Bank plc ('HSBC Bank') before the Luxembourg District Court, seeking further restitution and damages.

In October 2009, Alpha Prime Fund Limited ('Alpha Prime') brought an action against HSSL before the Luxembourg District Court, seeking the restitution of securities, or the cash equivalent, or money damages. In December 2018, Alpha Prime brought additional claims before the Luxembourg District Court seeking damages against various HSBC companies. A preliminary hearing is scheduled for June 2020.

In December 2014, Senator Fund SPC ('Senator') brought an action against HSSL before the Luxembourg District Court, seeking restitution of securities, or the cash equivalent, or money damages. In April 2015, Senator commenced a separate action against the Luxembourg branch of HSBC Bank asserting identical claims before the Luxembourg District Court. In December 2018, Senator brought additional claims against HSSL and HSBC Bank Luxembourg branch before the Luxembourg District Court, seeking restitution of Senator's securities or money damages. These matters are currently pending before the Luxembourg District Court.

Ireland litigation: In November 2013, Defender Limited brought an action against HSBC Institutional Trust Services (Ireland) Limited ('HTIE') and others, based on allegations of breach of contract and claiming damages and indemnification for fund losses. The trial commenced in October 2018. In December 2018, the Irish High Court issued a judgment in HTIE's favour on a preliminary issue, holding that Defender Limited had no effective claim against HTIE. This judgment concluded the trial without further issues in dispute being heard. In February 2019, Defender Limited appealed to the Irish Supreme Court, and a hearing is scheduled for March 2020.

There are many factors that may affect the range of possible outcomes, and the resulting financial impact, of the various Madoff-related proceedings described above, including but not limited to the multiple jurisdictions in which the proceedings have been brought. Based upon the information currently available, management's estimate of the possible aggregate damages that might arise as a result of all claims in the various Madoff-related proceedings is up to or exceeding $500m, excluding costs and interest. Due to uncertainties and limitations of this estimate, the ultimate damages could differ significantly from this amount.

Anti-money laundering and sanctions-related matters

In December 2012, among other agreements, HSBC Holdings plc ('HSBC Holdings') agreed to an undertaking with the UK Financial Services Authority, which was replaced by a Direction issued by the UK Financial Conduct Authority ('FCA') in 2013, and consented to a cease-and-desist order with the US Federal Reserve Board ('FRB'), both of which contained certain forward-looking anti-money laundering ('AML') and sanctions-related obligations. HSBC also agreed to retain an independent compliance monitor (who is, for FCA purposes, a 'Skilled Person' under section 166 of the Financial Services and Markets Act and, for FRB purposes, an 'Independent Consultant') to produce periodic assessments of the Group's AML and sanctions compliance programme (the 'Skilled Person/ Independent Consultant'). In December 2012, HSBC Holdings also entered into an agreement with the Office of Foreign Assets Control ('OFAC') regarding historical transactions involving parties subject to OFAC sanctions. Reflective of HSBC's significant progress in strengthening its financial crime risk management capabilities, HSBC's engagement with the current Skilled Person will be terminated and a new Skilled Person with a narrower mandate will be appointed to assess the remaining areas that require further work in order for HSBC to transition fully to business-as-usual financial crime risk management. The Independent Consultant will continue to carry out an annual OFAC compliance review at the FRB's discretion. The role of the Skilled Person/Independent Consultant is discussed on page 181.

Through the Skilled Person/Independent Consultant's prior reviews, as well as internal reviews conducted by HSBC, certain potential AML and sanctions compliance issues have been identified that HSBC is reviewing further with the FRB, FCA and/or OFAC. The Financial Crimes Enforcement Network of the US Treasury Department, as well as the Civil Division of the US Attorney's Office for the Southern District of New York, are investigating the collection and transmittal of third-party originator information in certain payments instructed over HSBC's proprietary payment systems. The FCA is also conducting an investigation into HSBC Bank's and HSBC UK's compliance with UK money laundering regulations and financial crime systems and controls requirements. HSBC is cooperating with all of these investigations.

In May 2014, a shareholder derivative action was filed by a shareholder of HSBC Holdings purportedly on behalf of HSBC Holdings, HSBC Bank USA N.A. ('HSBC Bank USA'), HSBC North America Holdings Inc. and HSBC USA Inc. (the 'Nominal Corporate Defendants') in New York state court against certain current and former directors and officers of the Nominal Corporate Defendants (the 'Individual Defendants'). The complaint alleges that the Individual Defendants breached their fiduciary duties to the Nominal Corporate Defendants and caused a waste of corporate assets by allegedly permitting and/or causing the conduct underlying the five-year deferred prosecution agreement with the US Department of Justice ('DoJ'), entered into in December 2012. In November 2015, the New York state court granted the Nominal Corporate Defendants' motion to dismiss. In November 2018, the appellate court reversed the New York state court's decision and reinstated the action; furthermore, in March 2019, the appellate court denied the Nominal Corporate Defendants' motion for reargument or for leave to appeal to the New York Court of Appeals. In February 2019, the Nominal Corporate Defendants and most of the Individual Defendants filed a further motion to dismiss in New York state court, where the matter is pending.

In July 2014, a claim was filed in the Ontario Superior Court of Justice against HSBC Holdings and a former employee purportedly on behalf of a class of persons who purchased HSBC common shares and American Depositary Shares between July 2006 and July 2012. The complaint, which seeks monetary damages of up to CA$20bn, alleges that the defendants made statutory and common law misrepresentations in documents released by HSBC Holdings and its wholly-owned indirect subsidiary, HSBC Bank Canada, relating to HSBC's compliance with the Bank Secrecy Act, AML, sanctions and other laws. In September 2017, the Ontario Superior Court of Justice dismissed the statutory claims against HSBC Holdings and the former employee for lack of jurisdiction, and stayed the common law misrepresentation claim against HSBC Holdings on the basis of *forum non conveniens*. In October 2017, the plaintiff appealed to the Court of Appeal for Ontario and, in July 2018, that appeal was dismissed. In October 2018, the plaintiff applied for leave to appeal to the Supreme Court of Canada and, in March 2019, the plaintiff's application for leave to appeal was denied. In October 2019, the Ontario Superior Court of Justice dismissed the remaining common law misrepresentation claim against HSBC Holdings.

Since November 2014, a number of lawsuits have been filed in federal courts in the US against various HSBC companies and others on behalf of plaintiffs who are, or are related to, victims of terrorist attacks in the Middle East or of cartel violence in Mexico. In each case, it is alleged that the defendants aided and abetted the unlawful conduct of various sanctioned parties in violation of the US Anti-Terrorism Act. In one case, in August 2019, the Second Circuit Court of Appeals affirmed the dismissal of the plaintiffs' claims, and this matter is now concluded. Currently, 10 actions remain pending in federal courts in New York or the District of Columbia. Motions to dismiss were filed in three of those cases and the courts granted HSBC's motions in all three cases in March, September and October 2019. The plaintiffs are seeking to amend their complaint in one of the cases and have appealed the decisions in the two other cases. HSBC has filed motions to dismiss in three further cases which remain pending. The four remaining actions are at a very early stage.

In July 2018, a claim was issued against HSBC Holdings in the High Court of England and Wales alleging that HSBC Holdings made untrue and/or misleading statements and/or omissions in public statements between 2007 and 2012 regarding compliance by HSBC with AML, anti-terrorist financing and sanctions laws, regulations and requirements, and the regulatory compliance of HSBC more generally. In August 2019, HSBC Holdings concluded a settlement with the claimants to resolve this claim.

Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of these matters, including the timing or any possible impact on HSBC, which could be significant.

Tax-related investigations

Various tax administration, regulatory and law enforcement authorities around the world have been conducting investigations and reviews of HSBC Private Bank (Suisse) SA ('HSBC Swiss Private Bank') and other HSBC companies in connection with allegations of tax evasion or tax fraud, money laundering and unlawful cross-border banking solicitation.

In October 2019, the Belgian court approved a settlement between HSBC Swiss Private Bank and Belgian authorities in which HSBC Swiss Private Bank agreed to pay €295m to resolve the Belgian authorities' investigation into historical tax-related offences. The Belgian court also dismissed proceedings against HSBC Holdings and HSBC Private Bank Holdings (Suisse) SA.

In December 2019, HSBC Swiss Private Bank entered into a three-year deferred prosecution agreement with the DoJ (the 'Swiss Tax DPA'). This concluded the DoJ's investigation into HSBC Swiss Private Bank's legacy business with US clients. Under the terms of the Swiss Tax DPA, HSBC Swiss Private Bank agreed to pay $192m to the DoJ and the US Internal Revenue Service and has a number of ongoing cooperation obligations.

HSBC continues to cooperate with tax-related investigations by other tax administration, regulatory or law enforcement authorities. Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of these ongoing matters, including the timing or any possible impact on HSBC.

London interbank offered rates, European interbank offered rates and other benchmark interest rate investigations and litigation

Euro interest rate derivatives: In December 2016, the European Commission (the 'EC') issued a decision finding that HSBC, among other banks, engaged in anti-competitive practices in connection with the pricing of euro interest rate derivatives in early 2007. The EC imposed a fine on HSBC based on a one-month infringement. HSBC appealed the decision and, in September 2019, the General Court of the European Union (the 'General Court') issued a decision largely upholding the EC's findings on liability but annulling the fine. HSBC and the EC have both appealed the General Court's decision to the European Court of Justice.

US dollar Libor: Beginning in 2011, HSBC and other panel banks have been named as defendants in a number of private lawsuits filed in the US with respect to the setting of US dollar Libor. The complaints assert claims under various US laws, including US antitrust and racketeering laws, the US Commodity Exchange Act ('US CEA') and state law. The lawsuits include individual and putative class actions, most of which have been transferred and/or consolidated for pre-trial purposes before the New York District Court.

In 2017 and 2018, HSBC reached agreements with plaintiffs to resolve putative class actions brought on behalf of the following five groups of plaintiffs: persons who purchased US dollar Libor-indexed bonds; persons who purchased US dollar Libor-indexed exchange-traded instruments; US-based lending institutions that made or purchased US dollar Libor-indexed loans (the 'Lender class'); persons who purchased US dollar Libor-indexed interest rate swaps and other instruments directly from the defendant banks and their affiliates (the 'OTC class'); and persons who purchased US dollar Libor-indexed interest rate swaps and other instruments from certain financial institutions that are not the defendant banks or their affiliates. During 2018, the New York District Court granted final approval of the settlements with the OTC and Lender classes. The remaining settlements are subject to final court approval. Additionally, a number of other US dollar Libor-related actions remain pending against HSBC in the New York District Court and the Second Circuit Court of Appeals.

Intercontinental Exchange ('ICE') Libor: Between January and March 2019, HSBC and other panel banks were named as defendants in three putative class actions filed in the New York District Court on behalf of persons and entities who purchased instruments paying interest indexed to US dollar ICE Libor from a panel bank. The complaints allege, among other things, misconduct related to the suppression of this benchmark rate in violation of US antitrust and state law. In July 2019, the three putative class actions were consolidated, and the plaintiffs filed a consolidated amended complaint. In August 2019, the defendants filed a motion to dismiss the complaint, which remains pending.

Singapore interbank offered rate ('Sibor'), Singapore swap offer rate ('SOR') and Australia bank bill swap rate ('BBSW'): In July and August 2016, HSBC and other panel banks were named as defendants in two putative class actions filed in the New York

District Court on behalf of persons who transacted in products related to the Sibor, SOR and BBSW benchmark rates. The complaints allege, among other things, misconduct related to these benchmark rates in violation of US antitrust, commodities and racketeering laws, and state law.

In the Sibor/SOR litigation, following a decision on the defendants' motion to dismiss in October 2018, the claims against a number of HSBC entities were dismissed, and the Hongkong and Shanghai Banking Corporation Limited ('HBAP') remained as the only HSBC defendant in this action. In October 2018, HBAP filed a motion for reconsideration of the decision based on the issue of personal jurisdiction; this motion was denied in April 2019. Also in October 2018, the plaintiffs filed a third amended complaint naming only the Sibor panel members, including HBAP, as defendants; the court dismissed the third amended complaint in its entirety in July 2019 against all defendants. In August 2019, the plaintiffs filed an appeal to the Second Circuit Court of Appeals, which remains pending.

In the BBSW litigation, in November 2018, the court dismissed all foreign defendants, including all the HSBC entities, on personal jurisdiction grounds. In April 2019, the plaintiffs filed an amended complaint, which the defendants moved to dismiss. In February 2020, the court again dismissed the plaintiffs' amended complaint against all the HSBC entities.

There are many factors that may affect the range of outcomes, and the resulting financial impact, of these matters, which could be significant.

Foreign exchange-related investigations and litigation

Various regulators and competition authorities around the world, including in the EU, Brazil and South Africa, are conducting investigations and reviews into trading by HSBC and others on the foreign exchange markets. HSBC is cooperating with these investigations and reviews.

In January 2018, HSBC Holdings entered into a three-year deferred prosecution agreement with the Criminal Division of the DoJ (the 'FX DPA'), regarding fraudulent conduct in connection with two particular transactions in 2010 and 2011. This concluded the DoJ's investigation into HSBC's historical foreign exchange activities. Under the terms of the FX DPA, HSBC has a number of ongoing obligations, including implementing enhancements to its internal controls and procedures in its Global Markets business, which will be the subject of annual reports to the DoJ. In addition, HSBC agreed to pay a financial penalty and restitution.

In December 2016, Brazil's Administrative Council of Economic Defense initiated an investigation into the onshore foreign exchange market and identified a number of banks, including HSBC, as subjects of its investigation.

In February 2017, the Competition Commission of South Africa (the 'Competition Commission') referred a complaint for proceedings before the South African Competition Tribunal (the 'Tribunal') against 18 financial institutions, including HSBC Bank, for alleged anti-competitive behaviour in the South African foreign exchange market. In April 2017, HSBC Bank filed an exception to the complaint based on a lack of jurisdiction and statute of limitations. In January 2018, the Tribunal approved the provisional referral of additional financial institutions, including HSBC Bank USA, to the proceedings. In June 2019, the Tribunal issued a decision requiring the Competition Commission to revise its complaint. Several financial institutions named in the complaint, including HSBC Bank USA, have appealed part of the decision to the Competition Appeal Court of South Africa, and the Competition Commission has cross-appealed.

In October 2018, HSBC Holdings and HSBC Bank received an information request from the EC concerning potential coordination in foreign exchange options trading. This matter is at an early stage.

In late 2013 and early 2014, various HSBC companies and other banks were named as defendants in various putative class actions consolidated in the New York District Court. The consolidated complaint alleged, among other things, that the defendants conspired to manipulate the WM/Reuters foreign exchange benchmark rates. In September 2015, HSBC reached an agreement with the plaintiffs to resolve the consolidated action, and the court granted final approval of the settlement in August 2018.

A putative class action complaint making similar allegations on behalf of retail customers of foreign exchange products was filed in the US District Court for the Northern District of California in 2015, and was subsequently transferred to the New York District Court where it remains pending. In 2017, putative class action complaints making similar allegations on behalf of purported indirect purchasers of foreign exchange products were filed in New York and were subsequently consolidated in the New York District Court, where they remain pending.

In September 2018, various HSBC companies and other banks were named as defendants in two motions for certification of class actions filed in Israel alleging foreign exchange-related misconduct. In July 2019, the Tel Aviv Court allowed the plaintiffs to consolidate their claims and, in September 2019, the plaintiffs filed a motion for certification of the consolidated class action. In November and December 2018, complaints alleging foreign exchange-related misconduct were filed in the New York District Court and the High Court of England and Wales against HSBC and other defendants by certain plaintiffs that opted out of the US class action settlement. These matters are at an early stage. It is possible that additional civil actions will be initiated against HSBC in relation to its historical foreign exchange activities.

There are many factors that may affect the range of outcomes, and the resulting financial impact, of these matters, which could be significant.

Precious metals fix-related litigation

Gold: Beginning in March 2014, numerous putative class actions were filed in the New York District Court and the US District Courts for the District of New Jersey and the Northern District of California, naming HSBC and other members of The London Gold Market Fixing Limited as defendants. The complaints allege that, from January 2004 to June 2013, the defendants conspired to manipulate the price of gold and gold derivatives for their collective benefit in violation of US antitrust laws, the US CEA and New York state law. The actions were consolidated in the New York District Court. The defendants' motion to dismiss the consolidated action was granted in part and denied in part in October 2016. In June 2017, the court granted the plaintiffs leave to file a third amended complaint, naming a new defendant. The court has denied the pre-existing defendants' request for leave to file a joint motion to dismiss, and discovery is proceeding.

Beginning in December 2015, numerous putative class actions under Canadian law were filed in the Ontario and Quebec Superior Courts of Justice against various HSBC companies and other financial institutions. The plaintiffs allege that, among other things, from January 2004 to March 2014, the defendants conspired to manipulate the price of gold and gold derivatives in violation of the Canadian Competition Act and common law. These actions are at an early stage.

Silver: Beginning in July 2014, numerous putative class actions were filed in the US District Courts for the Southern and Eastern Districts of New York, naming HSBC and other members of The London Silver Market Fixing Limited as defendants. The complaints allege that, from January 2007 to December 2013, the defendants conspired to manipulate the price of silver and silver derivatives for their collective benefit in violation of US antitrust laws, the US CEA and New York state law. The actions were consolidated in the New York District Court. The defendants' motion to dismiss the consolidated action was granted in part and denied in part in October 2016. In June 2017, the court granted the plaintiffs leave to file a third amended complaint, which names several new defendants. The court has denied the pre-existing defendants' request for leave to file a joint motion to dismiss, and discovery is proceeding.

In April 2016, two putative class actions under Canadian law were filed in the Ontario and Quebec Superior Courts of Justice against various HSBC companies and other financial institutions. The plaintiffs in both actions allege that, from January 1999 to August 2014, the defendants conspired to manipulate the price of silver and silver derivatives in violation of the Canadian Competition Act and common law. The Ontario action is at an early stage. The Quebec action has been temporarily stayed.

Platinum and palladium: Between late 2014 and early 2015, numerous putative class actions were filed in the New York District Court, naming HSBC and other members of The London Platinum and Palladium Fixing Company Limited as defendants. The complaints allege that, from January 2008 to November 2014, the defendants conspired to manipulate the price of platinum group metals ('PGM') and PGM-based financial products for their collective benefit in violation of US antitrust laws and the US CEA. In March 2017, the defendants' motion to dismiss the second amended consolidated complaint was granted in part and denied in part. In June 2017, the plaintiffs filed a third amended complaint. The defendants filed a joint motion to dismiss, which remains pending.

Based on the facts currently known, it is not practicable at this time for HSBC to predict the resolution of these matters, including the timing or any possible impact on HSBC, which could be significant.

Film finance litigation

In July and November 2015, two actions were brought by individuals against HSBC Private Bank (UK) Limited ('PBGB') in the High Court of England and Wales seeking damages on various alleged grounds, including breach of duty to the claimants, in connection with their participation in certain Ingenious film finance schemes. These actions are ongoing.

In December 2018, a separate action was brought against PBGB in the High Court of England and Wales by multiple claimants seeking damages for alleged unlawful means conspiracy and dishonest assistance in connection with lending provided by PBGB to third parties in respect of certain Ingenious film finance schemes in which the claimants participated. In June 2019, a similar claim was issued against PBGB in the High Court of England and Wales by additional claimants. These actions are ongoing.

In February and October 2019, PBGB received letters before claim by two largely separate groups of investors in Eclipse film finance schemes, each of which asserted various claims against PBGB in connection with its role in facilitating the design, promotion and operation of such schemes. These matters are at an early stage.

It is possible that additional actions or investigations will be initiated against PBGB as a result of its historical involvement in the provision of certain film finance-related services.

Based on the facts currently known, it is not practicable to predict the resolution of these matters, including the timing or possible aggregate impact, which could be significant.

Other regulatory investigations, reviews and litigation

HSBC Holdings and/or certain of its affiliates are subject to a number of other investigations and reviews by various regulators and competition and law enforcement authorities, as well as litigation, in connection with various matters relating to the firm's businesses and operations, including:

- an investigation by the DoJ regarding US Treasury securities trading practices;
- an investigation by the US Commodity Futures Trading Commission regarding interest rate swap transactions related to bond issuances;
- an investigation by the Swiss Competition Commission in connection with the setting of Euribor and Japanese yen Libor;
- an investigation by the FCA in connection with collections and recoveries operations in the UK;
- an information request from the UK Competition and Markets Authority concerning the financial services sector;
- putative class actions brought in the New York District Court relating to the Mexican government bond market, the US government-sponsored enterprise bond market, and the market for US dollar-denominated supranational sovereign and agency bonds;
- two group actions pending in the US courts and a claim issued in the High Court of England and Wales in connection with HSBC Bank's role as a correspondent bank to Stanford International Bank Ltd from 2003 to 2009; and
- litigation brought against various HSBC companies in the US courts relating to residential mortgage-backed securities, based primarily on (a) claims brought against HSBC Bank USA in connection with its role as trustee on behalf of various securitisation trusts; and (b) claims against several HSBC companies seeking that the defendants repurchase various mortgage loans.

There are many factors that may affect the range of outcomes, and the resulting financial impact, of these matters, which could be significant.

35 Related party transactions

Related parties of the Group and HSBC Holdings include subsidiaries, associates, joint ventures, post-employment benefit plans for HSBC employees, Key Management Personnel ('KMP') as defined by IAS 24, close family members of KMP and entities that are controlled or jointly controlled by KMP or their close family members. KMP are defined as those persons having authority and responsibility for planning, directing and controlling the activities of HSBC Holdings plc. These individuals also constitute 'senior management' for the purposes of the Hong Kong Listing Rules. Following a review of the application of IAS 24, it was determined that the roles of Chief Legal Officer, Group Head of Internal Audit, Group Chief Human Resources Officer, Group Chief Compliance Officer, Group Company Secretary and Chief Governance Officer, Head of Wholesale Market and Credit Risk and Group Chief of Staff did not meet the criteria for KMP as provided for in the standard.

Particulars of transactions with related parties are tabulated below. The disclosure of the year-end balance and the highest amounts outstanding during the year is considered to be the most meaningful information to represent the amount of the transactions and outstanding balances during the year.

Key Management Personnel

Details of Directors' remuneration and interest in shares are disclosed in the 'Directors' remuneration report' on pages 220 to 247. IAS 24 'Related party disclosures' requires the following additional information for key management compensation.

Compensation of Key Management Personnel

	2019	2018	2017
	$m	$m	$m
Short-term employee benefits	64	52	43
Other long-term employee benefits	8	6	5
Share-based payments	27	34	35
Year ended 31 Dec	**99**	**92**	**83**

Shareholdings, options and other securities of Key Management Personnel

	2019	2018
	(000s)	(000s)
Number of options held over HSBC Holdings ordinary shares under employee share plans	18	24
Number of HSBC Holdings ordinary shares held beneficially and non-beneficially	15,546	17,940
At 31 Dec	**15,564**	**17,964**

Transactions and balances during the year with Key Management Personnel

		2019		2018	
		Balance at 31 Dec	Highest amounts outstanding during year	Balance at 31 Dec	Highest amounts outstanding during year
	Footnotes	$m	$m	$m	$m
Key Management Personnel	1				
Advances and credits	2	283	328	169	288
Guarantees		34	34	0.6	0.6
Deposits	3	268	659	300	802

1 *Includes Key Management Personnel, close family members of Key Management Personnel and entities that are controlled or jointly controlled by Key Management Personnel or their close family members.*
2 *Advances and credits entered into by subsidiaries of HSBC Holdings plc during 2019 with Directors, disclosed pursuant to section 413 of the Companies Act 2006, totalled $3m (2018: $1m).*
3 *Comparatives have been re-presented to correct foreign currency translation errors impacting 2018 reported balances.*

Some of the transactions were connected transactions as defined by the Rules Governing The Listing of Securities on The Stock Exchange of Hong Kong Limited, but were exempt from any disclosure requirements under the provisions of those rules. The above transactions were made in the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with persons of a similar standing or, where applicable, with other employees. The transactions did not involve more than the normal risk of repayment or present other unfavourable features.

Associates and joint ventures

The Group provides certain banking and financial services to associates and joint ventures including loans, overdrafts, interest and non-interest bearing deposits and current accounts. Details of the interests in associates and joint ventures are given in Note 18.

Transactions and balances during the year with associates and joint ventures

	2019		2018	
	Highest balance during the year	Balance at 31 Dec	Highest balance during the year	Balance at 31 Dec
	$m	$m	$m	$m
Unsubordinated amounts due from joint ventures	132	123	130	115
Unsubordinated amounts due from associates	4,554	2,054	3,887	3,000
Amounts due to associates	2,517	516	2,020	273
Amounts due to joint ventures	28	28	22	22
Guarantees and commitments	647	407	790	523

The above outstanding balances arose in the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with third-party counterparties.

Post-employment benefit plans

At 31 December 2019, $5.4bn (2018: $4.4bn) of HSBC post-employment benefit plan assets were under management by HSBC companies, earning management fees of $8m in 2019 (2018: $8m). At 31 December 2019, HSBC's post-employment benefit plans had placed deposits of $530m (2018: $297m) with its banking subsidiaries, earning interest payable to the schemes of $0.3m (2018: nil). The above outstanding balances arose from the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with third-party counterparties.

The combined HSBC Bank (UK) Pension Scheme enters into swap transactions with HSBC to manage inflation and interest rate sensitivity of its liabilities and selected assets. At 31 December 2019, the gross notional value of the swaps was $9.9bn (2018: $10.5bn); these swaps had a positive fair value to the scheme of $1.2bn (2018: $1.0bn); and HSBC had delivered collateral of $1.2bn (2018: $1.0bn) to the scheme in respect of these arrangements. All swaps were executed at prevailing market rates and within standard market bid/offer spreads.

HSBC Holdings

Details of HSBC Holdings' subsidiaries are shown in Note 37.

Transactions and balances during the year with subsidiaries

	2019		2018	
	Highest balance during the year	**Balance at 31 Dec**	Highest balance during the year	Balance at 31 Dec
	$m	**$m**	$m	$m
Assets				
Cash and balances with HSBC undertakings	**5,029**	**2,382**	16,473	3,509
Financial assets with HSBC undertakings designated and otherwise mandatorily measured at fair value	**61,964**	**61,964**	23,513	23,513
Derivatives	**3,902**	**2,002**	1,235	707
Loans and advances to HSBC undertakings	**43,436**	**10,218**	77,311	56,144
Prepayments, accrued income and other assets	**655**	**480**	—	—
Investments in subsidiaries	**163,258**	**161,473**	160,231	160,231
Total related party assets at 31 Dec	**278,244**	**238,519**	278,763	244,104
Liabilities				
Amounts owed to HSBC undertakings	**1,553**	**464**	2,040	949
Derivatives	**2,183**	**2,021**	3,639	2,159
Subordinated liabilities	**892**	**892**	892	892
Total related party liabilities at 31 Dec	**4,628**	**3,377**	6,571	4,000
Guarantees and commitments	**11,541**	**11,061**	11,629	8,627

The above outstanding balances arose in the ordinary course of business and on substantially the same terms, including interest rates and security, as for comparable transactions with third-party counterparties.

Some employees of HSBC Holdings are members of the HSBC Bank (UK) Pension Scheme, which is sponsored by a separate Group company. HSBC Holdings incurs a charge for these employees equal to the contributions paid into the scheme on their behalf. Disclosure in relation to the scheme is made in Note 5.

36 Events after the balance sheet date

A fourth interim dividend for 2019 of $0.21 per ordinary share (a distribution of approximately $4,266m) was declared by the Directors after 31 December 2019. These accounts were approved by the Board of Directors on 18 February 2020 and authorised for issue.

The Directors approved the 2020 business update after 31 December 2019, setting out a plan that aims to reallocate capital to areas that can deliver stronger returns, to reduce costs across the Group, and to simplify the business. One change as part of this plan is a change to the global businesses that form the Group's reportable segments as described in Note 10 of the financial statements on page 294. The existing Retail Banking and Wealth Management and Global Private Banking global businesses will be merged to create one new global business, Wealth and Personal Banking, which will become a reportable segment during 2020.

The ECL at 31 December 2019 was estimated based on a range of forecast economic conditions as at that date. Since early January 2020, the coronavirus outbreak has spread across mainland China and beyond, causing disruption to business and economic activity. The impact on GDP and other key indicators will be considered when determining the severity and likelihood of downside economic scenarios that will be used to estimate ECL under IFRS 9 in 2020.

37 HSBC Holdings' subsidiaries, joint ventures and associates

In accordance with section 409 of the Companies Act 2006 a list of HSBC Holdings plc subsidiaries, joint ventures and associates, the registered office addresses and the effective percentages of equity owned at 31 December 2019 are disclosed below.

Unless otherwise stated, the share capital comprises ordinary or common shares that are held by Group subsidiaries. The ownership percentage is provided for each undertaking. The undertakings below are consolidated by HSBC unless otherwise indicated.

Subsidiaries

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Almacenadora Banpacifico S.A. (In Liquidation)	99.99		15
Assetfinance December (F) Limited	100.00		16
Assetfinance December (H) Limited	100.00		17
Assetfinance December (M) Limited (In Liquidation)	100.00		32
Assetfinance December (P) Limited	100.00		17
Assetfinance December (R) Limited	100.00		17
Assetfinance June (A) Limited	100.00		17
Assetfinance June (D) Limited	100.00		16
Assetfinance Limited	100.00		17
Assetfinance March (B) Limited	100.00		18
Assetfinance March (D) Limited	100.00		16
Assetfinance March (F) Limited	100.00		17
Assetfinance September (F) Limited	100.00		17
Assetfinance September (G) Limited	100.00		16
B&Q Financial Services Limited	100.00		19
Banco Nominees (Guernsey) Limited	100.00		20
Banco Nominees 2 (Guernsey) Limited	100.00		20
Banco Nominees Limited	100.00		21
Beau Soleil Limited Partnership	n/a		0, 22
Beijing Miyun HSBC Rural Bank Company Limited	100.00		12, 23
Billingsgate Nominees Limited	100.00		17
Canada Crescent Nominees (UK) Limited	100.00		17
Canada Square Nominees (UK) Limited	100.00		17
Capco/Cove, Inc.	100.00		24
Card-Flo #1, Inc.	100.00		25
Card-Flo #3, Inc.	100.00		26
CC&H Holdings LLC	n/a		0, 27
CCF & Partners Asset Management Limited	100.00	(99.99)	17
CCF Holding (LIBAN) S.A.L. (In Liquidation)	74.99		28
Charterhouse Administrators (D.T.) Limited	100.00	(99.99)	17
Charterhouse Management Services Limited	100.00	(99.99)	17
Charterhouse Pensions Limited	100.00		17
Chongqing Dazu HSBC Rural Bank Company Limited	100.00		12, 29
Chongqing Fengdu HSBC Rural Bank Company Limited	100.00		12, 30
Chongqing Rongchang HSBC Rural Bank Company Limited	100.00		12, 31
CL Residential Limited (In Liquidation)	100.00		32
COIF Nominees Limited	n/a		0, 17
Cordico Management AG (In Liquidation)	100.00		33
Dalian Pulandian HSBC Rural Bank Company Limited	100.00		12, 34
Decision One Mortgage Company, LLC	n/a		0, 35
Dem 9	100.00	(99.99)	4, 36
Dempar 1	100.00	(99.99)	37
Desarrollo Turistico, S.A. de C.V. (In Liquidation)	100.00	(99.79)	15
Electronic Data Process México, S.A. de C.V.	100.00		15
Elysées Immo Invest	100.00	(99.99)	38
Equator Holdings Limited (In Liquidation)	100.00		32
Eton Corporate Services Limited	100.00		20
Far East Leasing SA (In Dissolution)	100.00		39
Finanpar 7	100.00	(99.99)	38
Flandres Contentieux S.A.	100.00	(99.99)	40
Foncière Elysées	100.00	(99.99)	37
Fujian Yongan HSBC Rural Bank Company Limited	100.00		12, 41
Fulcher Enterprises Company Limited	100.00	(62.14)	42
Fundacion HSBC, A.C.	100.00	(99.99)	11, 15
Giller Ltd.	100.00		24
GPIF Co-Investment, LLC	n/a		0, 26

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Griffin International Limited	100.00		17
Grundstuecksgesellschaft Trinkausstrasse Kommanditgesellschaft	n/a		0, 43
Grupo Financiero HSBC, S. A. de C. V.	99.99		15
Guangdong Enping HSBC Rural Bank Company Limited	100.00		12, 44
Hang Seng (Nominee) Limited	100.00	(62.14)	42
Hang Seng Bank (China) Limited	100.00	(62.14)	45
Hang Seng Bank (Trustee) Limited	100.00	(62.14)	42
Hang Seng Bank Limited	62.14		42
Hang Seng Bullion Company Limited	100.00	(62.14)	42
Hang Seng Credit Limited	100.00	(62.14)	42
Hang Seng Data Services Limited	100.00	(62.14)	42
Hang Seng Finance Limited	100.00	(62.14)	42
Hang Seng Financial Information Limited	100.00	(62.14)	42
Hang Seng Indexes Company Limited	100.00	(62.14)	42
Hang Seng Insurance Company Limited	100.00	(62.14)	42
Hang Seng Investment Management Limited	100.00	(62.14)	42
Hang Seng Investment Services Limited	100.00	(62.14)	42
Hang Seng Life Limited	100.00	(62.14)	42
Hang Seng Real Estate Management Limited	100.00	(62.14)	42
Hang Seng Securities Limited	100.00	(62.14)	42
Hang Seng Security Management Limited	100.00	(62.14)	42
Haseba Investment Company Limited	100.00	(62.14)	42
HFC Bank Limited (In Liquidation)	100.00		32
High Time Investments Limited	100.00	(62.14)	42
Honey Green Enterprises Ltd.	100.00		46
Household International Europe Limited (In Liquidation)	100.00		32
Household Pooling Corporation	100.00		47
HRMG Nominees Limited	100.00		20
HSBC (BGF) Investments Limited	100.00		17
HSBC (General Partner) Limited	100.00		2, 48
HSBC (Guernsey) GP PCC Limited	100.00		20
HSBC (Kuala Lumpur) Nominees Sdn Bhd	100.00		49
HSBC (Malaysia) Trustee Berhad	100.00		50
HSBC (Singapore) Nominees Pte Ltd	100.00		51
HSBC Agency (India) Private Limited	100.00		52
HSBC Alternative Investments Limited	100.00		17
HSBC Amanah Malaysia Berhad	100.00		49
HSBC Americas Corporation (Delaware)	100.00		26
HSBC Argentina Holdings S.A.	100.00		53
HSBC Asia Holdings B.V.	100.00		17
HSBC Asia Holdings Limited	100.00		2, 54
HSBC Asia Pacific Holdings (UK) Limited	100.00		17
HSBC Asset Finance (UK) Limited	100.00		17
HSBC Asset Finance Holdings Limited (In Liquidation)	100.00		32
HSBC Asset Finance M.O.G. Holdings (UK) Limited	100.00		17
HSBC Asset Management (India) Private Limited	100.00		55
HSBC Assurances Vie (France)	100.00	(99.99)	40
HSBC Australia Holdings Pty Limited	100.00		56
HSBC Bank (Chile)	100.00		57
HSBC Bank (China) Company Limited	100.00		12, 58
HSBC Bank (General Partner) Limited	100.00		48
HSBC Bank (Mauritius) Limited	100.00		59
HSBC Bank (RR) (Limited Liability Company)	n/a		0, 13, 60
HSBC Bank (Singapore) Limited	100.00		51
HSBC Bank (Taiwan) Limited	100.00		61
HSBC Bank (Uruguay) S.A.	100.00		62
HSBC Bank (Vietnam) Ltd.	100.00		63
HSBC Bank A.S.	100.00	(99.99)	64

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Bank Argentina S.A.	99.00		53
HSBC Bank Armenia cjsc	70.00		65
HSBC Bank Australia Limited	100.00		56
HSBC Bank Bermuda Limited	100.00		21
HSBC Bank Canada	100.00		66
HSBC Bank Capital Funding (Sterling 1) LP	n/a		0, 48
HSBC Bank Capital Funding (Sterling 2) LP	n/a		0, 48
HSBC Bank Egypt S.A.E	94.54		67
HSBC Bank Malaysia Berhad	100.00		49
HSBC Bank Malta p.l.c.	70.03		68
HSBC Bank Middle East Limited	100.00		5, 69
HSBC Bank Middle East Limited Representative Office Morocco SARL (In Liquidation)	100.00		70
HSBC Bank Oman S.A.O.G.	51.00		71
HSBC Bank Pension Trust (UK) Limited	100.00		17
HSBC Bank plc	100.00		17
HSBC Bank USA, National Association	100.00		72
HSBC Branch Nominee (UK) Limited	100.00		16
HSBC Brasil Holding S.A.	100.00	(99.99)	73
HSBC Brasil S.A. Banco de Investimento	100.00	(99.99)	73
HSBC Broking Forex (Asia) Limited	100.00		54
HSBC Broking Futures (Asia) Limited	100.00		54
HSBC Broking Futures (Hong Kong) Limited	100.00		54
HSBC Broking Securities (Asia) Limited	100.00		54
HSBC Broking Securities (Hong Kong) Limited	100.00		54
HSBC Broking Services (Asia) Limited	100.00		54
HSBC Canadian Covered Bond (Legislative) GP Inc.	100.00		74
HSBC Canadian Covered Bond (Legislative) Guarantor Limited Partnership	n/a		0, 74
HSBC Capital (USA), Inc.	100.00		26
HSBC Capital Funding (Dollar 1) L.P.	n/a		0, 48
HSBC Capital Limited	100.00		54
HSBC Card Services Inc.	100.00		26
HSBC Casa de Bolsa, S.A. de C.V., Grupo Financiero HSBC	100.00	(99.99)	15
HSBC Cayman Limited	100.00		75
HSBC Cayman Services Limited	100.00		76
HSBC City Funding Holdings	100.00		17
HSBC Client Holdings Nominee (UK) Limited	100.00		17
HSBC Client Nominee (Jersey) Limited	100.00		77
HSBC Client Share Offer Nominee (UK) Limited (In Liquidation)	100.00		32
HSBC Columbia Funding, LLC	n/a		0, 26
HSBC Corporate Advisory (Malaysia) Sdn Bhd	100.00		49
HSBC Corporate Finance (Hong Kong) Limited	100.00		54
HSBC Corporate Trustee Company (UK) Limited	100.00		17
HSBC Custody Nominees (Australia) Limited	100.00		56
HSBC Custody Services (Guernsey) Limited	100.00	(99.99)	20
HSBC Daisy Investments (Mauritius) Limited	100.00		78
HSBC Diversified Loan Fund General Partner Sarl	n/a		0, 79
HSBC Electronic Data Processing (Guangdong) Limited	100.00		12, 80
HSBC Electronic Data Processing (Malaysia) Sdn Bhd	100.00		81
HSBC Electronic Data Processing (Philippines), Inc.	99.00		82
HSBC Electronic Data Processing India Private Limited	100.00	(99.99)	83
HSBC Electronic Data Processing Lanka (Private) Limited	100.00	(99.99)	84
HSBC Electronic Data Service Delivery (Egypt) S.A.E.	100.00	(99.99)	85
HSBC Enterprise Investment Company (UK) Limited (In Liquidation)	100.00		32
HSBC Epargne Entreprise (France)	100.00	(99.99)	40
HSBC Equator (UK) Limited (In Liquidation)	100.00		32
HSBC Equipment Finance (UK) Limited	100.00		16
HSBC Equity (UK) Limited	100.00		17
HSBC Europe B.V.	100.00	(99.99)	17
HSBC Executor & Trustee Company (UK) Limited	100.00		16
HSBC Factoring (France)	100.00	(99.99)	37
HSBC Finance (Netherlands)	100.00		2, 17
HSBC Finance Corporation	100.00		26
HSBC Finance Limited	100.00		17
HSBC Finance Mortgages Inc.	100.00		86
HSBC Finance Transformation (UK) Limited	100.00		17
HSBC Financial Services (Lebanon) s.a.l.	99.60		87
HSBC Financial Services (Middle East) Limited	100.00		88
HSBC Financial Services (Uruguay) S.A. (In Liquidation)	100.00		89
HSBC France	99.00		37
HSBC Fund Services (Korea) Limited	92.96		90
HSBC Germany Holdings GmbH	100.00		43
HSBC Global Asset Management (Bermuda) Limited	100.00		21
HSBC Global Asset Management (Canada) Limited	100.00		66
HSBC Global Asset Management (Deutschland) GmbH	100.00	(80.67)	43
HSBC Global Asset Management (France)	100.00	(99.99)	91
HSBC Global Asset Management (Hong Kong) Limited	100.00		22
HSBC Global Asset Management (International) Limited (In Liquidation)	100.00		92
HSBC Global Asset Management (Japan) K. K.	100.00		93
HSBC Global Asset Management (Malta) Limited	100.00	(70.00)	94
HSBC Global Asset Management (México), S.A. de C.V., Sociedad Operadora de Fondos de Inversión, Grupo Financiero HSBC	100.00	(99.99)	15
HSBC Global Asset Management (Oesterreich) GmbH	100.00	(80.67)	6, 95
HSBC Global Asset Management (Singapore) Limited	100.00		51
HSBC Global Asset Management (Switzerland) AG	100.00	(90.33)	4, 96
HSBC Global Asset Management (Taiwan) Limited	100.00		97
HSBC Global Asset Management (UK) Limited	100.00		17
HSBC Global Asset Management (USA) Inc.	100.00		98
HSBC Global Asset Management Argentina S.A. Sociedad Gerente de Fondos Comunes de Inversión	100.00	(99.99)	99
HSBC Global Asset Management Holdings (Bahamas) Limited	100.00		100
HSBC Global Asset Management Limited	100.00		2, 17
HSBC Global Custody Nominee (UK) Limited	100.00		17
HSBC Global Custody Proprietary Nominee (UK) Limited	100.00		1, 17
HSBC Global Services (Canada) Limited	100.00		101
HSBC Global Services (China) Holdings Limited	100.00		17
HSBC Global Services (Hong Kong) Limited	100.00		54
HSBC Global Services (UK) Limited	100.00		17
HSBC Global Services Limited	100.00		2, 17
HSBC Global Shared Services (India) Private Limited (In Liquidation)	100.00		1, 52
HSBC Group Management Services Limited	100.00		17
HSBC Group Nominees UK Limited	100.00		2, 17
HSBC Holdings B.V.	100.00		17
HSBC IM Pension Trust Limited	100.00		17
HSBC Infrastructure Limited	100.00		17
HSBC INKA Investment-AG TGV	100.00	(80.67)	14, 102
HSBC Inmobiliaria (Mexico), S.A. de C.V.	100.00	(99.99)	15
HSBC Institutional Trust Services (Asia) Limited	100.00		54

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Institutional Trust Services (Bermuda) Limited	100.00		21
HSBC Institutional Trust Services (Mauritius) Limited	100.00		103
HSBC Institutional Trust Services (Singapore) Limited	100.00		51
HSBC Insurance (Asia) Limited	100.00		104
HSBC Insurance (Asia-Pacific) Holdings Limited	100.00		105
HSBC Insurance (Bermuda) Limited	100.00		21
HSBC Insurance (Singapore) Pte. Limited	100.00		51
HSBC Insurance Agency (USA) Inc.	100.00		98
HSBC Insurance Brokers (Philippines) Inc.	100.00		106
HSBC Insurance Holdings Limited	100.00		2, 17
HSBC Insurance SAC 1 (Bermuda) Limited	100.00		21
HSBC Insurance SAC 2 (Bermuda) Limited	100.00		21
HSBC Insurance Services (Lebanon) S.A.L. (In Liquidation)	100.00		107
HSBC Insurance Services Holdings Limited	100.00		17
HSBC International Finance Corporation (Delaware)	100.00		108
HSBC International Holdings (Jersey) Limited (In Liquidation)	100.00	(99.99)	77
HSBC International Trustee (BVI) Limited	100.00		109
HSBC International Trustee (Holdings) Pte. Limited	100.00		51
HSBC International Trustee Limited	100.00		110
HSBC Inversiones S.A.	99.99		57
HSBC InvestDirect (India) Limited	99.54		111
HSBC InvestDirect Financial Services (India) Limited	99.99	(99.54)	111
HSBC InvestDirect Sales & Marketing (India) Limited	98.99	(98.54)	52
HSBC InvestDirect Securities (India) Private Limited	99.99	(99.78)	111
HSBC Investment Bank Holdings B.V.	100.00		17
HSBC Investment Bank Holdings Limited	100.00		17
HSBC Investment Company (Egypt) S.A.E (In Liquidation)	94.54		112
HSBC Investment Company Limited	100.00		2, 17
HSBC Investment Funds (Canada) Inc.	100.00		113
HSBC Investment Funds (Hong Kong) Limited	100.00		22
HSBC Investment Funds (Luxembourg) SA	100.00	(99.99)	114
HSBC Invoice Finance (UK) Limited	100.00		115
HSBC Issuer Services Common Depositary Nominee (UK) Limited	100.00		17
HSBC Issuer Services Depositary Nominee (UK) Limited	100.00		17
HSBC Latin America B.V.	100.00		17
HSBC Latin America Holdings (UK) Limited	100.00		2, 17
HSBC Leasing (Asia) Limited	100.00		54
HSBC Leasing (France)	100.00	(99.99)	36
HSBC Life (International) Limited	100.00		21
HSBC Life (Property) Limited	100.00		104
HSBC Life (UK) Limited	100.00		17
HSBC Life Assurance (Malta) Limited	100.00	(70.03)	94
HSBC Life Insurance Company Limited	50.00		116
HSBC LU Nominees Limited	100.00		17
HSBC Management (Guernsey) Limited	100.00		20
HSBC Markets (USA) Inc.	100.00		26
HSBC Marking Name Nominee (UK) Limited	100.00		17
HSBC Master Trust Trustee Limited	100.00		17
HSBC Mexico, S.A., Institucion de Banca Multiple, Grupo Financiero HSBC	99.99		15
HSBC Middle East Finance Company Limited	80.00		117
HSBC Middle East Holdings B.V.	100.00		2, 69
HSBC Middle East Leasing Partnership	n/a		0, 118
HSBC Middle East Securities L.L.C	n/a		0, 119
HSBC Mortgage Corporation (Canada)	100.00		120

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Mortgage Corporation (USA)	100.00		26
HSBC Nominees (Asing) Sdn Bhd	100.00		49
HSBC Nominees (Hong Kong) Limited	100.00		54
HSBC Nominees (New Zealand) Limited	100.00		121
HSBC Nominees (Tempatan) Sdn Bhd	100.00		49
HSBC North America Holdings Inc.	100.00		3, 26
HSBC Operational Services GmbH	90.10	(72.68)	122
HSBC Overseas Holdings (UK) Limited	100.00		2, 17
HSBC Overseas Investments Corporation (New York)	100.00		123
HSBC Overseas Nominee (UK) Limited	100.00		17
HSBC Participaciones (Argentina) S.A.	100.00	(99.99)	124
HSBC PB Corporate Services 1 Limited	100.00		125
HSBC PB Services (Suisse) SA	100.00		126
HSBC Pension Trust (Ireland) DAC	100.00		127
HSBC Pensiones, S.A.	100.00		15
HSBC PI Holdings (Mauritius) Limited	100.00		103
HSBC Portfoy Yonetimi A.S.	100.00	(99.99)	128
HSBC Preferential LP (UK)	100.00		17
HSBC Private Bank (C.I.) Limited	100.00		20
HSBC Private Bank (Luxembourg) S.A.	100.00		114
HSBC Private Bank (Suisse) SA	100.00		126
HSBC Private Bank (UK) Limited	100.00		17
HSBC Private Bank International	100.00		129
HSBC Private Banking Holdings (Suisse) SA	100.00		126
HSBC Private Banking Nominee 3 (Jersey) Limited	100.00		125
HSBC Private Equity Advisors LLC	n/a		0, 26
HSBC Private Equity Investments (UK) Limited	100.00		17
HSBC Private Trustee (Hong Kong) Limited	100.00		54
HSBC Private Wealth Services (Canada) Inc.	100.00		130
HSBC Professional Services (India) Private Limited	100.00		52
HSBC Property (UK) Limited	100.00		17
HSBC Property Funds (Holding) Limited	100.00		17
HSBC Provident Fund Trustee (Hong Kong) Limited	100.00		54
HSBC Qianhai Securities Limited	100.00	(51.00)	12, 131
HSBC Real Estate Leasing (France)	100.00	(99.99)	40
HSBC Realty Credit Corporation (USA)	100.00		26
HSBC REGIO Fund General Partner S.à r.l.	100.00	(99.99)	114
HSBC REIM (France)	100.00	(99.99)	40
HSBC Representative Office (Nigeria) Limited (In Liquidation)	100.00		132
HSBC Retirement Benefits Trustee (UK) Limited	100.00		1, 2, 17
HSBC Retirement Services Limited	100.00		1, 17
HSBC Saudi Arabia	51.00	(61.60)	133
HSBC Savings Bank (Philippines) Inc.	99.99		134
HSBC Securities (Asia) Limited	100.00		54
HSBC Securities (Canada) Inc.	100.00		101
HSBC Securities (Egypt) S.A.E.	100.00	(94.54)	67
HSBC Securities (Japan) Limited	100.00		17
HSBC Securities (Philippines) Inc.	99.99		9, 135
HSBC Securities (Singapore) Pte Limited	100.00		51
HSBC Securities (South Africa) (Pty) Limited	100.00		136
HSBC Securities (Taiwan) Corporation Limited	100.00		137
HSBC Securities (USA) Inc.	100.00		26
HSBC Securities and Capital Markets (India) Private Limited	99.99		52
HSBC Securities Asia International Nominees Limited (In Liquidation)	100.00		138
HSBC Securities Asia Nominees Limited	100.00		54
HSBC Securities Brokers (Asia) Limited	100.00		54
HSBC Securities Investments (Asia) Limited	100.00		54
HSBC Securities Services (Bermuda) Limited	100.00		21
HSBC Securities Services (Guernsey) Limited	100.00		20
HSBC Securities Services (Ireland) DAC	100.00		127
HSBC Securities Services (Luxembourg) S.A.	100.00		114

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Securities Services Holdings (Ireland) DAC	100.00		127
HSBC Securities Services Nominees Limited	100.00		54
HSBC Seguros de Retiro (Argentina) S.A.	100.00	(99.99)	53
HSBC Seguros de Vida (Argentina) S.A.	100.00	(99.99)	53
HSBC Seguros, S.A de C.V., Grupo Financiero HSBC	99.99		15
HSBC Service Delivery (Polska) Sp. z o.o.	100.00		139
HSBC Services (France)	100.00	(99.99)	37
HSBC Services Japan Limited	100.00		140
HSBC Services USA Inc.	100.00		141
HSBC Servicios Financieros, S.A. de C.V	100.00	(99.99)	15
HSBC Servicios, S.A. DE C.V., Grupo Financiero HSBC	100.00	(99.99)	15
HSBC SFH (France)	100.00	(99.99)	4, 40
HSBC Software Development (Guangdong) Limited	100.00		142
HSBC Software Development (India) Private Limited	100.00		143
HSBC Software Development (Malaysia) Sdn Bhd	100.00		81
HSBC Specialist Investments Limited	100.00		17
HSBC Stockbrokers Nominee (UK) Limited (In Liquidation)	100.00		32
HSBC Technology & Services (China) Limited	100.00		144
HSBC Technology & Services (USA) Inc.	100.00		26
HSBC Transaction Services GmbH	100.00	(80.67)	6, 145
HSBC Trinkaus & Burkhardt (International) S.A.	100.00	(80.67)	114
HSBC Trinkaus & Burkhardt AG	80.67		43
HSBC Trinkaus & Burkhardt Gesellschaft fur Bankbeteiligungen mbH	100.00	(80.67)	43
HSBC Trinkaus Europa Immobilien-Fonds Nr. 5 GmbH	100.00	(80.67)	43
HSBC Trinkaus Family Office GmbH	100.00	(80.67)	6, 43
HSBC Trinkaus Immobilien Beteiligungs KG	100.00	(80.67)	43
HSBC Trinkaus Real Estate GmbH	100.00	(80.67)	6, 43
HSBC Trust Company (Canada)	100.00		120
HSBC Trust Company (Delaware), National Association	100.00		108
HSBC Trust Company (UK) Limited	100.00		17
HSBC Trust Company AG (In Liquidation)	100.00		33
HSBC Trustee (C.I.) Limited	100.00		125
HSBC Trustee (Cayman) Limited	100.00		146
HSBC Trustee (Guernsey) Limited	100.00		20
HSBC Trustee (Hong Kong) Limited	100.00		54
HSBC Trustee (Singapore) Limited	100.00		51
HSBC UK Bank plc	100.00		16
HSBC UK Client Nominee Limited	100.00		16
HSBC UK Holdings Limited	100.00		2, 17
HSBC USA Inc.	100.00		123
HSBC Ventures USA Inc.	100.00		26
HSBC Violet Investments (Mauritius) Limited	100.00		78
HSBC Wealth Client Nominee Limited	100.00		1, 16
HSBC Yatirim Menkul Degerler A.S.	100.00		128
HSI Asset Securitization Corporation	100.00		26
HSI International Limited	100.00	(62.14)	42
HSIL Investments Limited	100.00		17
Hubei Macheng HSBC Rural Bank Company Limited	100.00		147
Hubei Suizhou Cengdu HSBC Rural Bank Company Limited	100.00		12, 148
Hubei Tianmen HSBC Rural Bank Company Limited	100.00		149
Hunan Pingjiang HSBC Rural Bank Company Limited	100.00		12, 150
Imenson Limited	100.00	(62.14)	42
INKA Internationale Kapitalanlagegesellschaft mbH	100.00	(80.67)	145
Inmobiliaria Banci, S.A. de C.V.	100.00	(99.68)	15

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Inmobiliaria Bisa, S.A. de C.V.	99.98		15
Inmobiliaria Grufin, S.A. de C.V.	100.00	(99.99)	15
Inmobiliaria Guatusi, S.A. de C.V.	100.00	(99.99)	15
IRERE Property Investments (French Offices) Sarl (In Liquidation)	100.00		151
James Capel & Co. Limited	100.00		17
James Capel (Nominees) Limited	100.00		17
James Capel (Taiwan) Nominees Limited	100.00		17
John Lewis Financial Services Limited	100.00		17
Keyser Ullmann Limited	100.00	(99.99)	17
Lion Corporate Services Limited	100.00		54
Lion International Corporate Services Limited	100.00		1, 110
Lion International Management Limited	100.00		110
Lion Management (Hong Kong) Limited	100.00		1, 54
Lyndholme Limited	100.00		54
Marks and Spencer Financial Services plc	100.00		152
Marks and Spencer Unit Trust Management Limited	100.00		152
Maxima S.A. AFJP (In Liquidation)	99.98		124
Mexicana de Fomento, S.A. de C.V.	100.00	(99.90)	15
Midcorp Limited	100.00		17
Midland Bank (Branch Nominees) Limited	100.00		16
Midland Nominees Limited	100.00		16
MIL (Cayman) Limited	100.00		153
MW Gestion SA	100.00		53
Promocion en Bienes Raices, S.A. de C.V.	100.00	(99.99)	15
Prudential Client HSBC GIS Nominee (UK) Limited	100.00		17
PT Bank HSBC Indonesia	98.93		154
PT HSBC Sekuritas Indonesia	100.00	(85.00)	155
R/CLIP Corp.	100.00		26
Real Estate Collateral Management Company	100.00		26
Republic Nominees Limited	100.00		20
Republic Overseas Capital Corporation	100.00		98
RLUKREF Nominees (UK) One Limited	100.00		1, 17
RLUKREF Nominees (UK) Two Limited	100.00		1, 17
S.A.P.C. - Ufipro Recouvrement	99.99		36
Saf Baiyun	100.00	(99.99)	4, 38
Saf Guangzhou	100.00	(99.99)	4, 38
Saf Zhu Jiang Shi Ba	100.00	(99.99)	4, 38
Saf Zhu Jiang Shi Er	100.00	(99.99)	4, 38
Saf Zhu Jiang Shi Jiu	100.00	(99.99)	4, 38
Saf Zhu Jiang Shi Liu	100.00	(99.99)	4, 38
Saf Zhu Jiang Shi Qi	100.00	(99.99)	4, 38
Saf Zhu Jiang Shi Wu	100.00	(99.99)	4, 38
SAS Cyatheas Pasteur	94.93		4, 36
SCI HSBC Assurances Immo	100.00	(99.99)	40
Serai Limited	100.00		1, 54
SFM	100.00	(99.99)	37
SFSS Nominees (Pty) Limited	100.00		156
Shandong Rongcheng HSBC Rural Bank Company Limited	100.00		12, 157
Sico Limited	100.00		158
SNC Dorique	99.99		1, 11, 159
SNC Kerouan	99.99		11, 38
SNC Les Mercuriales	100.00	(99.99)	1, 11, 38
SNC Les Oliviers D'Antibes	60.00		40
SNC Makala	100.00	(99.99)	1, 11, 38
SNCB/M6 - 2008 A	100.00	(99.99)	38
SNCB/M6-2007 A	100.00	(99.99)	4, 38
SNCB/M6-2007 B	100.00	(99.99)	4, 38
Société Française et Suisse	100.00	(99.99)	38
Societe Immobiliere Atlas S.A. (In Liquidation)	100.00		126
Somers Dublin DAC	100.00	(99.99)	127
Somers Nominees (Far East) Limited	100.00		21
Sopingest	100.00	(99.99)	38
South Yorkshire Light Rail Limited	100.00		17

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
St Cross Trustees Limited	100.00		16
Sun Hung Kai Development (Lujiazui III) Limited	100.00		12, 160
Swan National Leasing (Commercials) Limited (In Liquidation)	100.00		32
Swan National Limited	100.00		17
HSBC Odeme Sistemleri Bilgisayar Teknolojileri Basin Yayin Ve Musteri Hizmetleri (In Liquidation)	100.00	(99.99)	161
Thasosfin	100.00	(99.99)	40
The Hongkong and Shanghai Banking Corporation Limited	100.00		5, 54
The Venture Catalysts Limited	100.00		17
Tooley Street View Limited	100.00		2, 17
Tower Investment Management	100.00		162
Trinkaus Australien Immobilien Fonds Nr. 1 Brisbane GmbH & Co. KG	100.00	(80.67)	43
Trinkaus Australien Immobilien-Fonds Nr. 1 Treuhand-GmbH	100.00	(80.67)	6, 43
Trinkaus Europa Immobilien-Fonds Nr.3 Objekt Utrecht Verwaltungs-GmbH	100.00	(80.67)	43
Trinkaus Immobilien-Fonds Geschaeftsfuehrungs-GmbH	100.00	(80.67)	6, 43
Trinkaus Immobilien-Fonds Verwaltungs-GmbH	100.00	(80.67)	6, 43
Trinkaus Private Equity Management GmbH	100.00	(80.67)	43
Trinkaus Private Equity Verwaltungs GmbH	100.00	(80.67)	6, 43
Tropical Nominees Limited	100.00		153
Turnsonic (Nominees) Limited	100.00		16
Valeurs Mobilières Elysées	100.00	(99.99)	163
Wardley Limited	100.00		54
Wayfoong Nominees Limited	100.00		54
Wayhong (Bahamas) Limited	100.00		100
Westminster House, LLC	n/a		0, 26
Woodex Limited	100.00		21
Yan Nin Development Company Limited	100.00	(62.14)	42

Joint ventures

The undertakings below are joint ventures and equity accounted.

Joint ventures	% of share class held by immediate parent company (or by the Group where this varies)	Footnotes
Global Payments Technology Mexico S.A. De C.V.	50.00	15
HCM Holdings Limited (In Liquidation)	50.99	32
House Network Sdn Bhd	25.00	164
HSBC Jintrust Fund Management Company	49.00	181
ProServe Bermuda Limited	50.00	165
The London Silver Market Fixing Limited	n/a	0, 1, 166
Vaultex UK Limited	50.00	167

Associates

The undertakings below are associates and equity accounted.

Associates	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Bank of Communications Co., Ltd.	19.03		168
Barrowgate Limited	15.31		169
BGF Group PLC	24.54		170
Bud Financial Limited	8.20		1, 171
Canara HSBC Oriental Bank of Commerce Life Insurance Company Limited	26.00		172
CFAC Payment Scheme Limited	33.33		173
Chemi & Cotex (Rwanda) Limited	33.99		1, 174
Chemi & Cotex Kenya Limited	33.99		1, 175
Chemi and Cotex Industries Limited	33.99		176
EPS Company (Hong Kong) Limited	38.66		54
Euro Secured Notes Issuer	16.66		177
GIE GNIFI	n/a		0, 178
GZHS Research Co Ltd	33.00	(20.50)	179
Hang Seng Qianhai Fund Management Company Limited	70.00	(43.49)	1, 12, 180
Icon Brickell LLC(In Liquidation)	n/a		0, 182
Jeppe Star Limited	100.00	(33.99)	183
MENA Infrastructure Fund (GP) Ltd	33.33		184
Northstar Trade Finance Inc.	20.08		185
Novo Star Limited	33.99		186
Quantexa Ltd	10.51		187
Services Epargne Entreprise	14.34		188
sino AG	24.94	(20.11)	189
The London Gold Market Fixing Limited	n/a		0, 166
The Saudi British Bank	29.20		190
Trinkaus Europa Immobilien-Fonds Nr. 7 Frankfurt Mertonviertel KG	n/a		0, 43
Vizolution Limited	17.95		1, 191
We Trade Innovation Designated Activity Company	8.52		1, 192

Footnotes for Note 37

Description of Shares

0	Where an entity is governed by voting rights, HSBC consolidates when it holds – directly or indirectly – the necessary voting rights to pass resolutions by the governing body. In all other cases, the assessment of control is more complex and requires judgement of other factors, including having exposure to variability of returns, power to direct relevant activities, and whether power is held as an agent or principal. HSBC's consolidation policy is described in Note 1.2(a).
1	Management has determined that these undertakings are excluded from consolidation in the Group accounts as these entities do not meet the definition of subsidiaries in accordance with IFRS. HSBC's consolidation policy is described in Note 1.2(a).
2	Directly held by HSBC Holdings plc
3	Preference Shares
4	Actions
5	Redeemable Preference Shares
6	GmbH Anteil
7	Limited and Unlimited Liability Shares
8	Liquidating Share Class
9	Nominal Shares
10	Non-Participating Voting Shares
11	Parts
12	Registered Capital Shares
13	Russian Limited Liability Company Shares
14	Stückaktien

Registered offices

15	Paseo de la Reforma 347, Col. Cuauhtemoc , Mexico, 06500
16	1 Centenary Square, Birmingham, United Kingdom, B1 1HQ
17	8 Canada Square , London, United Kingdom, E14 5HQ
18	5 Donegal Square South , Belfast, Northern Ireland, BT1 5JP
19	Camden House West The Parade, Birmingham, United Kingdom, B1 3PY
20	Arnold House St Julians Avenue, St Peter Port, Guernsey, GY1 3NF
21	37 Front Street, Hamilton, Bermuda, HM 11
22	HSBC Main Building 1 Queen's Road Central, Hong Kong
23	First Floor, Xinhua Bookstore Xindong Road (SE of roundabout), Miyun District, Beijing, China
24	95 Washington Street , Buffalo, New York, United States Of America, 14203
25	1209 Orange Street , Wilmington, Delaware, United States Of America, 19801
26	c/o The Corporation Trust Company 1209 Orange Street, Wilmington, Delaware, United States Of America, 19801
27	Corporation Service Company 251 Little Falls Drive, Wilmington, Delaware, United States Of America, 19808
28	Solidere - Rue Saad Zaghloul Immeuble - 170 Marfaa, PO Box 17 5476 Mar Michael 11042040, Beyrouth, Lebanon
29	No 1, Bei Huan East Road Dazu County, Chongqing, China
30	No 107, Ping Du Avenue (E), Sanhe Town, Fengdu County , Chongqing, China
31	No. 3, 5, 7, Haitang Erzhi Road Changyuan, Rongchang, Chongqing, China, 402460
32	Hill House 1 Little New Street, London, United Kingdom, EC4A 3TR
33	Bederstrasse 49 , Zurich, Switzerland, CH-8002
34	First & Second Floor, No.3 Nanshan Road, Pulandian , Dalian, Liaoning, China
35	CT Corporation System 225 Hillsborough Street, Raleigh, North Carolina, United States Of America, 27603
36	39, rue de Bassano, Paris, France, 75008
37	103, avenue des Champs-Elysées, Paris, France, 75008
38	64, rue Galilée, Paris, France, 75008

Registered offices

39	MMG Tower, 23 floor Ave. Paseo del Mar Urbanizacion Costa del Este, Panama
40	15, rue Vernet , Paris, France, 75008
41	No. 1 1211 Yanjiang Zhong Road, Yongan, Fujian, China
42	83 Des Voeux Road Central , Hong Kong
43	Königsallee 21/23 , Düsseldorf, Germany, 40212
44	No. 44, Xin Ping Road Central, Encheng, Enping , Guangdong, China, 529400
45	34/F and 36/F, Hang Seng Bank Tower, 1000 Lujiazui Ring Road,, China (Shanghai) Pilot Free Trade Zone,, Shanghai , China, 200120
46	Commerce House, Wickhams Cay 1, P.O. Box 3140, Road Town, Tortola, VG1110, British Virgin Islands
47	The Corporation Trust Company of Nevada 311 S. Division Street, Carson City, Nevada, United States Of America, 89703
48	HSBC House Esplanade, St. Helier, Jersey, JE4 8UB
49	10th Floor, North Tower 2 Leboh Ampang, Kuala Lumpur, Malaysia, 50100
50	13th Floor, South Tower 2 Leboh Ampang, Kuala Lumpur, Malaysia, 50100
51	21 Collyer Quay #10-02 HSBC Building , Singapore, 049320
52	52/60 M G Road, Fort, Mumbai, India, 400 001
53	557 Bouchard, Level 20 , Ciudad de Buenos Aires, Capital federal, Argentina, C1106ABG
54	1 Queen's Road Central , Hong Kong
55	3rd Floor, Merchantile Bank Chamber 16, Veer Nariman Road, Fort, Mumbai, India, 400001
56	Level 36 Tower 1 International Towers Sydney, 100 Barangaroo Avenue, Sydney, New South Wales, Australia, 2000
57	Isidora Goyenechea 2800, 23rd floor, Las Condes , Santiago, Chile, 7550647
58	HSBC Building Shanghai ifc, 8 Century Avenue, Pudong, Shanghai, China, 200120
59	6th floor, HSBC Centre, 18, Cybercity, Ebene , Mauritius
60	2 Paveletskaya square, building 2 , Moscow, Russian Federation, 115054
61	13F-14F, 333 Keelung Road, Sec.1 , Taipei, 110
62	25 de Mayo 471 , Montevideo, Uruguay, 11000
63	The Metropolitan 235 Dong Khoi Street , District 1, Ho Chi Minh City , Vietnam
64	Esentepe mah. Büyükdere Caddesi No.128 Istanbul 34394 , Turkey
65	66 Teryan street , Yerevan, Armenia, 0009
66	885 West Georgia Street, 3rd Floor, Vancouver, British Columbia, Canada, V6C 3E9
67	306 Corniche El Nil , Maadi, Egypt, 11728
68	116 Archbishop Street, Valletta, Malta
69	Level 1, Building No. 8, Gate Village Dubai International Financial Centre, PO Box 30444, United Arab Emirates
70	Majer Consulting, Office 54/44, Building A1, Residence Ryad Anfa,, Boulevard Omar El Khayam, Casa Finance City (CFC), Casablanca, Morocco
71	Al Khuwair Office PO Box 1727 PC111 CPO Seeb, Muscat, Oman
72	1800 Tysons Boulevard Suite 50, Tysons, Virginia, United States Of America, 22102
73	Rua Funchal, n° 160, SP Corporate Towers, Torre Norte, 19° andar, cj 191A - Parte, São Paulo, Brazil, 04551-060
74	66 Wellington Street West, Suite 5300, Toronto, Ontario, Canada, M5K 1E6
75	P.O. Box 1109, Strathvale House, Ground floor, 90 North Church Street , George Town, Grand Cayman, Cayman Islands, KY1-1102
76	90 North Church Street, Strathvale House - Ground Floor, PO Box 1109, George Town, Grand Cayman, Grand Cayman, Cayman Islands, KY1-1102
77	HSBC House Esplanade, St. Helier, Jersey, JE1 1HS
78	c/o Rogers Capital St. Louis Business Centre, Cnr Desroches & St Louis Streets, Port Louis, Mauritius
79	49 avenue J.F. Kennedy , Luxembourg, Luxembourg, 1855

Registered offices

80	4-17/F, Office Tower 2 TaiKoo Hui, No. 381 Tian He Road, Tian He District, Guangzhou, Guangdong, China
81	Suite 1005, 10th Floor, Wisma Hamzah Kwong Hing No. 1, Leboh Ampang, Kuala Lumpur, Malaysia, 50100
82	HSBC, Filinvest One Bldg Northgate Cyberzone, Filinvest Corporate City, Alabang, Muntinlupa City, Philippines, 1781
83	HSBC House Plot No.8, Survey No.64 (Part), Hightec City Layout Madhapur, Hyderabad, India, 500081
84	439, Sri Jayawardenapura Mawatha Welikada, Rajagiriya, Colombo, Sri Lanka
85	Smart Village 28th Km Cairo- Alexandria Desert Road Building , Cairo, Egypt
86	Suite 300, 3381 Steeles Avenue East , Toronto, Ontario, Canada, M2H 3S7
87	Centre Ville 1341 Building - 4th Floor Patriarche Howayek Street (facing Beirut Souks), PO Box Riad El Solh, Lebanon, 9597
88	First Floor Building No. 5, Emaar Square,, Dubai, Dubai, United Arab Emirates
89	World Trade Center Montevideo Avenida Luis Alberto de Herrera 1248, Torre 1, Piso 15, Oficina 1502, Montevideo, Uruguay, CP 11300
90	Level 12, HSBC Building 37, Chilpae-ro, Jung-gu, Seoul, Korea, Republic Of (South)
91	Immeuble Coeur Défense 110, Esplanade du Général de Gaulle-La défense 4, Courbevoie, France, 92400
92	HSBC House Esplanade, St. Helier, Jersey, JE4 8WP
93	HSBC Building 11-1, Nihonbashi 3-chome, Chuo-ku, Tokyo, Japan, 103-0027
94	80 Mill Street, Qormi, Malta, QRM 3101
95	Herrengasse 1-3 , Wien, Austria, 1010
96	Gartenstrasse 26 , Zurich, Switzerland
97	24th Fl., 97-99, Sec.2, Tunhwa S. Rd., Taipei, Taiwan, R.O.C. , Taiwan
98	452 Fifth Avenue, New York NY10018, United States Of America
99	Bouchard 557, Piso 18° , Cdad. Autónoma de Buenos Aires, Argentina, 1106
100	Mareva House 4 George Street, Nassau, Bahamas
101	70 York Street, Toronto, Ontario, Canada, M5J 1S9
102	Breite Str. 29/31 , Düsseldorf, Germany, 40213
103	18 HSBC Centre, 6th Floor, Cybercity, Ebene, Mauritius, 72201
104	18th Floor, Tower 1, HSBC Centre, 1 Sham Mong Road, Kowloon, Hong Kong
105	Level 32, HSBC Main Building 1 Queen's Road Central, Hong Kong SAR, Hong Kong
106	7/F HSBC Centre 3058 Fifth Ave West, Bonifacio Global City, Taguig City, Philippines
107	HSBC Building Minet El Hosn, Riad el Solh, Beirut 1107-2080, PO Box 11-1380, Lebanon
108	300 Delaware Avenue Suite 1401, Wilmington, Delaware, United States Of America, 19801
109	Woodbourne Hall, Road Town PO Box 916, Tortola, British Virgin Islands
110	Craigmuir Chambers, PO Box 71, Road Town, Tortola, British Virgin Islands
111	9-11 Floors, NESCO IT Park Building No. 3 Western Express Highway, Goregaon (East), Mumbai, India, 400063
112	3, Aboul Feda Street, Zamalek, Cairo , Egypt
113	300 - 885 West Georgia Street, Vancouver, British Columbia, Canada, V6C 3E9
114	16 Boulevard d'Avranches, Luxembourg, Luxembourg, 1160
115	21 Farncombe Road , Worthing, United Kingdom, BN11 2BW
116	18/F, Unit 2101, 2113, 2113A, 2115 and 2116 of 21/F, HSBC Building, 8 Century Avenue, China (Shanghai) Pilot Free Trade Zone, Shanghai, China, 200120
117	Plot No.312-878 Mezzanine Floor,, Bldg. of Sheikh Hamdan Bin Rashid, Dubai Creek, Dubai, United Arab Emirates
118	Unit 101 Level 1, Gate Village Building No. 8 Dubai International Financial Centre, Dubai, United Arab Emirates, PO BOX 506553
119	Level 16 HSBC Tower, Downtown Dubai, Dubai, United Arab Emirates

Registered offices

120	885 West Georgia Street Suite 300, Vancouver, British Columbia, Canada, V6C 3E9
121	HSBC House Level 9, One Queen Street, Auckland, New Zealand, 1010
122	21-23 Yorckstraße, Düsseldorf, Nordrhein-Westfalen, Germany, 40476
123	The Corporation Trust Incorporated, 2405 York Road, Suite 201, Lutherville Timonium, Maryland, United States Of America, 21093
124	557 Bouchard, Level 22 , Ciudad de Buenos Aires, Capital federal, Argentina, C1106ABG
125	HSBC House Esplanade, St. Helier, Jersey, JE1 1GT
126	Quai des Bergues 9-17 , Geneva, Switzerland, 1201
127	1 Grand Canal Square Grand Canal Harbour, Dublin 2, D02 P820, Ireland
128	Büyükdere Cad. No.128 D Blok Esentepe Sisli Istanbul, Turkey
129	1441 Brickell Avenue , Miami, Florida, United States Of America, 33131
130	300-885 West Georgia Street, Vancouver, British Columbia, Canada, V6C 3E9
131	Block 27 A&B, Qianhai Enterprise Dream Park No. 63 Qianwan Yi Road, Shenzhen-Hong Kong Cooperation Zone, Shenzhen, China, 518052
132	St Nicholas House, 10th Floor Catholic Mission St Lagos, Nigeria
133	HSBC Building 7267 Olaya - Al Murrooj, Riyadh, Saudi Arabia, 12283 - 2255
134	Unit 1 GF The Commerical Complex Madrigal Avenue, Ayala
135	6/F HSBC Centre, 3058 Fifth Avenue West, Bonifaco Global City, Taguig City, Philippines
136	1 Mutual Place 107 Rivonia Road , Sandton , Sandton, Gauteng, South Africa, 2196
137	13F 333 Keelung Road, Sec.1, Taipei, Taiwan, 110
138	Palm Grove House PO Box 438, Road Town, Tortola, British Virgin Islands
139	Kapelanka 42A , Krakow, Poland, 30-347
140	MB&H Corporate Services Ltd Mareva House, 4 George Street, Nassau, Bahamas
141	The Corporation Trust Company 820 Bear Tavern Road, West Trenton, New Jersey, United States Of America, 08628
142	L22, Office Tower 2, Taikoo Hui, 381 Tianhe Road, Tianhe District, Guangzhou, Guangdong, Guangdong, China
143	HSBC Centre River Side, West Avenue, 25B Raheja woods, Kalyaninagar, Pune, India, 411006
144	Level 19, HSBC Building, Shanghai ifc 8 Century Avenue Pudong, Shanghai, China
145	Yorckstraße 21 - 23 40476, Duesseldorf, Germany
146	P.O. Box 309 Ugland House , Grand Cayman, Cayman Islands, KY1-1104
147	No. 56, Yu Rong Street , Macheng, China, 438300
148	No. 205, Lie Shan Road Suizhou, Hubei, China
149	Building 3, Yin Zuo Di Jing Wan Tianmen New City?Tianmen, Hubei Province, China
150	RM101, 102 & 106 Sunshine Fairview, Sunshine Garden, Pedestrian Walkway, Pingjiang, China
151	6, rue Adolphe , Luxembourg, L-1116
152	Kings Meadow Chester Business Park, Chester, United Kingdom, CH99 9FB
153	PO Box 1109 Strathvale House, 90 North Church Street, George Town, Grand Cayman, Cayman Islands
154	World Trade Center 1, Floor 8-9 Jalan Jenderal Sudirman Kavling 29 - 31, Jakarta, Indonesia, 12920
155	5th Floor, World Trade Center 1, Jl. Jend. Sudirman Kav. 29-31, Jakarta, Indonesia, 12920
156	No 1 Mutual Place 107 Rivonia Road , Sandton , Sandton , Gauteng, South Africa, 2196
157	No.198-2, Chengshan Avenue (E) , Rongcheng, China, 264300
158	Woodbourne Hall, Road Town PO Box 3162, Tortola, British Virgin Islands
159	43 rue de Paris , Saint Denis, France, 97400

Registered offices

160	RM 2112, HSBC Building, Shanghai ifc No. 8 Century Road, Pudong, Shanghai, China, 200120
161	Büyükdere Cad. No.122 D Blok Esentepe Sisli Istanbul , Turkey
162	11 Dr. Roy's Drive PO Box 694GT, Grand Cayman, Cayman Islands, KY1-1107
163	109 avenue des Champs-Elysees, Paris, France, 75008
164	Lot 6.05, Level 6, KPMG Tower 8 First Avenue, Bandar Utama, Petaling Jaya, Selangor Darul Ehsan, Malaysia, 47800
165	c/o MUFG Fund Services (Bermuda) Limited The Belvedere Building, 69 Pitts Bay Road, Pembroke, Bermuda, HM08
166	c/o Hackwood Secretaries Limited One Silk Street, London, United Kingdom, EC2Y 8HQ
167	All Saints Triangle, Caledonian Road, London, United Kingdom, N19UT
168	No.188, Yin Cheng Zhong Road China (Shanghai) Pilot Free Trade Zone, Shanghai, China
169	49/F, The Lee Gardens, 33 Hysan Avenue , Hong Kong
170	13 - 15 York Buildings , London, United Kingdom, WC2N 6JU
171	First Floor The Bower, 207 Old Street, England, United Kingdom, EC1V 9NR
172	Unit No. 208, 2nd Floor, Kanchenjunga Building 18 Barakhamba Road, New Delhi - 110001, India
173	65 Gresham Street, 6th Floor, London , United Kingdom, EC2V 7NQ
174	Kacyiru BP 3094, Kigali, Rwanda
175	LR No. 1758/13 Grevella Grove Road, Kalamu House PO Box 47323-00100, Nairobi, Kenya
176	Plot No. 89-90 Mbezi Industrial Area Box 347, Dar es Salaam City
177	3 avenue de l'Opera , PARIS, France, 75001
178	37 avenue Henri Lafleur , Nouméa, New Caledonia, BP K3 98849
179	Room 1303, 106 Feng Ze Dong Road, Nansha District, Guangzhou, Guangdong, China
180	Flat 209 Hedge Fund Centre of Qianhai Shenzhen-Hong Kong Fund Town, No. 128 Guiwan Five Road, Qianhai Shenzhen-Hong Kong Cooperation Zone, Shenzhen, China
181	17F, HSBC Building, Shanghai ifc 8 Century Avenue, Pudong, Shanghai, China
182	C T Corporation System 1200 South Pine Island Road, Plantation, Florida, United States Of America, 33324
183	c/o Trident Trust Company Trident Chambers, PO Box 146, Tortola, British Virgin Islands
184	Precinct Building 4, Level 3 Dubai International Financial Centre, Dubai, United Arab Emirates, PO BOX 506553
185	833 Three Bentall Centre 595 Burrard Street, Vancouver, British Columbia, Canada, V7X 1C4
186	Jayla Place Wickhams Cay I, PO Box 3190, Road Town, British Virgin Islands
187	75 Park Lane, Croydon, Surrey, United Kingdom, CR9 1XS
188	32, rue du Champ de Tir , NANTES, France, 44300
189	Ernst-Schneider-Platz 1 , Duesseldorf, Germany, 40212
190	Al Amir Abdulaziz Ibn Mossaad Ibn Jalawi Street, Riyadh, Saudi Arabia
191	Office Block A, Bay Studios Business Park, Fabian Way, Swansea, SA1 8QB, Wales, United Kingdom
192	10 Earlsfort Terrace, Dublin, Ireland, D02 T380

38 Non-statutory accounts

The information set out in these accounts does not constitute the Company's statutory accounts for the years ended 31 December 2019 or 2018. Those accounts have been reported on by the Company's auditors: their reports were unqualified and did not contain a statement under Section 498(2) or (3) of the Companies Act 2006. The accounts for 2018 have been delivered to the Registrar of Companies and those for 2019 will be delivered in due course.

Shareholder information

A glossary of terms used in this Form 20-F can be found in the Investors section of www.hsbc.com.

Fourth interim dividend for 2019

The Directors have declared a fourth interim dividend for 2019 of $0.21 per ordinary share. Information on the scrip dividend scheme and currencies in which shareholders may elect to have the cash dividend paid will be sent to shareholders on or about 11 March 2020. The timetable for the dividend is:

	Footnotes	
Announcement		**18 February 2020**
Shares quoted ex-dividend in London, Hong Kong, Paris and Bermuda and American Depositary Shares ('ADS') quoted ex-dividend in New York		**27 February 2020**
Record date – London, Hong Kong, New York, Paris, Bermuda	1	**28 February 2020**
Mailing of *Annual Report and Accounts 2019* and/or *Strategic Report 2019* and dividend documentation		**11 March 2020**
Final date for receipt by registrars of forms of election, Investor Centre electronic instructions and revocations of standing instructions for scrip dividends		**26 March 2020**
Exchange rate determined for payment of dividends in sterling and Hong Kong dollars		**30 March 2020**
Payment date: dividend warrants, new share certificates or transaction advices and notional tax vouchers mailed and shares credited to stock accounts in CREST		**14 April 2020**

1 *Removals to and from the Overseas Branch register of shareholders in Hong Kong will not be permitted on this date.*

Interim dividends for 2020

The Board has adopted a policy of paying quarterly interim dividends on ordinary shares. Under this policy it is intended to have a pattern of three equal interim dividends with a variable fourth interim dividend. It is envisaged that the first interim dividend in respect of 2020 will be $0.10 per ordinary share.

Dividends are declared in US dollars and, at the election of the shareholder, paid in cash in one of, or in a combination of, US dollars, pounds sterling and Hong Kong dollars, or, subject to the Board's determination that a scrip dividend is to be offered in respect of that dividend, may be satisfied in whole or in part by the issue of new shares in lieu of a cash dividend.

Other equity instruments

Additional tier 1 capital – contingent convertible securities

HSBC continues to issue contingent convertible securities that are included in its capital base as fully CRD IV-compliant additional tier 1 capital securities on an end point basis. For further details on these securities, please refer to Note 31 to the financial statements.

In 2019, HSBC did not issue contingent convertible securities.

2019 Annual General Meeting

All resolutions considered at the 2019 Annual General Meeting held at 11.00am on 12 April 2019 at the International Convention Centre, 8 Centenary Square, Birmingham B1 2EA were passed on a poll.

Earnings releases and interim results

Earnings releases are expected to be issued on or around 28 April 2020 and 27 October 2020. The interim results for the six months to 30 June 2020 are expected to be issued on 3 August 2020.

Shareholder enquiries and communications

Enquiries

Any enquiries relating to shareholdings on the share register (for example, transfers of shares, changes of name or address, lost share certificates or dividend cheques) should be sent to the Registrars at the address given below. The Registrars offer an online facility, Investor Centre, which enables shareholders to manage their shareholding electronically.

Principal Register:

Computershare Investor Services PLC
The Pavilions
Bridgwater Road
Bristol BS99 6ZZ
United Kingdom
Telephone: +44 (0) 370 702 0137
Email via website:
www.investorcentre.co.uk/contactus

Investor Centre:
www.investorcentre.co.uk

Hong Kong Overseas Branch Register:

Computershare Hong Kong Investor
Services Limited
Rooms 1712-1716, 17th Floor
Hopewell Centre
183 Queen's Road East
Hong Kong
Telephone: +852 2862 8555
Email: hsbc.ecom@computershare.com.hk

Investor Centre:
www.investorcentre.com/hk

Bermuda Overseas Branch Register:

Investor Relations Team
HSBC Bank Bermuda Limited
37 Front Street
Hamilton HM 11
Bermuda
Telephone: +1 441 299 6737
Email: hbbm.shareholder.services@hsbc.bm

Investor Centre:
www.investorcentre.com/bm

Any enquiries relating to ADSs should be sent to the depositary:

The Bank of New York Mellon
Shareowner Services
PO Box 505000
Louisville, KY 40233-5000
USA
Telephone (US): +1 877 283 5786
Telephone (International): +1 201 680 6825
Email: shrrelations@cpushareownerservices.com
Website: www.mybnymdr.com

Any enquiries relating to shares held through Euroclear France, the settlement and central depositary system for NYSE Euronext Paris, should be sent to the paying agent:

CACEIS Corporate Trust
14, rue Rouget de Lisle
92130 Issy-Les-Moulineaux
France
Telephone: +33 1 57 78 34 28
Email: ct-service-ost@caceis.com
Website: www.caceis.com

If you have elected to receive general shareholder communications directly from HSBC Holdings, it is important to remember that your main contact for all matters relating to your investment remains the registered shareholder, or custodian or broker, who administers the investment on your behalf. Therefore, any changes or queries relating to your personal details and holding (including any administration of it) must continue to be directed to your existing contact at your investment manager or custodian or broker. HSBC Holdings cannot guarantee dealing with matters directed to it in error.

Shareholders who wish to receive a hard copy of this *Annual Report and Accounts 2019* should contact HSBC's Registrars. Please visit www.hsbc.com/investors/investor-contacts for further information. You can also download an online version of the report from www.hsbc.com.

Electronic communications

Shareholders may at any time choose to receive corporate communications in printed form or to receive notifications of their availability on HSBC's website. To receive notifications of the availability of a corporate communication on HSBC's website by email, or revoke or amend an instruction to receive such notifications by email, go to www.hsbc.com/investors/shareholder-information/manage-your-shareholding. If you provide an email address to receive electronic communications from HSBC, we will also send notifications of your dividend entitlements by email. If you received a notification of the availability of this document on HSBC's website and would like to receive a printed copy, or if you would like to receive future corporate communications in printed form, please write or send an email (quoting your shareholder reference number) to the appropriate Registrars at the address given above. Printed copies will be provided without charge.

Chinese translation

A Chinese translation of this *Annual Report and Accounts 2019* will be available upon request after 11 March 2020 from the Registrars:

Computershare Hong Kong Investor Services Limited	Computershare Investor Services PLC
Rooms 1712-1716, 17th Floor	The Pavilions
Hopewell Centre	Bridgwater Road
183 Queen's Road East	Bristol BS99 6ZZ
Hong Kong	United Kingdom

Please also contact the Registrars if you wish to receive Chinese translations of future documents, or if you have received a Chinese translation of this document and do not wish to receive them in future.

《2019年報及賬目》備有中譯本，各界人士可於2020年3月11日之後，向上列股份登記處索閱。

閣下如欲於日後收取相關文件的中譯本，或已收到本文件的中譯本但不希望繼續收取有關譯本，均請聯絡股份登記處。

Stock symbols

HSBC Holdings ordinary shares trade under the following stock symbols:

London Stock Exchange	HSBA*	Euronext Paris	HSB
Hong Kong Stock Exchange	5	Bermuda Stock Exchange	HSBC.BH
New York Stock Exchange (ADS)	HSBC		

**HSBC's Primary market*

Investor relations

Enquiries relating to HSBC's strategy or operations may be directed to:

Richard O'Connor, Global Head of Investor Relations	Mark Phin, Head of Investor Relations, Asia-Pacific
HSBC Holdings plc	The Hongkong and Shanghai Banking Corporation Limited
8 Canada Square	1 Queen's Road Central
London E14 5HQ	Hong Kong
United Kingdom	Telephone: 852 2822 4908
Telephone: +44 (0) 20 7991 6590	Email: investorrelations@hsbc.com.hk
Email: investorrelations@hsbc.com	

Where more information about HSBC is available

This *Annual Report and Accounts 2019* and other information on HSBC may be downloaded from HSBC's website: www.hsbc.com. Reports, statements and information that HSBC Holdings files with the Securities and Exchange Commission are available at www.sec.gov. Investors can also request hard copies of these documents upon payment of a duplicating fee by writing to the SEC at the Office of Investor Education and Advocacy, 100 F Street N.E., Washington, DC 20549-0213 or by emailing PublicInfo@sec.gov. Investors should call the Commission at (1) 202 551 8090 if they require further assistance. Investors may also obtain the reports and other information that HSBC Holdings files at www.nyse.com (telephone number (1) 212 656 3000).

HM Treasury has transposed the requirements set out under CRD IV and issued the Capital Requirements Country-by-Country Reporting Regulations 2013. The legislation requires HSBC Holdings to publish additional information in respect of the year ended 31 December 2019 by 31 December 2020. This information will be available on HSBC's website: www.hsbc.com/tax.

Taxation of shares and dividends

Taxation – UK residents

The following is a summary, under current law and the current published practice of HM Revenue and Customs ('HMRC'), of certain UK tax considerations that are likely to be material to the ownership and disposition of HSBC Holdings ordinary shares. The summary does not purport to be a comprehensive description of all the tax considerations that may be relevant to a holder of shares. In particular, the summary deals with shareholders who are resident solely in the UK for UK tax purposes and only with holders who hold the shares as investments and who are the beneficial owners of the shares, and does not address the tax treatment of certain classes of holders such as dealers in securities. Holders and prospective purchasers should consult their own advisers regarding the tax consequences of an investment in shares in light of their particular circumstances, including the effect of any national, state or local laws.

Taxation of dividends

Currently, no tax is withheld from dividends paid by HSBC Holdings.

UK resident individuals

UK resident individuals are generally entitled to a tax-free annual allowance in respect of dividends received. The amount of the allowance for the tax year beginning 6 April 2019 is £2,000. To the extent that dividend income received by an individual in the relevant tax year does not exceed the allowance, a nil tax rate will apply. Dividend income in excess of this allowance will be taxed at 7.5% for basic rate taxpayers, 32.5% for higher rate taxpayers and 38.1% for additional rate taxpayers.

UK resident companies

Shareholders that are within the charge to UK corporation tax should generally be entitled to an exemption from UK corporation tax on any dividends received from HSBC Holdings. However, the exemptions are not comprehensive and are subject to anti-avoidance rules.

If the conditions for exemption are not met or cease to be satisfied, or a shareholder within the charge to UK corporation tax elects for an otherwise exempt dividend to be taxable, the shareholder will be subject to UK corporation tax on dividends received from HSBC Holdings at the rate of corporation tax applicable to that shareholder.

Scrip dividends

Information on the taxation consequences of the HSBC Holdings scrip dividends offered in lieu of the 2018 fourth interim dividend and the first, second and third interim dividends for 2019 was set out in the Secretary's letters to shareholders of 6 March, 30 May, 28 August and 23 October 2019. In no case was the difference between the cash dividend forgone and the market value of the scrip dividend in excess of 15% of the market value. Accordingly, for individual shareholders, the amount of the dividend income chargeable to tax, and the acquisition price of the HSBC Holdings ordinary shares for UK capital gains tax purposes, was the cash dividend forgone.

Taxation of capital gains

The computation of the capital gains tax liability arising on disposals of shares in HSBC Holdings by shareholders subject to UK tax on capital gains can be complex, partly depending on whether, for example, the shares were purchased since April 1991, acquired in 1991 in exchange for shares in The Hongkong and Shanghai Banking Corporation Limited, or acquired subsequent to 1991 in exchange for shares in other companies.

For capital gains tax purposes, the acquisition cost for ordinary shares is adjusted to take account of subsequent rights and capitalisation issues. Any capital gain arising on a disposal of shares in HSBC Holdings by a UK company may also be adjusted to take account of indexation allowance if the shares were acquired before 1 January 2018, although the level of indexation allowance that is given in calculating the gain would be frozen at the value that would apply to the disposal of assets acquired on or after 1 January 2018. If in doubt, shareholders are recommended to consult their professional advisers.

Stamp duty and stamp duty reserve tax

Transfers of shares by a written instrument of transfer generally will be subject to UK stamp duty at the rate of 0.5% of the consideration paid for the transfer (rounded up to the next £5), and such stamp duty is generally payable by the transferee. An agreement to transfer shares, or any interest therein, normally will give rise to a charge to stamp duty reserve tax at the rate of 0.5% of the consideration. However, provided an instrument of transfer of the shares is executed pursuant to the agreement and duly stamped before the date on which the stamp duty reserve tax becomes payable, under the current published practice of HMRC it will not be necessary to pay the stamp duty reserve tax, nor to apply for such tax to be cancelled. Stamp duty reserve tax is generally payable by the transferee.

Paperless transfers of shares within CREST, the UK's paperless share transfer system, are liable to stamp duty reserve tax at the rate of 0.5% of the consideration. In CREST transactions, the tax is calculated and payment made automatically. Deposits of shares into CREST generally will not be subject to stamp duty reserve tax, unless the transfer into CREST is itself for consideration. Following the case HSBC pursued before the European Court of Justice (Case C-569/07 HSBC Holdings plc and Vidacos Nominees Ltd v The Commissioners for HM Revenue & Customs) and a subsequent case in relation to depositary receipts, HMRC accepts that the charge to stamp duty reserve tax at 1.5% on the issue of shares (and transfers integral to capital raising) to a depositary receipt issuer or a clearance service is incompatible with European Union law, and will not be imposed.

It is anticipated that following the UK's departure from the European Union, the UK government will continue its policy of not charging a 1.5% stamp duty and stamp duty reserve tax on issues of shares to overseas clearance services and depositary receipt issuers, but no assurance can be given that this will be the case.

Taxation – US residents

The following is a summary, under current law, of the principal UK tax and US federal income tax considerations that are likely to be material to the ownership and disposition of shares or American Depositary Shares ('ADSs') by a holder that is a US holder, as defined below, and who is not resident in the UK for UK tax purposes.

The summary does not purport to be a comprehensive description of all of the tax considerations that may be relevant to a holder of shares or ADSs. In particular, the summary deals only with US holders that hold shares or ADSs as capital assets, and does not address the tax treatment of holders that are subject to special tax rules. These include banks, tax-exempt entities, insurance companies, dealers in securities or currencies, persons that hold shares or ADSs as part of an integrated investment (including a 'straddle' or 'hedge') comprised of a share or ADS and one or more other positions, and persons that own directly or indirectly 10% or more (by vote or value) of the stock of HSBC Holdings. This discussion is based on laws, treaties, judicial decisions and regulatory interpretations in effect on the date hereof, all of which are subject to change.

For the purposes of this discussion, a 'US holder' is a beneficial holder that is a citizen or resident of the United States, a US domestic corporation or otherwise is subject to US federal income taxes on a net income basis in respect thereof.

Holders and prospective purchasers should consult their own advisers regarding the tax consequences of an investment in shares or ADSs in light of their particular circumstances, including the effect of any national, state or local laws.

Any US federal tax advice included in this *Annual Report and Accounts 2019* is for informational purposes only. It was not intended or written to be used, and cannot be used, for the purpose of avoiding US federal tax penalties.

Taxation of dividends

Currently, no tax is withheld from dividends paid by HSBC Holdings. For US tax purposes, a US holder must include cash dividends paid on the shares or ADSs in ordinary income on the date that such holder or the ADS depositary receives them, translating dividends paid in UK pounds sterling into US dollars using the exchange rate in effect on the date of receipt. A US holder that elects to receive shares in lieu of a cash dividend must include in ordinary income the fair market value of such shares on the dividend payment date, and the tax basis of those shares will equal such fair market value.

Subject to certain exceptions for positions that are held for less than 61 days, and subject to a foreign corporation being considered a 'qualified foreign corporation' (which includes not being classified for US federal income tax purposes as a passive foreign investment company), certain dividends ('qualified dividends') received by an individual US holder generally will be subject to US taxation at preferential rates. Based on the company's audited financial statements and relevant market and shareholder data, HSBC Holdings was not and does not anticipate being classified as a passive foreign investment company. Accordingly, dividends paid on the shares or ADSs generally should be treated as qualified dividends.

Taxation of capital gains

Gains realised by a US holder on the sale or other disposition of shares or ADSs normally will not be subject to UK taxation unless at the time of the sale or other disposition the holder carries on a trade, profession or vocation in the UK through a branch or agency or permanent establishment and the shares or ADSs are or have been used, held or acquired for the purposes of such trade, profession, vocation, branch or agency or permanent establishment. Such gains will be included in income for US tax purposes, and will be long-term capital gains if the shares or ADSs were held for more than one year. A long-term capital gain realised by an individual US holder generally will be subject to US tax at preferential rates.

Inheritance tax

Shares or ADSs held by an individual whose domicile is determined to be the US for the purposes of the United States – United Kingdom Double Taxation Convention relating to estate and gift taxes (the 'Estate Tax Treaty') and who is not for such purposes a national of the UK will not, provided any US federal estate or gift tax chargeable has been paid, be subject to UK inheritance tax on the individual's death or on a lifetime transfer of shares or ADSs except in certain cases where the shares or ADSs (i) are comprised in a settlement (unless, at the time of the settlement, the settlor was domiciled in the US and was not a national of the UK), (ii) are part of the business property of a UK permanent establishment of an enterprise, or (iii) pertain to a UK fixed base of an individual used for the performance of independent personal services. In such cases, the Estate Tax Treaty generally provides a credit against US federal tax liability for the amount of any tax paid in the UK in a case where the shares or ADSs are subject to both UK inheritance tax and to US federal estate or gift tax.

Stamp duty and stamp duty reserve tax – ADSs

If shares are transferred to a clearance service or American Depositary Receipt ('ADR') issuer (which will include a transfer of shares to the depositary) under the current published HMRC practice, UK stamp duty and/or stamp duty reserve tax will be payable. The stamp duty or stamp duty reserve tax is generally payable on the consideration for the transfer and is payable at the aggregate rate of 1.5%.

The amount of stamp duty reserve tax payable on such a transfer will be reduced by any stamp duty paid in connection with the same transfer.

No stamp duty will be payable on the transfer of, or agreement to transfer, an ADS, provided that the ADR and any separate instrument of transfer or written agreement to transfer remain at all times outside the UK, and provided further that any such transfer or written agreement to transfer is not executed in the UK. No stamp duty reserve tax will be payable on a transfer of, or agreement to transfer, an ADS effected by the transfer of an ADR.

US backup withholding tax and information reporting

Distributions made on shares or ADSs and proceeds from the sale of shares or ADSs that are paid within the US, or through certain financial intermediaries to US holders, are subject to information reporting and may be subject to a US 'backup' withholding tax. General exceptions to this rule happen when the US holder: establishes that it is a corporation (other than an S corporation) or other exempt holder; or provides a correct taxpayer identification number, certifies that no loss of exemption from backup withholding has occurred and otherwise complies with the applicable requirements of the backup withholding rules. Holders that are not US taxpayers generally are not subject to information reporting or backup withholding tax, but may be required to comply with applicable certification procedures to establish that they are not US taxpayers in order to avoid the application of such information reporting requirements or backup withholding tax to payments received within the US or through certain financial intermediaries.

Information about the enforceability of judgments made in the US

HSBC Holdings is a public limited company incorporated in England and Wales. Most of the Directors and executive officers live outside the US. As a result, it may not be possible to serve process on such persons or HSBC Holdings in the US or to enforce judgments obtained in US courts against them or HSBC Holdings based on civil liability provisions of the securities laws of the US. There is doubt as to whether English courts would enforce:

- civil liabilities under US securities laws in original actions; or
- judgments of US courts based upon these civil liability provisions.

In addition, awards of punitive damages in actions brought in the US or elsewhere may be unenforceable in the UK. The enforceability of any judgment in the UK will depend on the particular facts of the case as well as the laws and treaties in effect at the time.

Exchange controls and other limitations affecting equity security holders

Other than certain economic sanctions that may be in force from time to time, there are currently no UK laws, decrees or regulations that would prevent the import or export of capital or remittance of distributable profits by way of dividends and other payments to holders of HSBC Holdings' equity securities who are not residents of the UK. There are also no restrictions under the laws of the UK or the terms of the Memorandum and Articles of Association concerning the right of non-resident or foreign owners to hold HSBC Holdings' equity securities or, when entitled to vote, to do so.

Dividends on the ordinary shares of HSBC Holdings

HSBC Holdings has paid dividends on its ordinary shares every year without interruption since it became the HSBC Group holding company by a scheme of arrangement in 1991. The dividends declared, per ordinary share, in respect of each of the last five years were:

		First interim	Second interim	Third interim	Fourth interim[1]	Total[2]
2019	$	**0.100**	**0.100**	**0.100**		
	£	**0.078**	**0.080**	**0.078**		
	HK$	**0.781**	**0.782**	**0.783**		
2018	$	0.100	0.100	0.100	0.210	0.510
	£	0.076	0.076	0.078	0.159	0.389
	HK$	0.785	0.785	0.783	1.648	4.000
2017	$	0.100	0.100	0.100	0.210	0.510
	£	0.079	0.076	0.076	0.148	0.379
	HK$	0.780	0.781	0.780	1.647	3.988
2016	$	0.100	0.100	0.100	0.210	0.510
	£	0.075	0.077	0.080	0.167	0.399
	HK$	0.776	0.776	0.776	1.631	3.959
2015	$	0.100	0.100	0.100	0.210	0.510
	£	0.064	0.064	0.066	0.148	0.342
	HK$	0.775	0.775	0.775	1.629	3.954

1 *The fourth interim dividends have been translated into pounds sterling and Hong Kong dollars at the closing rate on 31 December. The fourth interim dividend for 2019 of $0.21 per ordinary share will be paid on 14 April 2020.*
2 *The above dividends declared are accounted for as disclosed in Note 9 on the Financial Statements.*

American Depositary Shares

A holder of HSBC Holdings' American Depositary Shares ('ADSs') may have to pay, either directly or indirectly (via the intermediary through whom their ADSs are held) fees to the Bank of New York Mellon as depositary. Fees may be paid or recovered in several ways: by deduction from amounts distributed; by selling a portion of distributable property; by deduction from dividend distributions; by directly invoicing the holder; or by charging the intermediaries who act for them. Fees for the holders of the HSBC ADSs include:

For:	HSBC ADS holders must pay:
Each issuance of HSBC ADSs, including as a result of a distribution of shares (including through a stock dividend, stock split or distribution of rights or other property)	$5.00 (or less) per 100 HSBC ADSs or portion thereof
Each cancellation of HSBC ADSs, including if the deposit agreement terminates	$5.00 (or less) per 100 HSBC ADSs or portion thereof
Transfer and registration of shares on our share register to/from the holder's name to/from the name of The Bank of New York Mellon or its agent when the holder deposits or withdraws shares	Registration or transfer fees (of which there currently are none)
Conversion of non-US currency to US dollars	Charges and expenses incurred by The Bank of New York Mellon with respect to the conversion
Each cash distribution to HSBC ADS holders	$0.02 or less per ADS
Transfers of HSBC ordinary shares to the depositary in exchange for HSBC ADSs	Any applicable taxes and/or other governmental charges
Distribution of securities by the depository to HSBC ADS holders	A fee equivalent to the fee that would be payable if securities distributed to you had been shares and those shares had been deposited for issuance of ADSs
Any other charges incurred by the depositary or its agents for servicing shares or other securities deposited	As applicable

The depositary may generally refuse to provide fee-attracting services until its fees for those services are paid.

The depositary has agreed to reimburse us for expenses we incur, and to pay certain out-of-pocket expenses and waive certain fees, in connection with the administration, servicing and maintenance of our ADS programme. There are limits on the amount of expenses for which the depositary will reimburse us. During the year ended 31 December 2019, the depositary reimbursed, paid and/or waived fees and expenses totalling $152,790 in connection with the administration, servicing and maintenance of the programme.

Nature of trading market

HSBC Holdings ordinary shares are listed or admitted to trading on the London Stock Exchange ('LSE'), the Hong Kong Stock Exchange ('HKSE'), Euronext Paris, the Bermuda Stock Exchange, and on the New York Stock Exchange ('NYSE') in the form of ADSs. HSBC Holdings maintains its principal share register in England and overseas branch share registers in Hong Kong and Bermuda (collectively, the 'share register').

As at 31 December 2019, there were a total of 197,392 holders of record of HSBC Holdings ordinary shares on the share register.

As at 31 December 2019, a total of 19,826,197 of the HSBC Holdings ordinary shares were registered in the HSBC Holdings' share register in the name of 14,144 holders of record with addresses in the US. These shares represented 0.10% of the total HSBC Holdings ordinary shares in issue.

As at 31 December 2019, there were 5,577 holders of record of ADSs holding approximately 150.4m ADSs, representing approximately 751.8m HSBC Holdings ordinary shares, 5,477 of these holders had addresses in the US, holding approximately 150.3m ADSs, representing 751.7m HSBC Holdings ordinary shares. At 31 December 2019, approximately 3.64% of the HSBC Holdings ordinary shares were represented by ADSs held by holders of record with addresses in the US.

Memorandum and Articles of Association

The disclosure under the caption 'Memorandum and Articles of Association' contained in Form 20-F for the years ended 31 December 2000, 2001, 2014 and 2018 is incorporated by reference herein.

Differences in HSBC Holdings/New York Stock Exchange corporate governance practices

Under the NYSE's corporate governance rules for listed companies and the applicable rules of the SEC, as a NYSE-listed foreign private issuer, HSBC Holdings must disclose any significant ways in which its corporate governance practices differ from those followed by US companies subject to NYSE listing standards. HSBC Holdings believes the following to be the significant differences between its corporate governance practices and NYSE corporate governance rules applicable to US companies.

US companies listed on the NYSE are required to adopt and disclose corporate governance guidelines. The Listing Rules of the

FCA require each listed company incorporated in the UK to include in its annual report and accounts a statement of how it has applied the principles of The UK Corporate Governance Code issued by the Financial Reporting Council and a statement as to whether or not it has complied with the code provisions of The UK Corporate Governance Code throughout the accounting period covered by the annual report and accounts. A company that has not complied with the code provisions, or complied with only some of the code provisions or (in the case of provisions whose requirements are of a continuing nature) complied for only part of an accounting period covered by the report, must specify the code provisions with which it has not complied, and (where relevant) for which part of the reporting period such non-compliance continued, and give reasons for any non-compliance. As stated above, HSBC Holdings complied throughout 2019 with the applicable code provisions of The UK Corporate Governance Code. The UK Corporate Governance Code does not require HSBC Holdings to disclose the full range of corporate governance guidelines with which it complies.

Under NYSE standards, companies are required to have a nominating/corporate governance committee composed entirely of directors determined to be independent in accordance with the NYSE's corporate governance rules. All of the members of the Nomination Committee during 2019 were independent non-executive Directors, as determined in accordance with the UK Corporate Governance Code. The terms of reference of our Nomination Committee, which comply with the UK Corporate Governance Code, require a majority of members to be independent non-executive Directors. In addition to identifying individuals qualified to become Board members, a nominating/corporate governance committee must develop and recommend to the Board a set of corporate governance principles. The Nomination Committee's terms of reference do not require it to develop and recommend corporate governance principles for HSBC Holdings, as HSBC Holdings is subject to the corporate governance principles of The UK Corporate Governance Code. The Board of Directors is responsible under its terms of reference for the development and review of Group policies and practices on corporate governance.

Under the NYSE standards, companies are required to have a compensation committee composed entirely of directors determined to be independent in accordance with the NYSE's corporate governance rules. All of the members of the Group Remuneration Committee during 2019 were independent non-executive Directors, as determined in accordance with the UK Corporate Governance Code. The terms of reference of our Group Remuneration Committee, which comply with the UK Corporate Governance Code, require at least three members to be independent non-executive Directors. A compensation committee must review and approve corporate goals and objectives relevant to chief executive officer compensation and evaluate a chief executive officer's performance in light of these goals and objectives. The Group Remuneration Committee's terms of reference require it to review and approve performance-based remuneration of the executive Directors by reference to corporate goals and objectives that are set by the Board of Directors.

Pursuant to NYSE listing standards, non-management directors must meet on a regular basis without management present and independent directors must meet separately at least once per year.

The Group Chairman meets with the independent non-executive Directors without the executive Directors in attendance after each Board meeting and otherwise, as necessary. HSBC Holdings' practice, in this regard, complies with The UK Corporate Governance Code.

In accordance with the requirements of The UK Corporate Governance Code, HSBC Holdings discloses in its Annual Report and Accounts how the Board, its committees and the Directors are evaluated (on page 255) and provides extensive information regarding Directors' compensation in the Directors' remuneration report (on page 220). The terms of reference of HSBC Holdings' Group Audit, Group Nomination, Group Remuneration and Group Risk Committees are available at www.hsbc.com/our-approach/corporate-governance/board-committees.

NYSE listing standards require US companies to adopt a code of business conduct and ethics for directors, officers and employees, and promptly disclose any waivers of the code for directors or executive officers.

In 2009, the Board endorsed three HSBC Values statements underpinned by the continued use of our Business Principles, in replacement of the Group Business Principles and Values. In addition to the HSBC Values statements and Business Principles (and previously the Group Business Principles and Values), which apply to the employees of all our companies, pursuant to the requirements of the Sarbanes-Oxley Act the Board of HSBC Holdings has adopted a code of ethics applicable to the Group Chairman and the Group Chief Executive, as the principal executive officers, and to the Group Chief Financial Officer and Group Chief Accounting Officer. HSBC Holdings' code of ethics is available on www.hsbc.com/our-approach/corporate-governance/corporate-governance-codes/obligations-of-senior-financial-officers or from the Group Company Secretary and Chief Governance Officer at 8 Canada Square, London E14 5HQ. If the Board amends or waives the provisions of the Code of Ethics, details of the amendment or waiver will appear at the same website address. During 2019, HSBC Holdings made no amendments to its code of ethics and granted no waivers from its provisions. The references to the standards to be followed by all employees reflect the Board's endorsement of HSBC Values statements underpinned by the continued use of our Business Principles. The HSBC Values statements and Business Principles are available on www.hsbc.com/our-approach/our-values.

Under NYSE listing rules applicable to US companies, independent directors must comprise a majority of the board of directors. Currently, more than three-quarters of HSBC Holdings' Directors are independent.

Under The UK Corporate Governance Code, the HSBC Holdings Board determines whether a Director is independent in character and judgement and whether there are relationships or circumstances that are likely to affect, or could appear to affect, the Director's judgement. Under the NYSE rules, a director cannot qualify as independent unless the board affirmatively determines that the director has no material relationship with the listed company; in addition, the NYSE rules prescribe a list of circumstances in which a director cannot be independent. The UK Corporate Governance Code requires a company's board to assess director independence by affirmatively concluding that the director is independent of management and free from any business or other relationship that could materially interfere with the exercise of independent judgement. Lastly, a chief executive officer of a US company listed on the NYSE must annually certify that he or she is not aware of any violation by the company of NYSE corporate governance standards. In accordance with NYSE listing rules applicable to foreign private issuers, HSBC Holdings' Group Chief Executive is not required to provide the NYSE with this annual compliance certification. However, in accordance with rules applicable to both US companies and foreign private issuers, the Group Chief Executive is required promptly to notify the NYSE in writing after any executive officer becomes aware of any material non-compliance with the NYSE corporate governance standards applicable to HSBC Holdings.

HSBC Holdings is required to submit annual and interim written affirmations of compliance with applicable NYSE corporate governance standards, similar to the affirmations required of NYSE-listed US companies.

Glossary of accounting terms and US equivalents

Accounting term	US equivalent or brief description
Accounts	Financial Statements
Articles of Association	Articles of incorporation
Called up share capital	Shares issued and fully paid
Creditors	Payables
Debtors	Receivables
Deferred tax	Deferred income tax
Finance lease	Capital lease
Freehold	Ownership with absolute rights in perpetuity
Interests in associates and joint ventures	Interests in entities over which we have significant influence or joint control, which are accounted for using the equity method
Loans and advances	Loans
Loan capital	Long-term debt
Nominal value	Par value
One-off	Non-recurring
Ordinary shares	Common stock
Overdraft	A line of credit, contractually repayable on demand unless a fixed-term has been agreed, established through a customer's current account
Preference shares	Preferred stock
Premises	Property
Provisions	Liabilities of uncertain timing or amount
Share premium account	Additional paid-in capital
Shares in issue	Shares outstanding
Write-offs	Charge-offs

Reconciliations

Abbreviations

Currencies

£	British pound sterling
CA$	Canadian dollar
€	Euro
HK$	Hong Kong dollar
MXN	Mexican peso
RMB	Chinese renminbi
SGD	Singapore dollar
$	United States dollar

A

ABS[1]	Asset-backed security
ADR	American Depositary Receipt
ADS	American Depositary Share
AFS	Available for sale
AGM	Annual General Meeting
AI	Artificial intelligence
AIEA	Average interest-earning assets
ALCM	Asset, Liability and Capital Management
ALCO	Asset and Liability Management Committee
AML	Anti-money laundering
AML DPA	Five-year deferred prosecution agreement with the US Department of Justice, entered into in December 2012
ASEAN	Association of Southeast Asian Nations
AT1	Additional tier 1

B

Basel	Basel Committee on Banking Supervision
Basel II[1]	2006 Basel Capital Accord
Basel III[1]	Basel Committee's reforms to strengthen global capital and liquidity rules
BIS	Bank for International Settlements
BoCom	Bank of Communications Co., Limited, one of China's largest banks
BoE	Bank of England
Bps[1]	Basis points. One basis point is equal to one-hundredth of a percentage point
BSA	Bank Secrecy Act (US)
BSM	Balance Sheet Management
BVI	British Virgin Islands

C

C&L	Credit and Lending
CAPM	Capital asset pricing model
CCAR	Federal Reserve Comprehensive Capital Analysis and Review
CDOs	Collateralised debt obligations
CDS[1]	Credit default swap
CEA	Commodity Exchange Act (US)
CET1[1]	Common equity tier 1
CGUs	Cash-generating units
CMB	Commercial Banking, a global business
CMC	Capital maintenance charge
CML[1]	Consumer and Mortgage Lending (US)
CODM	Chief Operating Decision Maker
COSO	2013 Committee of the Sponsors of the Treadway Commission (US)
CP[1]	Commercial paper
CRD IV[1]	Capital Requirements Regulation and Directive
CRR[1]	Customer risk rating
CRR II[1]	Revised Capital Requirements Regulation and Directive, as implemented
CSA	Credit support annex
CVA[1]	Credit valuation adjustment

D

Deferred Shares	Awards of deferred shares define the number of HSBC Holdings ordinary shares to which the employee will become entitled, generally between one and seven years from the date of the award, and normally subject to the individual remaining in employment
Dodd-Frank	Dodd-Frank Wall Street Reform and Consumer Protection Act (US)
DoJ	US Department of Justice
DPD	Days past due
DPF	Discretionary participation feature of insurance and investment contracts
DVA[1]	Debt valuation adjustment

E

EAD[1]	Exposure at default
EC	European Commission
ECB	European Central Bank
ECL	Expected credit losses. In the income statement, ECL is recorded as a change in expected credit losses and other credit impairment charges. In the balance sheet, ECL is recorded as an allowance for financial instruments to which only the impairment requirements in IFRS 9 are applied
EEA	European Economic Area
Eonia	Euro Overnight Index Average
ESG	Environmental, social and governance
€STER	Euro short-term rate
EU	European Union
Euribor	Euro interbank offered rate
EVE	Economic value of equity

F

FCA	Financial Conduct Authority (UK)
FFVA	Funding fair value adjustment estimation methodology on derivative contracts
FPA	Fixed pay allowance
FRB	Federal Reserve Board (US)
FRC	Financial Reporting Council
FSB	Financial Stability Board
FSCS	Financial Services Compensation Scheme
FSVC	Financial System Vulnerabilities Committee
FTE	Full-time equivalent staff
FTSE	Financial Times – Stock Exchange index
FuM	Funds under management
FVOCI[1]	Fair value through other comprehensive income
FVPL[1]	Fair value through profit or loss
FX DPA	Three-year deferred prosecution agreement with the US Department of Justice, entered into in January 2018

G

GAAP	Generally accepted accounting principles
GAC	Group Audit Committee
GB&M	Global Banking and Markets, a global business
GDP	Gross domestic product
GDPR	General Data Protection Regulation
GLCM	Global Liquidity and Cash Management
Global Markets	HSBC's capital markets services in Global Banking and Markets
GMB	Group Management Board
GMP	Guaranteed minimum pension
GPB	Global Private Banking, a global business
GPSP	Group Performance Share Plan
GRC	Group Risk Committee
Group	HSBC Holdings together with its subsidiary undertakings
GTRF	Global Trade and Receivables Finance

H

Hang Seng Bank	Hang Seng Bank Limited, one of Hong Kong's largest banks
HKEx	The Stock Exchange of Hong Kong Limited
HKMA	Hong Kong Monetary Authority
HMRC	HM Revenue and Customs
HNAH	HSBC North America Holdings Inc.
Holdings ALCO	HSBC Holdings Asset and Liability Management Committee
Hong Kong	Hong Kong Special Administrative Region of the People's Republic of China
HQLA	High-quality liquid assets
HSBC	HSBC Holdings together with its subsidiary undertakings
HSBC Bank	HSBC Bank plc, also known as the non-ring-fenced bank

HSBC Bank Middle East	HSBC Bank Middle East Limited
HSBC Bank USA	HSBC Bank USA, N.A., HSBC's retail bank in the US
HSBC Canada	The sub-group, HSBC Bank Canada, HSBC Trust Company Canada, HSBC Mortgage Corporation Canada and HSBC Securities Canada, consolidated for liquidity purposes
HSBC Colombia	HSBC Bank (Colombia) S.A.
HSBC Finance	HSBC Finance Corporation, the US consumer finance company (formerly Household International, Inc.)
HSBC France	HSBC's French banking subsidiary, formerly CCF S.A.
HSBC Holdings	HSBC Holdings plc, the parent company of HSBC
HSBC Private Bank (Suisse)	HSBC Private Bank (Suisse) SA, HSBC's private bank in Switzerland
HSBC UK	HSBC UK Bank plc, also known as the ring-fenced bank
HSBC USA	The sub-group, HSBC USA Inc (the holding company of HSBC Bank USA) and HSBC Bank USA, consolidated for liquidity purposes
HSI	HSBC Securities (USA) Inc.
HSSL	HSBC Securities Services (Luxembourg)
HTIE	HSBC International Trust Services (Ireland) Limited
HTM	Held to maturity
I	
IAS	International Accounting Standards
IASB	International Accounting Standards Board
Ibor	Interbank offered rate
ICAAP	Internal capital adequacy assessment process
IFRSs	International Financial Reporting Standards
ILAAP	Individual liquidity adequacy assessment process
IRB[1]	Internal ratings-based
ISDA	International Swaps and Derivatives Association
J	
Jaws	Adjusted jaws measures the difference between the rates of change in adjusted revenue and adjusted operating expenses
K	
KMP	Key Management Personnel
L	
LCR	Liquidity coverage ratio
LFRF	Liquidity and funding risk management framework
LGBT+	Lesbian, gay, bisexual and transgender. The plus sign denotes other non-mainstream groups on the spectrums of sexual orientation and gender identity
LGD[1]	Loss given default
Libor	London interbank offered rate
LICs	Loan impairment charges and other credit risk provisions
LMA	Loan Markets Association
LTI	Long-term incentive
LTV[1]	Loan-to-value ratio
M	
Mainland China	People's Republic of China excluding Hong Kong
Malachite	Malachite Funding Limited, a term-funding vehicle
Mazarin	Mazarin Funding Limited, an asset-backed CP conduit
MBS	US mortgage-backed security
MENA	Middle East and North Africa
MOCs	Model Oversight Committees
Monoline	Monoline insurance company
MREL	Minimum requirement for own funds and eligible liabilities
MRT[1]	Material Risk Taker
N	
Net operating income	Net operating income before change in expected credit losses and other credit impairment charges/Loan impairment charges and other credit provisions, also referred to as revenue
NII	Net interest income
NIM	Net interest margin
NSFR	Net stable funding ratio
NYSE	New York Stock Exchange
O	
OCC	Office of the Comptroller of the Currency (US)
OCI	Other comprehensive income
OECD	Organisation of Economic Co-operation and Development
OFAC	Office of Foreign Assets Control
OTC[1]	Over-the-counter
P	
PBT	Profit before tax
PD[1]	Probability of default
Performance shares[1]	Awards of HSBC Holdings ordinary shares under employee share plans that are subject to corporate performance conditions
Ping An	Ping An Insurance (Group) Company of China, Ltd, the second-largest life insurer in the PRC
PIT	Point-in-time
POCI	Purchased or originated credit-impaired financial assets
PPI	Payment protection insurance
PRA	Prudential Regulation Authority (UK)
PRC	People's Republic of China
Principal plan	HSBC Bank (UK) Pension Scheme
PVIF	Present value of in-force long-term insurance business and long-term investment contracts with DPF
PwC	The member firms of the PwC network, including PricewaterhouseCoopers LLP
R	
RAS	Risk appetite statement
RBWM	Retail Banking and Wealth Management, a global business
Repo[1]	Sale and repurchase transaction
Reverse repo	Security purchased under commitments to sell
RFB	Ring-fenced bank
RFR	Risk-free rate
RMM	Risk Management Meeting of the Group Management Board
RNIV	Risk not in VaR
RoE	Return on equity
RoTE	Return on average tangible equity
RWA[1]	Risk-weighted asset
S	
SABB	The Saudi British Bank
SAPS	Self-administered pension scheme
SDG	United Nation's Sustainable Development Goals
SE[1]	Structured entity
SEC	Securities and Exchange Commission (US)
ServCo group	Separately incorporated group of service companies planned in response to UK ring-fencing proposals
SFR	Stable funding ratio
Sibor	Singapore interbank offered rate
SIC	Securities investment conduit
SID	Senior Independent Director
SME	Small and medium-sized enterprise
Solitaire	Solitaire Funding Limited, a special purpose entity managed by HSBC
SPE[1]	Special purpose entity
SRI	Socially responsible investment
T	
T1	Tier 1
T2	Tier 2
TCFD[1]	Task Force on Climate-related Financial Disclosures
TLAC[1]	Total loss-absorbing capacity
TSR[1]	Total shareholder return
U	
UAE	United Arab Emirates
UK	United Kingdom
UN	United Nations
UN PRI	United Nations Principles of Responsible Investment
US	United States of America
V	
VaR[1]	Value at risk
VIU	Value in use

1 *A full definition is included in the glossary to* the Annual Report and Accounts 2019 *which is available at www.hsbc.com/investors.*

HSBC Holdings plc

Incorporated in England on 1 January 1959 with limited liability under the UK Companies Act
Registered in England: number 617987

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Photography

Beatrice wind farm image on page 46 courtesy of © Beatrice Offshore Windfarm Ltd

Item 19. Exhibits

Documents files as exhibits to this Form 20-F:

Exhibit Number	Description
1.1	Memorandum and Articles of Association of HSBC Holdings plc (incorporated by reference to Exhibit 1.1 to HSBC Holdings plc's Form 20-F filed with the Securities and Exchange Commission on February 20, 2019).
2.1	Description of rights of each class of securities registered under Section 12 of the Securities Exchange Act of 1934.
4.1	Undertaking by HSBC Holdings plc to the Financial Services Authority (incorporated by reference to Exhibit 99.3 to HSBC Holdings plc's Form 6-K filed with the Securities and Exchange Commission on December 12, 2012), as replaced by the Direction by the Financial Conduct Authority to HSBC Holdings plc (incorporated by reference to HSBC Holdings plc's Form 6-K filed with the Securities and Exchange Commission on April 12, 2013).
4.2	Cease and Desist Order issued by the Board of Governors of the United States Federal Reserve System in the Matter of HSBC Holdings plc (incorporated by reference to Exhibit 99.5 to HSBC Holdings plc's Form 6-K filed with the Securities and Exchange Commission on December 12, 2012).
4.3	Settlement Agreement between HSBC Holdings plc, and the United States Department of the Treasury's Office of Foreign Assets Control (incorporated by reference to Exhibit 99.7 to HSBC Holdings plc's Form 6-K filed with the Securities and Exchange Commission on December 12, 2012).
4.4	Consent Order dated December 11, 2012, of the Comptroller of the Currency of the United States in the Matter of HSBC Bank USA, N.A. (incorporated by reference to Exhibit 99.8 to HSBC Holdings plc's Form 6-K filed with the Securities and Exchange Commission on December 12, 2012).
4.5	Agreement by and between HSBC Bank USA, N.A. McLean, Virginia and the Office of the Comptroller of the Currency dated December 11, 2012 (incorporated by reference to Exhibit 99.10 to HSBC Holdings plc's Form 6-K filed with the Securities and Exchange Commission on December 12, 2012).
4.6	Order Instituting Proceedings Pursuant to Sections 6(c)(4)(A) and 6(d) of the Commodity Exchange Act, Making Findings, and Imposing Remedial Sanctions dated 11 November 2014 of the CFTC in the Matter of HSBC Bank plc (incorporated by reference to Exhibit 99.2 to HSBC Holdings plc's Form 6-K filed with the Securities and Exchange Commission on November 13, 2014).
4.7	Deferred Prosecution Agreement dated January 17, 2018, between HSBC Holdings plc and the United States Department of Justice (incorporated by reference to Exhibit 4.7 to HSBC Holdings plc's Form 20-F filed with the Securities and Exchange Commission on February 20, 2018).
4.8	Service Agreement dated June 25, 2018 between HSBC Holdings plc and Ewen Stevenson (incorporated by reference to Exhibit 4.8 to HSBC Holdings plc's Form 20-F filed with the Securities and Exchange Commission on February 20, 2019).
4.9	Engagement Letter dated March 12, 2017, between HSBC Holdings plc and Mark Tucker (incorporated by reference to Exhibit 4.11 to HSBC Holdings plc's Form 20-F filed with the Securities and Exchange Commission on February 20, 2018).
4.10	Service Agreement dated August 5, 2019 between HSBC Holdings plc and Noel Quinn.
8.1	Subsidiaries of HSBC Holdings plc (set forth in Note 37 to the consolidated financial statements included in this Form 20-F).
12.1	Certificate of HSBC Holdings plc's Group Chief Executive pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
12.2	Certificate of HSBC Holdings plc's Group Finance Director pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
13.1	Annual Certification of HSBC Holdings plc's Group Chief Executive and Group Finance Director pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
15.1	Consent of PricewaterhouseCoopers LLP
15.2	Pages of HSBC Holdings plc's 2000 Form 20-F/A dated February 26, 2001 relating to the Memorandum and Articles of Association of HSBC Holdings plc (incorporated by reference to Exhibit 14.2 to HSBC Holdings plc's Form 20-F filed with the Securities and Exchange Commission on March 20, 2006).
15.3	Page of HSBC Holdings plc's 2001 Form 20-F dated March 13, 2002 relating to the Memorandum and Articles of Association of HSBC Holdings plc (incorporated by reference to Exhibit 14.3 to HSBC Holdings plc's Form 20-F filed with the Securities and Exchange Commission on March 20, 2006).
15.4	Page of HSBC Holdings plc's 2018 Form 20-F dated February 20, 2019 relating to the Memorandum and Articles of Association of HSBC Holdings plc.
15.5	Consent of C G Singer.

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

HSBC Holdings plc

By: /s/ E J Stevenson

Name: E J Stevenson

Title: Group Chief Financial Officer

Dated: 19 February 2020