Financial statements

Supporting our customers through transition finance

We are supporting our customers to make progress towards their commitments to cut greenhouse gas emissions, in line with the goals of the Paris Agreement on climate change. We played a key role in the world's first 'transition' Islamic bond, known as a sukuk, to help reduce carbon emissions in the aviation industry. Etihad Airways will use the $600m proceeds for energy-efficient aircraft and research and development into sustainable aviation fuel.

This sukuk included a commitment from Etihad to purchase a set amount of carbon offsets if it fails to meet its short-term target to reduce the carbon intensity of its passenger fleet.

We acted as joint global coordinator and joint sustainability structuring agent on the deal, as well as joint bookrunner and dealer manager.

Independent auditors' report to the members of HSBC Holdings plc

Report on the audit of the financial statements

Opinion

In our opinion, HSBC Holdings plc's ('HSBC') group financial statements[1] and company financial statements (the 'financial statements'):

- give a true and fair view of the state of the group's and of the company's affairs as at 31 December 2020 and of the group's and company's profit and the group's and company's cash flows for the 12 month period (the "year") then ended;
- have been properly prepared in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

Our opinion is consistent with our reporting to the Group Audit Committee ('GAC').

Separate opinion in relation to international financial reporting standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union

As explained in note 1.1(a) to the financial statements, the group, in addition to applying international accounting standards in conformity with the requirements of the Companies Act 2006, has also applied international financial reporting standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union.

In our opinion, the group financial statements have been properly prepared in accordance with international financial reporting standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union.

Separate opinion in relation to IFRSs as issued by the IASB

As explained in note 1.1(a) to the financial statements, the group, in addition to applying international accounting standards in conformity with the requirements of Companies Act 2006, has also applied IFRSs as issued by the International Accounting Standards Board (IASB).

In our opinion, the group financial statements have been properly prepared in accordance with IFRSs as issued by the IASB.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ('ISAs (UK)') and applicable law. Our responsibilities under ISAs (UK) are further described in the Auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remained independent of the group in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, which includes the FRC's Ethical Standard, as applicable to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

To the best of our knowledge and belief, we declare that non-audit services prohibited by the FRC's Ethical Standard were not provided to the group.

Other than those disclosed in note 6 to the financial statements, we have provided no non-audit services to the group in the period under audit.

Our audit approach

Overview

This was the second year that it has been my responsibility to form this opinion on behalf of PricewaterhouseCoopers LLP ('PwC'), who you first appointed on 31 March 2015 in relation to that year's audit. In addition to forming this opinion, in this report we have also provided information on how we approached the audit, how it changed from the previous year and details of the significant discussions that we had with the GAC.

Given the impact of Covid-19, substantially all of our interactions were undertaken virtually, including those between the engagement team, with the teams for Significant Subsidiaries and Operations Centres, and with HSBC Board members and management. Similarly, substantially all of our audit testing was performed remotely. For further details around the impact of Covid-19 on our audit, please see the 'Impact of Covid-19' key audit matter below.

Materiality

- Overall group materiality: $900m (2019: $1,000m) based on 5% of an adjusted profit before tax for the last three years.
- Overall company materiality: $855m (2019: $900m) being an amount capped below the overall group materiality.

1 *We have audited the financial statements, included within the Annual Report and Accounts (the 'Annual Report'), which comprise: the consolidated and company balance sheets as at 31 December 2020, the consolidated and company income statements and the consolidated and company statements of comprehensive income for the year then ended, the consolidated and company statements of cash flows for the year then ended, the consolidated and company statements of changes in equity for the year then ended, and the notes to the financial statements, which include a summary of significant accounting policies and other explanatory information. Certain notes to the financial statements have been presented elsewhere in the* Annual Report and Accounts 2020*, rather than in the notes to the financial statements. These are cross-referenced from the financial statements and are identified as '(Audited)'. The relevant disclosures are included in the Risk review section on pages 113 to 194 and the Directors' remuneration report disclosures on pages 239 to 249.*

Audit scope

The scope of our audit and the nature, timing and extent of audit procedures performed were determined based on our risk assessment, taking into account changes from the prior year, the financial significance of subsidiaries and other qualitative factors. We executed the planned approach and concluded based on the results of our testing, ensuring that sufficient audit evidence had been obtained to support our opinion.

Key audit matters

- Impact of Covid-19 (group and company)
- Expected credit losses - Impairment of loans and advances (group)
- Investment in associate - Bank of Communications Company, Limited ('BoCom') (group)
- Impairment of goodwill and intangible assets (group)
- Valuation of financial instruments (group)
- Impairment of investments in subsidiaries (company)
- Valuation of defined benefit pensions obligations (group)
- IT access management (group)

The scope of our audit

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we looked at where the directors made subjective judgements, for example in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain.

Capability of the audit in detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined in the Auditors' responsibilities for the audit of the financial statements section, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud, is detailed below.

Based on our understanding of the group and industry, we identified that the principal risks of non-compliance with laws and regulations related to breaches of financial crime laws & regulations and regulatory compliance, including conduct of business, and we considered the extent to which non-compliance might have a material effect on the financial statements. We also considered those laws and regulations that have a direct impact on the preparation of the financial statements, such as the Companies Act 2006 and the UK and Hong Kong listing rules. We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls), and determined that the principal risks were related to posting inappropriate journal entries to increase revenue or reduce costs, creating fictitious trades to hide losses or to improve financial performance, and management bias in accounting estimates. The group engagement team shared this risk assessment with the component auditors so that they could include appropriate audit procedures in response to such risks in their work. Audit procedures performed by the group engagement team and/or component auditors included:

- Review of correspondence with and reports to the regulators, including the Prudential Regulation Authority ('PRA') and Financial Conduct Authority ('FCA');
- Reviewed reporting to the GAC and GRC in respect of compliance and legal matters;
- Review a sample of legal correspondence with legal advisors;
- Enquiries of management and review of internal audit reports in so far as they related to the financial statements;
- Obtain legal confirmations from legal advisors relating to material litigation and compliance matters;
- Assessment of matters reported on the group's whistleblowing and 'Speak up' programmes and the results of management's investigation of such matters; in so far as they related to the financial statements;
- Challenging assumptions and judgements made by management in its significant accounting estimates, in particular in relation to the determination of expected credit losses, and the impairment assessments of goodwill, intangible assets, the investment in BoCom, valuation of financial instruments, valuation of defined benefit pensions obligations and investment in subsidiaries (see related key audit matters below);
- Obtaining confirmations from third parties to confirm the existence of a sample of transactions; and
- Identifying and testing journal entries, including those posted with certain descriptions, posted and approved by the same individual, backdated journals or posted by infrequent and unexpected users.

There are inherent limitations in the audit procedures described above. We are less likely to become aware of instances of non-compliance with laws and regulations that are not closely related to events and transactions reflected in the financial statements. Also, the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

Key audit matters

Key audit matters are those matters that, in the auditors' professional judgement, were of most significance in the audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by the auditors, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters, and any comments we make on the results of our procedures thereon, were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. This is not a complete list of all risks identified by our audit.

The impact of Covid-19 and valuation of financial instruments are new key audit matters this year. Otherwise, the key audit matters below are consistent with last year.

Impact of Covid-19 (group and company)

Nature of the key audit matter

The impact of the Covid-19 pandemic has resulted in unprecedented economic conditions and resulting government support programmes and regulatory interventions to support businesses and people. The Covid-19 pandemic has also changed the way that companies operate their businesses, with one of the most substantial impacts being the transition to remote working.

A substantial proportion of HSBC's employees have been working remotely during 2020, with some consequential changes on their processes and the control environment, some of which were relevant for financial reporting purposes. Our audit team has also been working remotely for most of 2020, as have most of our teams auditing the Significant Subsidiaries and operational centres.

The impact of the Covid-19 pandemic and resulting uncertainty has impacted a number of the estimates in the group financial statements and company financial statements. The impact on the most significant accounting judgements and our audit is set out in the following other key audit matters in this opinion:

- Expected credit losses - Impairment on loans and advances to customers;
- Investment in associate - BoCom;
- Impairment of goodwill and intangible assets;
- Valuation of financial instruments; and
- Impairment of investment in subsidiaries.

Matters discussed with the Group Audit Committee

We discussed our assessment of the impact of Covid-19 on HSBC's operations and control environment with the GAC. We also explained how we planned to execute our audit with substantially all of our audit team working remotely.

How our audit addressed the Key Audit Matter

We engaged with the Board and management at HSBC in a manner consistent with our previous audits, albeit remotely using video and telephone calls. Substantially all of the information and audit evidence we need for the HSBC audit is provided in electronic format. We shared information, including the audit evidence provided to us by HSBC, using share-screen functionality in video calls and our secure encrypted information sharing software. Where we would have previously inspected physical evidence, for example our stock counts of precious metals, these audit procedures were performed virtually.

We understood and assessed the transition of HSBC employees to working remotely on the control environment relevant to financial reporting, and reflected this in our audit approach for new or changed processes and controls.

Where the group undertook new business activities as a result of Covid-19, for example, the government sponsored lending programmes, we assessed the audit risks and designed appropriate audit procedures.

We were not able to visit any of the audit teams for the Significant Subsidiaries and operational centres during our 2020 audit. However, consistent with our experience with HSBC, we engaged with and directed these teams in a manner consistent with our previous audits using video conferencing and telephone calls. This included 'virtual visits' to certain locations, in which we met with both the audit teams and local management. To ensure we were satisfied with the audits performed by the audit teams for the Significant Subsidiaries, we evaluated and reviewed audit evidence by remotely reviewing electronic audit files or using share-screen functionality in video conferencing.

Relevant references in the *Annual Report and Accounts 2020*

GAC Report, page 218.

Expected credit losses - Impairment of loans and advances (group)

Nature of the key audit matter

Determining expected credit losses ('ECL') involves management judgement and is subject to a high degree of estimation uncertainty, both of which have significantly increased as a result of Covid-19.

Management makes various assumptions when estimating ECL. The significant assumptions that we focus on in our audit included those with greater levels of management judgement and for which variations had the most significant impact on ECL. Specifically these included,

- forward looking economic scenarios and their likelihoods;
- customer risk ratings ('CRRs'), and probability of defaults; and
- the recoverability of credit impaired wholesale exposures.

The modelling methodologies that use these assumptions, as well as other data, to estimate ECL are complex and not standardised. The modelling methodologies are developed using historical experience, which can result in limitations in their reliability to appropriately estimate ECL. These limitations are often addressed with adjustments, which are inherently judgemental and subject to estimation uncertainty.

The impact of the Covid-19 pandemic has resulted in unprecedented economic conditions that vary across countries and industry sectors. Covid-19 related government support programmes and regulatory interventions have impacted economic factors such as GDP and unemployment, and consequently the extent and timing of customer defaults.

These factors have increased the uncertainty around judgements made in determining the severity and likelihood of macroeconomic variable ('MEV') forecasts across the different economic scenarios used in ECL models. Furthermore, these conditions are outside the bounds of historical experience used to develop the models and where models produce plausible results, resulting in significantly greater limitations in their reliability to estimate ECLs.

Management has made significant adjustments to ECL to address these limitations through management judgemental adjustments to modelled outcomes. The nature and extent of these limitations and the resulting changes to ECL varies across retail and wholesale portfolios globally. In addition, certain models have been redeveloped during 2020.

The determination of CRRs is based on quantitative scorecards, with qualitative adjustments for relevant factors. The extent of qualitative adjustments has increased due to Covid-19. The uncertainty caused by Covid-19 also increases judgement involved in estimating expected cash flows and collateral valuations for specific impairments on credit impaired wholesale exposures.

Matters discussed with the Group Audit Committee

We held discussions with the GAC covering governance and controls over ECL, with a significant focus on the impact of Covid-19. We also discussed a number of other areas, including:

- the severity and likelihood of MEV forecasts in economics scenarios, across countries for the impact of Covid-19, and specifically for the UK and Hong Kong in relation to the geopolitical risks relating to the UK's withdrawal from the EU and US-China relations;
- the determination and migration of customer risk ratings;
- assumptions around the recoverability of significant wholesale exposures;
- the identification and assessment of model limitations and resulting changes and adjustments to ECL, in particular for approaches adopted in response to Covid-19;
- models that were redeveloped during the year;
- model validation and monitoring; and
- the disclosures made to explain ECL, in particular the impact of Covid-19 on determining ECL and the resulting estimation uncertainty.

How our audit addressed the Key Audit Matter

We assessed the design of governance and controls over the estimation of ECLs, as well as testing how effectively they operated. We observed management's review and challenge governance forums for (1) the determination of MEV forecasts and their likelihood for different economic scenarios, and (2) the assessment of ECL for Retail and Wholesale portfolios, including the assessment of model limitations and approval of any resulting adjustments to modelled outcomes.

We also tested controls over:

- model validation and monitoring;
- credit reviews that determine CRRs for wholesale customers;
- the input of critical data into source systems and the flow and transformation of critical data from source systems to the impairment models; and
- the calculation and approval of management judgemental adjustments to modelled outcomes.

We involved our economic experts in assessing the reasonableness of the severity and likelihood of MEV forecasts. These assessments considered the sensitivity of ECLs to variations in the severity and likelihood of MEVs for different economic scenarios.

We involved our modelling experts in assessing the appropriateness of modelling methodologies that were redeveloped during the year, and for a sample of those models, we independently reperformed the modelling for certain aspects of the ECL calculation. We also assessed the appropriateness of modelling methodologies that did not change during the year, giving specific consideration to Covid-19 and whether management judgemental adjustments were needed. In addition, we performed testing over:

- the compliance of ECL methodologies and assumptions with the requirements of IFRS9;
- a sample of critical data used in the year end ECL calculation and to estimate management judgemental adjustments;
- critical data, assumptions and discounted cash flows for a sample of credit impaired wholesale exposures; and
- a sample of CRRs applied to wholesale exposures, including our credit experts assessing a sample by comparing to external sources.

We evaluated and tested the Credit Risk disclosures made in the Annual Report and Accounts 2020.

Relevant references in the Annual Report and Accounts 2020

- Credit risk disclosures, page 119.
- GAC Report, page 220.
- Note 1.2(d): Financial instruments measured at amortised cost, page 292.
- Note 1.2(i): Impairment of amortised cost and FVOCI financial assets, page 293.

Investment in associate – BoCom (group)

Nature of the key audit matter

At 31 December 2020, the market value of the investment in BoCom, based on the share price, was $13.7bn lower than the carrying value of $21.2bn. This is an indicator of potential impairment. An impairment test was performed by management, with supporting sensitivity analysis, using a value in use ('VIU') model. The VIU was $0.6bn in excess of the carrying value. On this basis, management concluded no impairment was required and the share of BoCom's profits has been recognised in the consolidated income statement.

The methodology in the VIU model is dependent on various assumptions, both short term and long term in nature. These assumptions, which are subject to estimation uncertainty, are derived from a combination of management's judgement, analysts' forecasts and market data. The significant assumptions that we focused our audit on were those with greater levels of management judgement and for which variations had the most significant impact on the VIU. Specifically, these included

- discount rates;
- forecast operating income;
- long term growth rates;
- future expected credit losses;
- effective tax rates; and
- regulatory capital requirements.

Matters discussed with the Group Audit Committee

We discussed the appropriateness of the VIU methodology and significant assumptions with the GAC, giving consideration to the macroeconomic environment, as well as Covid-19 and the outlook for the Chinese banking market. We considered reasonably possible alternatives for the significant assumptions. We also discussed the disclosures made in relation to BoCom, including the use of sensitivity analysis to explain estimation uncertainty and the conditions that would result in an impairment being recognised.

How our audit addressed the Key Audit Matter

We tested controls in place over significant assumptions and the model used to determine the VIU. We assessed the appropriateness of the methodology used, and the mathematical accuracy of the calculations, to estimate the VIU. In respect of the significant assumptions, our testing included the following:

- Challenging the basis for determining significant assumptions and, where relevant, their interrelationships;
- Obtaining and evaluating evidence where available for critical data relating to significant assumptions, from a combination of historic experience, external market information, third-party sources including analyst reports, information from BoCom management and historical publicly available BoCom financial information;
- Assessing the sensitivity of the VIU to reasonable variations in significant assumptions, both individually and in aggregate; and
- Determining a reasonable range for the discount rate used within the model, with the assistance of our valuation experts, and comparing it to the discount rate used by management.

We observed meetings in April, May, September and November 2020 between management and senior BoCom executive management, held specifically to identify facts and circumstances impacting assumptions relevant to the determination of the VIU.

We evaluated and tested the disclosures made in the Annual Report and Accounts 2020 in relation to BoCom.

Relevant references in the *Annual Report and Accounts 2020*

- GAC Report, page 221.
- Note 1.2(a): Critical accounting estimates and judgements, page 291.
- Note 18 Interests in associates and joint ventures, page 331.

Impairment of goodwill and intangible assets (group)

Nature of the key audit matter

The impact of the Covid-19 pandemic has resulted in unprecedented economic conditions, impacting the performance of HSBC in both 2020 and the outlook into 2021 and beyond. This is considered by management to be an indicator of impairment.

An impairment test was performed by management, with supporting sensitivity analysis, using the higher of value in use ('VIU') and fair value less cost to sell. Management predominantly used VIU in its impairment tests, unless it believed that fair value less cost to sell would result in a higher recoverable amount for any cash generating unit ('CGU'). The impairment test resulted in impairment charges of $1.3bn and $41m for software intangibles and goodwill being recognised respectively for certain CGUs. For the remaining CGUs, where the recoverable amount was higher than the carrying value, no impairment was recorded. The remaining goodwill and software intangibles on the balance sheet at 31 December 2020 are $5.9bn and $4.5bn respectively.

The methodology in the models is dependent on various assumptions, both short term and long term in nature. These assumptions, which are subject to estimation uncertainty, are derived from a combination of management's judgement, experts engaged by management and market data. The significant assumptions that we focused our audit on were those with greater levels of management judgement and for which variations had the most significant impact on the recoverable amount. Specifically, these included HSBC's annual operating plan (AOP) for 2021 to 2025 including revenue forecasts and cost reduction targets, regulatory capital requirements, long term growth rates and discount rates.

Matters discussed with the Group Audit Committee

We discussed the appropriateness of methodologies used and significant assumptions with the GAC, giving consideration to the macroeconomic environment, as well as Covid-19 and HSBC's strategy. We considered reasonably possible alternatives for significant assumptions. We also discussed the disclosures made in relation to goodwill and software intangibles, including the use of sensitivity analysis to explain estimation uncertainty and the conditions that would result in an impairment being recognised.

How our audit addressed the Key Audit Matter

We tested controls in place over significant assumptions and the model used to determine VIUs and fair values. We assessed the appropriateness of the CGUs and the methodology used, and the mathematical accuracy of the calculations, to estimate the recoverable amounts. In respect of the significant assumptions, our testing included the following:

- challenging the achievability of management's AOP and the prospects for HSBC's businesses;
- obtaining and evaluating evidence where available for critical data relating to significant assumptions, from a combination of historic experience and external market and other financial information;
- assessing whether the cash flows included in the model were in accordance with the relevant accounting standard;
- assessing the sensitivity of the VIU to reasonable variations in significant assumptions, both individually and in aggregate; and
- determining a reasonable range for the discount rate used within the model, with the assistance of our valuation experts, and comparing it to the discount rate used by management.

We evaluated and tested the disclosures made in the Annual Report and Accounts 2020 in relation to goodwill and software intangibles.

Relevant references in the *Annual Report and Accounts 2020*

- GAC Report, page 221.
- Note 1.2(a): Critical accounting estimates and judgements, page 290.
- Note 1.2(n): Critical accounting estimates and judgements, page 299.
- Note 21: Goodwill and intangible assets, page 338.

Valuation of financial instruments (group)

Nature of the key audit matter

The financial instruments held by the group range from those that are traded daily on active markets with quoted prices, to more complex and bespoke positions. The valuation of financial instruments can require the use of prices or inputs which are not readily observable in the market. Where significant pricing inputs are unobservable, the financial instruments are classified as Level 3 (L3), per the IFRS 13 fair value hierarchy. Determining unobservable inputs in fair value measurement involves management judgement and is subject to a high degree of estimation uncertainty.

The most material L3 financial instruments which are dependent on unobservable inputs are the group's holding of $11.0bn of private equity (PE) investments held by the Global Banking and Markets and the Insurance businesses. The group also holds $758m of similar investments in the pension scheme assets for HSBC (UK) Bank plc. Covid-19 has resulted in markets being more volatile. The level of judgement surrounding the valuation of PE investments increases in times of heightened market volatility.

Fair value of the group's PE investments is estimated using commonly accepted valuation methodologies, which are set out in the International Private Equity and Venture Capital Valuation Guidelines and includes the use of net asset value (NAV) statements from fund managers, the price of recent investments, the use of market comparables or discounted cash flow models. The fair value of most PE investments are based on NAV statements provided by fund managers.

Matters discussed with the Group Audit Committee

We discussed with the GAC the appropriateness of the PE valuation approaches for PE investments. We also discussed the governance and controls over determining fair values, in particular, when markets are more volatile.

How our audit addressed the Key Audit Matter

We tested controls in place, including those relating to the assessment of valuations based on NAV statements and the fund managers that provide them.

For fair values based on NAV statements from fund managers, we inspected NAV statements and engaged our valuation experts to test management's assessment of the reliability of those valuations. For these valuations, we also:

- compared fair value movements to movements in relevant market information, such as industry indices;
- agreed NAV statements from fund managers to audited fund financial statements where they were available; and
- performed back testing of fair values to any recent transactions.

We evaluated the adequacy and extent of disclosures made in the Annual Report and Accounts 2020 in relation to valuation of L3 financial instruments.

Relevant references in the *Annual Report and Accounts 2020*

- GAC Report, page 221.
- Note 1.2(c): Critical accounting estimates and judgements, page 292.
- Note 12: Fair values of financial instruments carried at fair value, page 314.

Impairment of investments in subsidiaries (company)

Nature of the key audit matter

The impact of the Covid-19 pandemic has resulted in unprecedented economic conditions, impacting the performance of HSBC in both 2020 and the outlook into 2021 and beyond. This is considered by management to be an indicator of impairment on the investment in subsidiaries.

Management compared the net assets to the carrying value of each subsidiary. Where the net assets did not support the carrying value or the subsidiary made a loss during the period, management estimated the recoverable amount using the higher of value in use ('VIU') or fair value less cost to sell. Management predominantly used VIU in its impairment tests, unless it believed that fair value would result in a higher recoverable amount for any subsidiary. The impairment test resulted in impairment charges of $435m in relation to HSBC Overseas Holdings (UK) limited. The remaining investment in subsidiaries was $158bn at 31 December 2020.
The methodology in the models used to estimate the recoverable amount is dependent on various assumptions, both short term and long term in nature. These assumptions, which are subject to estimation uncertainty, are derived from a combination of management's judgement, experts engaged by management and market data. The significant assumptions that we focused our audit on were those with greater levels of management judgement and for which variations had the most significant impact on the recoverable amount. Specifically, these included HSBC's AOP for 2021 to 2025 including revenue forecasts and cost reduction targets, regulatory capital requirements, long term growth rates and discount rates.

Matters discussed with the Group Audit Committee

We discussed the appropriateness of methodologies used and significant assumptions with the GAC, giving consideration to the macroeconomic environment, as well as Covid-19 and HSBC's strategy. We considered reasonably possible alternatives for significant assumptions. We also discussed the disclosures made in relation to investment in subsidiaries, including the use of sensitivity analysis to explain estimation uncertainty and the conditions that would result in an impairment being recognised.

How our audit addressed the Key Audit Matter

We tested controls in place over significant assumptions and the model used to determine the recoverable amounts. We assessed the appropriateness of the methodology used, and the mathematical accuracy of the calculations, to estimate the recoverable amounts. In respect of the significant assumptions, our testing included the following:

- challenging the achievability of management's AOP and the prospects for HSBC's businesses;
- obtaining and evaluating evidence where available for critical data relating to significant assumptions, from a combination of historic experience and external market and other financial information;
- assessing whether the cash flows included in the model were in accordance with the relevant accounting standard;
- assessing the sensitivity of the VIU to reasonable variations in significant assumptions, both individually and in aggregate; and
- determining a reasonable range for the discount rate used within the model, with the assistance of our valuation experts, and comparing it to the discount rate used by management.

We evaluated and tested the disclosures made in the Annual Report and Accounts 2020 in relation to investment in subsidiaries.

Relevant references in the *Annual Report and Accounts 2020*

- Note 19: Investments in subsidiaries, page 335.

Valuation of defined benefit pensions obligations (group)

Nature of the key audit matter

The group has a defined benefit obligation of $44bn, of which $33bn relates to HSBC Bank (UK) pension scheme.
The valuation of the defined benefit obligation for HSBC Bank (UK) is dependent on a number of actuarial assumptions. Management uses an actuarial expert to determine the valuation of the defined benefit obligation. The expert uses a valuation methodology that requires a number of market based inputs and other financial and demographic assumptions. The significant assumptions that we focused our audit on were those with greater levels of management judgement and for which variations had the most significant impact on the liability. Specifically, these included the discount rate, inflation rate and mortality rate.

Matters discussed with the Group Audit Committee

We discussed with the GAC the methodologies and significant assumptions used by management to determine the value of the defined benefit obligation.

How our audit addressed the Key Audit Matter

We tested controls in place over the methodologies and the significant assumptions. We also evaluated the objectivity and competence of management's expert involved in the valuation of the defined benefit obligation.
We assessed the appropriateness of the methodology used, and the mathematical accuracy of the calculations, to estimate the liability. In respect of the significant assumptions, our actuarial experts understood the judgements made by management and management's actuarial expert in determining the significant assumptions, and compared these assumptions to our independently compiled expected ranges based on market observable indices and our market experience. We also tested the members data used in calculating the obligation.
We evaluated and tested the disclosures made in the Annual Report and Accounts 2020 in relation to defined benefit pension obligation.

Relevant references in the *Annual Report and Accounts 2020*

- GAC Report, page 221.
- Note 1.2(k): Critical accounting estimates and judgements, page 298.
- Note 5: Employee compensation and benefits, page 301.

IT access management (group)

Nature of the key audit matter
HSBC has operations across a number of countries supporting a wide range of products and services, resulting in an IT environment that is large, complex and increasingly reliant on third parties. HSBC's financial reporting processes rely upon a significant element of this IT environment, both within Finance and the business and operations more broadly. Access management controls are an important part of the IT environment to ensure both access and changes made to systems and data are appropriate. Our audit approach planned to rely extensively on the effectiveness of IT access management controls. As part of our audit work in prior periods, control deficiencies were identified in relation to IT access management for systems and data relevant to financial reporting. Management has an ongoing remediation programme to address these matters.
Matters discussed with the Group Audit Committee
The significance of IT access management to our audit was discussed at GAC meetings during the year, as well as progress on management's remediation programme, control deficiencies identified and our related audit responses.
How our audit addressed the Key Audit Matter
IT access management controls were tested for systems and data relevant to financial reporting that we planned to rely upon as part of our audit. Specifically we tested controls over: • authorising new access requests; • the timely removal of access rights; • periodic monitoring of the appropriateness of access rights to systems and data; • restricting highly privileged access to appropriate personnel; • the accuracy of information about IT users to facilitate access management; • segregation of access across IT and business functions; • changes made to systems and data; and • understanding and assessing reliance on third parties, including Service Organisation controls reports. We also independently assessed password policies and system configurations, and performed substantive audit procedures in relation to access right removal, privileged access, IT user information and segregation of duties. We performed further testing where control deficiencies were identified, including: • where inappropriate access was identified, we understood and assessed the nature of the access, and obtained additional evidence on the appropriateness of activities performed; and, • we identified and tested compensating business controls and performed other audit procedures where IT compensating controls were not sufficient to address the audit risk.
Relevant references in the *Annual Report and Accounts 2020*
• Effectiveness of internal controls, page 260.

Materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

	Financial statements - group	Financial statements - company
Overall materiality	$900m (2019: $1,000m).	$855m (2019: $900m).
How we determined it	5% of a three year average of adjusted profit before tax.	0.75% of total assets. This would result in an overall materiality of $1.9bn and was therefore reduced below this materiality for the group.
Rationale for benchmark applied	We believe a standard benchmark of 5% of adjusted profit before tax is an appropriate quantitative indicator of materiality, although certain items could also be material for qualitative reasons. This benchmark is standard for listed entities and consistent with the wider industry. We selected adjusted profit because, as discussed on page 77, management believes it better reflects the performance of the group. We excluded the adjustments made by management on page 311 for certain customer redress programmes and fair value movements of financial instruments, as in our opinion they are recurring items that form part of ongoing business performance.Whilst adjusted profit before tax is still considered the most suitable benchmark, we have used a three year average to reflect the significant impact Covid-19 has had on performance in 2020.	A benchmark of total assets has been used as the company's primary purpose is to act as a holding company with investments in the group's subsidiaries, not to generate operating profits and therefore a profit based measure is not relevant.

We use performance materiality to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds overall materiality. Specifically, we use performance materiality in determining the scope of our audit and the nature and extent of our testing of account balances, classes of transactions and disclosures, for example in determining sample sizes. Our performance materiality was 75% of overall materiality, amounting to $675m (2019: $750m) for the group financial statements and $641m (2019: $675m) for the company financial statements. In determining the performance materiality, we considered a number of factors - the history of misstatements, our risk assessment and aggregation risk, and the effectiveness of controls.

For each component in the scope of our group audit, we allocated a materiality that is less than our overall group materiality. The range of materiality allocated across components was between $60m and $855m. Certain components were audited to a local statutory audit materiality that was less than the materiality we allocated them.

We agreed with the GAC that we would report to them misstatements identified during our group and company audit above $45m (2019: $50m), as well as misstatements below those amounts that, in our view, warranted reporting for qualitative reasons.

How we tailored the audit scope

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole, reflecting the structure of the group and the company, the processes and controls relevant to financial reporting, and the industry in which they operate. Our audit approach incorporated a number of key aspects:

(1) Audit approach to HSBC's global businesses

We designed audit approaches for the products and services that substantially make up HSBC's global businesses, such as lending, deposits and derivatives. These global business approaches were designed by partners and team members who are specialists in the relevant businesses. These approaches were provided to the audit partners and teams around the world that contributed to the group audit.

(2) Audit work for Significant Subsidiaries:

Through our risk assessment and scoping we identified certain entities (collectively the Significant Subsidiaries) for which we obtained audit opinions. We obtained full scope audit opinions for Hongkong and Shanghai Banking Corporation Limited, HSBC Bank plc, HSBC UK Bank plc, HSBC North America Holdings Ltd, HSBC Bank Canada and HSBC Mexico S.A. We obtained audit opinions over specific balances for HSBC Global Services (UK) Limited and HSBC Group Management Services Limited and HSBC Bank Middle East Limited - UAE Operations. The audits for HSBC Bank plc, HSBC UK Bank plc, HSBC Global Services (UK) Limited and HSBC Group Management Services Limited were performed by other PwC teams in the UK. All other audits were performed by other PwC network firms.

We worked with the Significant Subsidiaries in 2020 to develop an approach for rotating certain smaller locations in and out of scope over a number of reporting periods. These locations, which are subject to local external audits, are individually relatively small compared to the group. Notwithstanding their size, the rotational approach is designed to ensure that over time these locations are subject to audit work as part of the group audit. India was removed from the scope of the Hongkong and Shanghai Banking Corporation audit for 2020 and Singapore was included.

We asked the partners and teams reporting to us on the Significant Subsidiaries to work to assigned materiality levels reflecting the size of the operations they audited. The performance materiality levels ranged from $45m to $641m. Certain Significant Subsidiaries were audited to a local statutory audit materiality that was less than our overall group materiality.

We were in active dialogue throughout the year with the partners and teams responsible for the audits of the Significant Subsidiaries. This included consideration of how they planned and performed their work, including their use of the global business approaches. We attended Audit Committee meetings for some of Significant Subsidiaries. We also attended meetings with management in each of these Significant Subsidiaries at the year-end.

The audit of The Hongkong and Shanghai Banking Corporation in Hong Kong relied upon work performed by other teams in Hong Kong and the PwC network firms in Malaysia, mainland China and Singapore. Similarly, the audit of HSBC Bank plc and HSBC UK Bank plc in the UK relied upon work performed by other teams in the UK and the PwC network firms in France and Germany. We considered how the audit partners and teams for the Significant Subsidiaries instructed and provided oversight to the work performed in these locations. Collectively, PwC network firms completed audit procedures covering 88% of assets and 73% of total operating income.

(3) Audit work performed at Operations Centres

A significant amount of the operational processes and controls which are critical to financial reporting are undertaken in operations centres run by Digital Business Services ('DBS') across 12 different locations. Financial reporting processes are performed in HSBC's four Finance Operations Centres. We coordinated and provided oversight on the audit work performed by PwC teams in the UK, Poland, China, Sri Lanka, Malaysia, India and the Philippines. This work was relied upon by us, as well as the PwC teams auditing the Significant Subsidiaries.

(4) Audit procedures undertaken at a group level and on the company

We ensured that appropriate further work was undertaken for the HSBC group and company. This work included auditing, for example, the impairment assessment of goodwill and intangible assets, the consolidation of the group's results, the preparation of the financial statements, certain disclosures within the Directors' remuneration report, litigation provisions and exposures, taxation, and management's entity level and oversight controls relevant to financial reporting. Subsidiaries' balances that were not identified as part of a Significant Subsidiary were subject to procedures which mitigated the risk of material misstatement, including testing of entity level controls, information technology general controls, testing at the Operations Centre, analytical review procedures and understanding and assessing the outcome of local external audits.

(5) Using the work of others

We continued to make use of evidence provided by others. This included testing of controls performed by Global Internal Audit and management themselves in some low risk areas. We used the work of PwC experts, for example, valuation experts for our work around the assumptions used in the impairment assessment over goodwill and actuaries on the estimates used in determining pension liabilities. An increasing number of controls are operated on behalf of HSBC by third parties. We rely on audit evidence that is scoped and provided by other auditors that are engaged by those third parties. For example, we obtain a report evidencing the testing of external systems and controls supporting HSBC's payroll and HR processes.

Conclusions relating to going concern

Our evaluation of the directors' assessment of the group's and the company's ability to continue to adopt the going concern basis of accounting included:

- Performing a risk assessment to identify factors that could impact the going concern basis of accounting, including the impact of Covid-19 and geopolitical risks.
- Understanding and evaluating the group's financial forecasts and the group's stress testing of liquidity and regulatory capital, including the severity of the stress scenarios that were used.
- Reading and evaluating the adequacy of the disclosures made in the financial statements in relation to going concern.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the group's and the company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

However, because not all future events or conditions can be predicted, this conclusion is not a guarantee as to the group's and the company's ability to continue as a going concern.

In relation to the group's and the company's reporting on how they have applied the UK Corporate Governance Code, we have nothing material to add or draw attention to in relation to the directors' statement in the financial statements about whether the directors considered it appropriate to adopt the going concern basis of accounting.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Reporting on other information

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The directors are responsible for the other information. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except to the extent otherwise explicitly stated in this report, any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

With respect to the Strategic Report and Report of the Directors', we also considered whether the disclosures required by the UK Companies Act 2006 have been included.

Based on our work undertaken in the course of the audit, the Companies Act 2006 requires us also to report certain opinions and matters as described below.

Strategic Report and Report of the Directors

In our opinion, based on the work undertaken in the course of the audit, the information given in the Strategic Report and Report of the Directors' for the year ended 31 December 2020 is consistent with the financial statements and has been prepared in accordance with applicable legal requirements.

In light of the knowledge and understanding of the group and company and their environment obtained in the course of the audit, we did not identify any material misstatements in the Strategic Report and Report of the Directors.

Directors' Remuneration

In our opinion, the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006.

Corporate governance statement

The Listing Rules require us to review the directors' statements in relation to going concern, longer-term viability and that part of the corporate governance statement relating to the company's compliance with the provisions of the UK Corporate Governance Code specified for our review. Our additional responsibilities with respect to the corporate governance statement as other information are described in the Reporting on other information section of this report.

Based on the work undertaken as part of our audit, we have concluded that each of the following elements of the corporate governance statement is materially consistent with the financial statements and our knowledge obtained during the audit and we have nothing material to add or draw attention to in relation to:

- The directors' confirmation that they have carried out an assessment of the emerging and principal risks;
- The disclosures in the Annual Report and Accounts that describe those principal risks, what procedures are in place to identify emerging risks and an explanation of how these are being managed or mitigated;
- The directors' statement in the financial statements about whether they considered it appropriate to adopt the going concern basis of accounting in preparing them, and their identification of any material uncertainties to the group's and company's ability to continue to do so over a period of at least twelve months from the date of approval of the financial statements;
- The directors' explanation as to their assessment of the group's and company's prospects, the period this assessment covers and why the period is appropriate; and
- The directors' statement as to whether they have a reasonable expectation that the company will be able to continue in operation and meet its liabilities as they fall due over the period of its assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

Our review of the directors' statement regarding the longer-term viability of the group was substantially less in scope than an audit and only consisted of making inquiries and considering the directors' process supporting their statement; checking that the statement is in alignment with the relevant provisions of the UK Corporate Governance Code; and considering whether the statement is consistent with the financial statements and our knowledge and understanding of the group and company and their environment obtained in the course of the audit.

In addition, based on the work undertaken as part of our audit, we have concluded that each of the following elements of the corporate governance statement is materially consistent with the financial statements and our knowledge obtained during the audit:

- The directors' statement that they consider the Annual Report, taken as a whole, is fair, balanced and understandable, and provides the information necessary for the members to assess the group's and company's position, performance, business model and strategy;
- The section of the Annual Report that describes the review of effectiveness of risk management and internal control systems; and
- The section of the Annual Report describing the work of the GAC.

We have nothing to report in respect of our responsibility to report when the directors' statement relating to the company's compliance with the Code does not properly disclose a departure from a relevant provision of the Code specified under the Listing Rules for review by the auditors.

Responsibilities for the financial statements and the audit

Responsibilities of the directors for the financial statements

As explained more fully in the Directors' responsibilities statement, the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view. The directors are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the group's and the company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the group or the company or to cease operations, or have no realistic alternative but to do so.

Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Our audit testing might include testing complete populations of certain transactions and balances, possibly using data auditing techniques. However, it typically involves selecting a limited number of items for testing, rather than testing complete populations. We will often seek to target particular items for testing based on their size or risk characteristics. In other cases, we will use audit sampling to enable us to draw a conclusion about the population from which the sample is selected.

A further description of our responsibilities for the audit of the financial statements is located on the FRC's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditors' report.

Use of this report

This report, including the opinions, has been prepared for and only for the company's members as a body in accordance with Chapter 3 of Part 16 of the Companies Act 2006 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

Other required reporting

Companies Act 2006 exception reporting

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not obtained all the information and explanations we require for our audit; or
- adequate accounting records have not been kept by the company, or returns adequate for our audit have not been received from branches not visited by us; or
- certain disclosures of directors' remuneration specified by law are not made; or
- the financial statements and the part of the Directors' Remuneration Report to be audited are not in agreement with the accounting records and returns.

We have no exceptions to report arising from this responsibility.

Appointment

Following the recommendation of the GAC, we were appointed by the members on 31 March 2015 to audit the financial statements for the year ended 31 December 2015 and subsequent financial periods. The period of total uninterrupted engagement is six years, covering the years ended 31 December 2015 to 31 December 2020.

Scott Berryman (Senior Statutory Auditor)

for and on behalf of **PricewaterhouseCoopers LLP**

Chartered Accountants and Statutory Auditors

London

23 February 2021

Financial statements

Consolidated income statement

for the year ended 31 December

	Notes*	2020 $m	2019 $m	2018 $m
Net interest income		**27,578**	30,462	30,489
– interest income[1,2]		**41,756**	54,695	49,609
– interest expense[3]		**(14,178)**	(24,233)	(19,120)
Net fee income	2	**11,874**	12,023	12,620
– fee income		**15,051**	15,439	16,044
– fee expense		**(3,177)**	(3,416)	(3,424)
Net income from financial instruments held for trading or managed on a fair value basis	3	**9,582**	10,231	9,531
Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss	3	**2,081**	3,478	(1,488)
Changes in fair value of designated debt and related derivatives[4]	3	**231**	90	(97)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	3	**455**	812	695
Gains less losses from financial investments		**653**	335	218
Net insurance premium income	4	**10,093**	10,636	10,659
Other operating income		**527**	2,957	960
Total operating income		**63,074**	71,024	63,587
Net insurance claims and benefits paid and movement in liabilities to policyholders	4	**(12,645)**	(14,926)	(9,807)
Net operating income before change in expected credit losses and other credit impairment charges		**50,429**	56,098	53,780
Change in expected credit losses and other credit impairment charges		**(8,817)**	(2,756)	(1,767)
Net operating income		**41,612**	53,342	52,013
Employee compensation and benefits	5	**(18,076)**	(18,002)	(17,373)
General and administrative expenses		**(11,115)**	(13,828)	(15,353)
Depreciation and impairment of property, plant and equipment and right-of-use assets[5]		**(2,681)**	(2,100)	(1,119)
Amortisation and impairment of intangible assets		**(2,519)**	(1,070)	(814)
Goodwill impairment	21	**(41)**	(7,349)	—
Total operating expenses		**(34,432)**	(42,349)	(34,659)
Operating profit		**7,180**	10,993	17,354
Share of profit in associates and joint ventures	18	**1,597**	2,354	2,536
Profit before tax		**8,777**	13,347	19,890
Tax expense	7	**(2,678)**	(4,639)	(4,865)
Profit for the year		**6,099**	8,708	15,025
Attributable to:				
– ordinary shareholders of the parent company		**3,898**	5,969	12,608
– preference shareholders of the parent company		**90**	90	90
– other equity holders		**1,241**	1,324	1,029
– non-controlling interests		**870**	1,325	1,298
Profit for the year		**6,099**	8,708	15,025
		$	$	$
Basic earnings per ordinary share	9	**0.19**	0.30	0.63
Diluted earnings per ordinary share	9	**0.19**	0.30	0.63

* *For Notes on the financial statements, see page 288.*

1 *Interest income includes $35,293m (2019: $45,708m) of interest recognised on financial assets measured at amortised cost and $5,614m (2019: $8,259m) 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 $12,426m (2019: $21,922m) 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 $1,029m (2019: $912m). 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

	2020	2019	2018
	$m	$m	$m
Profit for the year	**6,099**	8,708	15,025
Other comprehensive income/(expense)			
Items that will be reclassified subsequently to profit or loss when specific conditions are met:			
Debt instruments at fair value through other comprehensive income	**1,750**	1,152	(243)
– fair value gains/(losses)	**2,947**	1,793	(168)
– fair value gains transferred to the income statement on disposal	**(668)**	(365)	(95)
– expected credit (recoveries)/losses recognised in the income statement	**48**	109	(94)
– income taxes	**(577)**	(385)	114
Cash flow hedges	**471**	206	19
– fair value gains/(losses)	**(157)**	551	(267)
– fair value (gains)/losses reclassified to the income statement	**769**	(286)	317
– income taxes	**(141)**	(59)	(31)
Share of other comprehensive income/(expense) of associates and joint ventures	**(73)**	21	(64)
– share for the year	**(73)**	21	(64)
Exchange differences	**4,855**	1,044	(7,156)
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement of defined benefit asset/liability	**834**	13	(329)
– before income taxes	**1,223**	(17)	(388)
– income taxes	**(389)**	30	59
Changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**167**	(2,002)	2,847
– before income taxes	**190**	(2,639)	3,606
– income taxes	**(23)**	637	(759)
Equity instruments designated at fair value through other comprehensive income	**212**	366	(27)
– fair value gains/(losses)	**212**	364	(71)
– income taxes	**—**	2	44
Effects of hyperinflation	**193**	217	283
Other comprehensive income/(expense) for the period, net of tax	**8,409**	1,017	(4,670)
Total comprehensive income for the year	**14,508**	9,725	10,355
Attributable to:			
– ordinary shareholders of the parent company	**12,146**	6,838	8,083
– preference shareholders of the parent company	**90**	90	90
– other equity holders	**1,241**	1,324	1,029
– non-controlling interests	**1,031**	1,473	1,153
Total comprehensive income for the year	**14,508**	9,725	10,355

Consolidated balance sheet

		At	
		31 Dec 2020	31 Dec 2019
	Notes*	$m	$m
Assets			
Cash and balances at central banks		**304,481**	154,099
Items in the course of collection from other banks		**4,094**	4,956
Hong Kong Government certificates of indebtedness		**40,420**	38,380
Trading assets	11	**231,990**	254,271
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	14	**45,553**	43,627
Derivatives	15	**307,726**	242,995
Loans and advances to banks		**81,616**	69,203
Loans and advances to customers		**1,037,987**	1,036,743
Reverse repurchase agreements – non-trading		**230,628**	240,862
Financial investments	16	**490,693**	443,312
Prepayments, accrued income and other assets	22	**156,412**	136,680
Current tax assets		**954**	755
Interests in associates and joint ventures	18	**26,684**	24,474
Goodwill and intangible assets	21	**20,443**	20,163
Deferred tax assets	7	**4,483**	4,632
Total assets		**2,984,164**	2,715,152
Liabilities and equity			
Liabilities			
Hong Kong currency notes in circulation		**40,420**	38,380
Deposits by banks		**82,080**	59,022
Customer accounts		**1,642,780**	1,439,115
Repurchase agreements – non-trading		**111,901**	140,344
Items in the course of transmission to other banks		**4,343**	4,817
Trading liabilities	23	**75,266**	83,170
Financial liabilities designated at fair value	24	**157,439**	164,466
Derivatives	15	**303,001**	239,497
Debt securities in issue	25	**95,492**	104,555
Accruals, deferred income and other liabilities	26	**128,624**	118,156
Current tax liabilities		**690**	2,150
Liabilities under insurance contracts	4	**107,191**	97,439
Provisions	27	**3,678**	3,398
Deferred tax liabilities	7	**4,313**	3,375
Subordinated liabilities	28	**21,951**	24,600
Total liabilities		**2,779,169**	2,522,484
Equity			
Called up share capital	31	**10,347**	10,319
Share premium account	31	**14,277**	13,959
Other equity instruments		**22,414**	20,871
Other reserves		**8,833**	2,127
Retained earnings		**140,572**	136,679
Total shareholders' equity		**196,443**	183,955
Non-controlling interests		**8,552**	8,713
Total equity		**204,995**	192,668
Total liabilities and equity		**2,984,164**	2,715,152

* *For Notes on the financial statements, see page 288.*

The accompanying notes on pages 288 to 370 and the audited sections in: 'Risk' on pages 106 to 194 (including 'Measurement uncertainty and sensitivity analysis of ECL estimates' on pages 127 to 135), and 'Directors' remuneration report' on pages 229 to 255 form an integral part of these financial statements.

These financial statements were approved by the Board of Directors on 23 February 2021 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

	2020 $m	2019 $m	2018 $m
Profit before tax	**8,777**	13,347	19,890
Adjustments for non-cash items:			
Depreciation, amortisation and impairment	**5,241**	10,519	1,933
Net gain from investing activities	**(541)**	(399)	(126)
Share of profits in associates and joint ventures	**(1,597)**	(2,354)	(2,536)
Gain on disposal of subsidiaries, businesses, associates and joint ventures	**—**	(929)	—
Change in expected credit losses gross of recoveries and other credit impairment charges	**9,096**	3,012	2,280
Provisions including pensions	**1,164**	2,423	1,944
Share-based payment expense	**433**	478	450
Other non-cash items included in profit before tax	**(906)**	(2,297)	(1,303)
Elimination of exchange differences[1]	**(25,749)**	(3,742)	4,930
Changes in operating assets and liabilities			
Change in net trading securities and derivatives	**13,150**	(18,910)	20,855
Change in loans and advances to banks and customers	**(14,131)**	(53,760)	(44,071)
Change in reverse repurchase agreements – non-trading	**9,950**	(7,390)	(25,399)
Change in financial assets designated and otherwise mandatorily measured at fair value	**(1,962)**	(2,308)	(1,515)
Change in other assets	**(19,610)**	(21,863)	6,766
Change in deposits by banks and customer accounts	**226,723**	79,163	(5,745)
Change in repurchase agreements – non-trading	**(28,443)**	(25,540)	35,882
Change in debt securities in issue	**(9,075)**	19,268	18,806
Change in financial liabilities designated at fair value	**(6,630)**	20,068	4,500
Change in other liabilities	**20,323**	23,124	(2,187)
Dividends received from associates	**761**	633	910
Contributions paid to defined benefit plans	**(495)**	(533)	(332)
Tax paid	**(4,259)**	(2,267)	(3,417)
Net cash from operating activities	**182,220**	29,743	32,515
Purchase of financial investments	**(496,669)**	(445,907)	(399,458)
Proceeds from the sale and maturity of financial investments	**476,990**	413,186	386,056
Net cash flows from the purchase and sale of property, plant and equipment	**(1,446)**	(1,343)	(1,196)
Net cash flows from purchase/(disposal) of customer and loan portfolios	**1,362**	1,118	(204)
Net investment in intangible assets	**(2,064)**	(2,289)	(1,848)
Net cash flow from acquisition and disposal of subsidiaries, businesses, associates and joint ventures	**(603)**	(83)	4
Net cash from investing activities	**(22,430)**	(35,318)	(16,646)
Issue of ordinary share capital and other equity instruments	**1,497**	—	6,001
Cancellation of shares	**—**	(1,000)	(1,998)
Net sales/(purchases) of own shares for market-making and investment purposes	**(181)**	141	133
Redemption of preference shares and other equity instruments	**(398)**	—	(6,078)
Subordinated loan capital repaid[2]	**(3,538)**	(4,210)	(4,077)
Dividends paid to shareholders of the parent company and non-controlling interests	**(2,023)**	(9,773)	(10,762)
Net cash from financing activities	**(4,643)**	(14,842)	(16,781)
Net increase/(decrease) in cash and cash equivalents	**155,147**	(20,417)	(912)
Cash and cash equivalents at 1 Jan	**293,742**	312,911	323,718
Exchange differences in respect of cash and cash equivalents	**19,434**	1,248	(9,895)
Cash and cash equivalents at 31 Dec[3]	**468,323**	293,742	312,911
Cash and cash equivalents comprise:			
– cash and balances at central banks	**304,481**	154,099	162,843
– items in the course of collection from other banks	**4,094**	4,956	5,787
– loans and advances to banks of one month or less	**51,788**	41,626	39,460
– reverse repurchase agreements with banks of one month or less	**65,086**	65,370	74,702
– treasury bills, other bills and certificates of deposit less than three months	**30,023**	20,132	21,685
– cash collateral and net settlement accounts	**17,194**	12,376	14,075
– less: items in the course of transmission to other banks	**(4,343)**	(4,817)	(5,641)
Cash and cash equivalents at 31 Dec[3]	**468,323**	293,742	312,911

Interest received was $45,578m (2019: $58,627m; 2018: $45,291m), interest paid was $17,740m (2019: $27,384m; 2018: $14,172m) and dividends received (excluding dividends received from associates, which are presented separately above) were $1,158m (2019: $2,369m; 2018: $1,702m).

1 *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.*

2 *Subordinated liabilities changes during the year are attributable to repayments of $(3.5)bn (2019: $(4.2)bn; 2018: $(4.1)bn) of securities. Non-cash changes during the year included foreign exchange gains/(losses) of $0.5bn (2019: $0.6bn; 2018: $(0.6)bn) and fair value gains/(losses) of $1.1bn (2019: $1.4bn; 2018: $(1.4)bn).*

3 *At 31 December 2020, $41,912m (2019: $35,735m; 2018: $26,282m) was not available for use by HSBC, of which $16,935m (2019: $19,353m; 2018: $19,755m) 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 $m	Other equity instru-ments $m	Retained earnings[3,4] $m	Financial assets at FVOCI reserve $m	Cash flow hedging reserve $m	Foreign exchange reserve $m	Merger and other reserves[4,5] $m	Total share-holders' equity $m	Non-controlling interests $m	Total equity $m
At 1 Jan 2020	**24,278**	**20,871**	**136,679**	**(108)**	**(2)**	**(25,133)**	**27,370**	**183,955**	**8,713**	**192,668**
Profit for the year	**—**	**—**	**5,229**	**—**	**—**	**—**	**—**	**5,229**	**870**	**6,099**
Other comprehensive income (net of tax)	**—**	**—**	**1,118**	**1,913**	**459**	**4,758**	**—**	**8,248**	**161**	**8,409**
– debt instruments at fair value through other comprehensive income	**—**	**—**	**—**	**1,746**	**—**	**—**	**—**	**1,746**	**4**	**1,750**
– equity instruments designated at fair value through other comprehensive income	**—**	**—**	**—**	**167**	**—**	**—**	**—**	**167**	**45**	**212**
– cash flow hedges	**—**	**—**	**—**	**—**	**459**	**—**	**—**	**459**	**12**	**471**
– changes in fair value of financial liabilities designated at fair value upon initial recognition arising from changes in own credit risk	**—**	**—**	**167**	**—**	**—**	**—**	**—**	**167**	**—**	**167**
– remeasurement of defined benefit asset/ liability	**—**	**—**	**831**	**—**	**—**	**—**	**—**	**831**	**3**	**834**
– share of other comprehensive income of associates and joint ventures	**—**	**—**	**(73)**	**—**	**—**	**—**	**—**	**(73)**	**—**	**(73)**
– effects of hyperinflation	**—**	**—**	**193**	**—**	**—**	**—**	**—**	**193**	**—**	**193**
– exchange differences	**—**	**—**	**—**	**—**	**—**	**4,758**	**—**	**4,758**	**97**	**4,855**
Total comprehensive income for the year	**—**	**—**	**6,347**	**1,913**	**459**	**4,758**	**—**	**13,477**	**1,031**	**14,508**
Shares issued under employee remuneration and share plans	**346**	**—**	**(339)**	**—**	**—**	**—**	**—**	**7**	**—**	**7**
Capital securities issued[1]	**—**	**1,500**	**(3)**	**—**	**—**	**—**	**—**	**1,497**	**—**	**1,497**
Dividends to shareholders	**—**	**—**	**(1,331)**	**—**	**—**	**—**	**—**	**(1,331)**	**(692)**	**(2,023)**
Redemption of securities[2]	**—**	**—**	**(1,450)**	**—**	**—**	**—**	**—**	**(1,450)**	**—**	**(1,450)**
Transfers[6]	**—**	**—**	**435**	**—**	**—**	**—**	**(435)**	**—**	**—**	**—**
Cost of share-based payment arrangements	**—**	**—**	**434**	**—**	**—**	**—**	**—**	**434**	**—**	**434**
Other movements	**—**	**43**	**(200)**	**11**	**—**	**—**	**—**	**(146)**	**(500)**	**(646)**
At 31 Dec 2020	**24,624**	**22,414**	**140,572**	**1,816**	**457**	**(20,375)**	**26,935**	**196,443**	**8,552**	**204,995**
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[6]	—	—	2,475	—	—	—	(2,475)	—	—	—
Cost of share-based payment arrangements	—	—	478	—	—	—	—	478	—	478
Cancellation of shares[7]	(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)

for the year ended 31 December

	Called up share capital and share premium	Other equity instru-ments	Retained earnings[3,4]	Other reserves: Financial assets at FVOCI reserve	Other reserves: Cash flow hedging reserve	Other reserves: Foreign exchange reserve	Other reserves: Merger and other reserves[5]	Total share-holders' equity	Non-controlling interests	Total equity
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
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 due to movement 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[6]	—	—	(2,200)	—	—	—	2,200	—	—	—
Cost of share-based payment arrangements	—	—	450	—	—	—	—	450	—	450
Cancellation of shares[7]	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

1 *During 2020 HSBC Holdings issued $1,500m of perpetual subordinated contingent convertible securities. 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. Under IFRSs these issuance costs and tax benefits are classified as equity.*

2 *During 2020, HSBC Holdings called $1,450m 6.20% non-cumulative US dollar preference shares. For further details, see Note 31 in the* Annual Report and Accounts 2020*. In 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 2020, retained earnings included 509,825,249 treasury shares (2019: 432,108,782; 2018: 379,926,645). 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 *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 Continental Europe 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 Continental Europe 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.*

6 *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. In 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. During 2020, a further impairment of $435m was recognised and a permitted transfer of this amount was made from the merger reserve to retained earnings.*

7 *For further details, see Note 31 in the* Annual Report and Accounts 2020*. 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.*

HSBC Holdings income statement

for the year ended 31 December

	Notes*	2020 $m	2019 $m	2018 $m
Net interest expense		**(2,632)**	(2,554)	(1,112)
– interest income		**473**	1,249	2,193
– interest expense		**(3,105)**	(3,803)	(3,305)
Fee (expense)/income		**(12)**	(2)	0
Net income from financial instruments held for trading or managed on a fair value basis	3	**801**	1,477	245
Changes in fair value of designated debt and related derivatives[1]	3	**(326)**	(360)	(77)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	3	**1,141**	1,659	43
Gains less losses from financial investments		**—**	—	4
Dividend income from subsidiaries[2]		**8,156**	15,117	55,304
Other operating income		**1,889**	1,293	960
Total operating income		**9,017**	16,630	55,367
Employee compensation and benefits	5	**(56)**	(37)	(37)
General and administrative expenses		**(4,276)**	(4,772)	(4,507)
Impairment of subsidiaries		**(435)**	(2,562)	2,064
Total operating expenses		**(4,767)**	(7,371)	(2,480)
Profit before tax		**4,250**	9,259	52,887
Tax (charge)/credit		**(165)**	(218)	(62)
Profit for the year		**4,085**	9,041	52,825

* *For Notes on the financial statements, see page 288.*
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 (2020 and 2019: nil) return on capital from HSBC Finance (Netherlands) resulting from restructuring the Group's Asia operation to meet resolution and recovery requirements.*

HSBC Holdings statement of comprehensive income

for the year ended 31 December

	2020 $m	2019 $m	2018 $m
Profit for the year	**4,085**	9,041	52,825
Other comprehensive income/(expense)			
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	**176**	(396)	865
– before income taxes	**176**	(573)	1,090
– income taxes	**—**	177	(225)
Other comprehensive income/(expense) for the year, net of tax	**176**	(396)	865
Total comprehensive income for the year	**4,261**	8,645	53,690

HSBC Holdings balance sheet

	Notes*	31 Dec 2020 $m	31 Dec 2019 $m
Assets			
Cash and balances with HSBC undertakings		**2,913**	2,382
Financial assets with HSBC undertakings designated and otherwise mandatorily measured at fair value		**65,253**	61,964
Derivatives	15	**4,698**	2,002
Loans and advances to HSBC undertakings		**10,443**	10,218
Financial investments		**17,485**	16,106
Prepayments, accrued income and other assets		**1,445**	559
Current tax assets		**—**	203
Investments in subsidiaries		**160,660**	161,473
Intangible assets		**276**	333
Total assets at 31 Dec		**263,173**	**255,240**
Liabilities and equity			
Liabilities			
Amounts owed to HSBC undertakings		**330**	464
Financial liabilities designated at fair value	24	**25,664**	30,303
Derivatives	15	**3,060**	2,021
Debt securities in issue	25	**64,029**	56,844
Accruals, deferred income and other liabilities		**4,865**	1,915
Subordinated liabilities	28	**17,916**	18,361
Current tax liabilities		**71**	—
Deferred tax liabilities		**438**	288
Total liabilities		**116,373**	**110,196**
Equity			
Called up share capital	31	**10,347**	10,319
Share premium account		**14,277**	13,959
Other equity instruments		**22,414**	20,743
Merger and other reserves		**34,757**	37,539
Retained earnings		**65,005**	62,484
Total equity		**146,800**	**145,044**
Total liabilities and equity at 31 Dec		**263,173**	**255,240**

* *For Notes on the financial statements, see page 288.*

The accompanying notes on pages 288 to 370 and the audited sections in: 'Risk' on pages 106 to 194 (including 'Measurement uncertainty and sensitivity analysis of ECL estimates' on pages 127 to 135), and 'Directors' remuneration report' on pages 229 to 255 form an integral part of these financial statements.

These financial statements were approved by the Board of Directors on 23 February 2021 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

	2020	2019	2018
	$m	$m	$m
Profit before tax	**4,250**	9,259	52,887
Adjustments for non-cash items	**442**	2,657	(46,878)
– depreciation, amortisation and impairment/expected credit losses	**87**	72	70
– share-based payment expense	**1**	1	—
– other non-cash items included in profit before tax[1]	**354**	2,584	(46,948)
Changes in operating assets and liabilities			
Change in loans to HSBC undertakings	**(327)**	41,471	7,293
Change in financial assets with HSBC undertakings designated and otherwise mandatorily measured at fair value	**(3,289)**	(38,451)	(7,305)
Change in net trading securities and net derivatives	**(1,657)**	(1,433)	758
Change in other assets	**(633)**	(437)	231
Change in financial investments	**449**	(70)	—
Change in debt securities in issue	**3,063**	1,899	(1,094)
Change in financial liabilities designated at fair value	**1,258**	1,227	(740)
Change in other liabilities	**1,366**	437	(1,883)
Tax received	**270**	459	301
Net cash from operating activities	**5,192**	17,018	3,570
Purchase of financial investments	**(11,652)**	(19,293)	—
Proceeds from the sale and maturity of financial investments	**9,342**	6,755	—
Net cash outflow from acquisition of or increase in stake of subsidiaries	**(2,558)**	(3,721)	(8,992)
Repayment of capital from subsidiaries	**1,516**	—	3,627
Net investment in intangible assets	**(33)**	(44)	(121)
Net cash from investing activities	**(3,385)**	(16,303)	(5,486)
Issue of ordinary share capital and other equity instruments	**1,846**	500	6,652
Redemption of other equity instruments	**—**	—	(6,093)
Cancellation of shares	**—**	(1,006)	(1,998)
Subordinated loan capital repaid	**(1,500)**	(4,107)	(1,972)
Debt securities issued	**15,951**	10,817	19,513
Debt securities repaid	**(16,577)**	—	(1,025)
Dividends paid on ordinary shares	**—**	(7,582)	(8,693)
Dividends paid to holders of other equity instruments	**(1,331)**	(1,414)	(1,360)
Net cash from financing activities	**(1,611)**	(2,792)	5,024
Net increase/(decrease) in cash and cash equivalents	**196**	(2,077)	3,108
Cash and cash equivalents at 1 January	**5,980**	8,057	4,949
Cash and cash equivalents at 31 Dec	**6,176**	5,980	8,057
Cash and cash equivalents comprise:			
– cash at bank with HSBC undertakings	**2,913**	2,382	3,509
– loans and advances to banks of one month or less	**249**	102	4,548
– treasury and other eligible bills	**3,014**	3,496	—

Interest received was $1,952m (2019: $2,216m; 2018: $2,116m), interest paid was $3,166m (2019: $3,819m; 2018: $3,379m) and dividends received were $8,156m (2019: $15,117m; 2018: $10,411m).

1 *The 2018 year included $44,893m (2020 and 2019: nil) return on capital from HSBC Finance (Netherlands) resulting from restructuring the Group's Asia operation to meet resolution and recovery requirements.*

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]	Other reserves: Financial assets at FVOCI reserve	Other reserves: Merger and other reserves	Total shareholders' equity
	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2020	**10,319**	**13,959**	**20,743**	**62,484**	**—**	**37,539**	**145,044**
Profit for the year	—	—	—	**4,085**	—	—	**4,085**
Other comprehensive income (net of tax)	—	—	—	**176**	—	—	**176**
– changes in fair value of financial liabilities designated at fair value due to movement in own credit risk	—	—	—	**176**	—	—	**176**
Total comprehensive income for the year	—	—	—	**4,261**	—	—	**4,261**
Shares issued under employee share plans	**28**	**318**	—	**2,540**	—	**(2,347)**	**539**
Capital securities issued	—	—	**1,500**	**(15)**	—	—	**1,485**
Dividends to shareholders	—	—	—	**(1,331)**	—	—	**(1,331)**
Redemption of capital securities	—	—	—	**(1,450)**	—	—	**(1,450)**
Transfers[4]	—	—	—	**435**	—	**(435)**	—
Other movements[5]	—	—	**171**	**(1,919)**	—	—	**(1,748)**
At 31 Dec 2020	**10,347**	**14,277**	**22,414**	**65,005**	**—**	**34,757**	**146,800**
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 due to movement 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[2]	(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[4]	—	—	—	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[3]	(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[4]	—	—	—	(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

Dividends per ordinary share at 31 December 2020 were nil (2019: $0.51; 2018: $0.51).

1 *At 31 December 2020, retained earnings included 326,766,253 ($2,521m) treasury shares (2019: 326,191,804 ($2,543m); 2018: 326,503,319 ($2,546m)).*
2 *In August 2019, HSBC announced a share buy-back of up to $1.0bn, which was completed in September 2019.*
3 *The 2018 year included a re-presentation of the cancellation of shares to retained earnings and capital redemption reserve in respect of the 2018 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.*
4 *At 31 December 2020, an impairment of $435m of HSBC Overseas Holdings (UK) Limited (2019: $2,475m) was recognised and a permitted transfer of $435m (2019: $2,475m) was made from the merger reserve to retained earnings. In 2018, a part reversal of the impairment of HSBC Overseas Holdings (UK) Limited resulted in a transfer from retained earnings back to the merger reserve of $2,200m.*
5 *Includes an adjustment to retained earnings for a repayment of capital by a subsidiary of $1,650m, which had been recognised as dividend income in 2019.*

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 comply with international accounting standards in conformity with the requirements of the Companies Act 2006 and have also applied international financial reporting standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union. These financial statements are also 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, as there are no applicable differences from IFRSs as issued by the IASB for the periods presented. 'Interest Rate Benchmark Reform – Phase 2', which amends IFRS 9, IAS 39 'Financial Instruments,' IFRS 7 'Financial Instruments,' IFRS 4 'Insurance Contracts' and IFRS 16 'Leases', was adopted for use in the UK and the EU in January 2021 and has been early adopted as set out below. Therefore, there were no unendorsed standards effective for the year ended 31 December 2020 affecting these consolidated and separate financial statements.

Standards adopted during the year ended 31 December 2020

Interest Rate Benchmark Reform – Phase 2

Interest Rate Benchmark Reform Phase 2: Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 issued in August 2020 represents the second phase of the IASB's project on the effects of interest rate benchmark reform, addressing issues affecting financial statements when changes are made to contractual cash flows and hedging relationships as a result of the reform.

Under these amendments, changes made to a financial instrument measured at other than fair value through profit or loss that are economically equivalent and required by interest rate benchmark reform do not result in the derecognition or a change in the carrying amount of the financial instrument, but instead require the effective interest rate to be updated to reflect the change in the interest rate benchmark. In addition, hedge accounting will not be discontinued solely because of the replacement of the interest rate benchmark if the hedge meets other hedge accounting criteria.

These amendments apply from 1 January 2021 with early adoption permitted. HSBC adopted the amendments from 1 January 2020 and made the additional disclosures as required by the amendments. Further information is included in Note 15 and in 'Financial instruments impacted by Ibor reform' on page 113.

Other changes

In addition, HSBC adopted a number of interpretations and amendments to standards, which 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.

Other than as noted above, accounting policies have been consistently applied.

(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 not published any minor amendments effective from 1 January 2021 that are applicable to HSBC. However, the IASB has published a number of minor amendments to IFRSs that are effective from 1 January 2022 and 1 January 2023. 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.

New IFRSs

IFRS 17 'Insurance Contracts'

IFRS 17 'Insurance Contracts' was issued in May 2017, with amendments to the standard issued in June 2020. The standard sets out the requirements that an entity should apply in accounting for insurance contracts it issues and reinsurance contracts it holds. Following the amendments, IFRS 17 is effective from 1 January 2023. The Group is in the process of implementing IFRS 17. Industry practice and interpretation of the standard are still developing. Therefore, the likely numerical impact of its implementation remains uncertain. However, we have the following expectations as to the impact compared with the Group's current accounting policy for insurance contracts, which is set out in policy 1.2(j) below:

- Under IFRS 17, there will be no PVIF asset recognised; rather the estimated future profit will be included in the measurement of the insurance contract liability as the contractual service margin ('CSM') and gradually recognised in revenue as services are provided over the duration of the insurance contract. The PVIF asset will be eliminated to equity on transition, together with other adjustments to assets and liabilities to reflect IFRS 17 measurement requirements and any consequential amendments to financial assets in the scope of IFRS 9;
- IFRS 17 requires increased use of current market values in the measurement of insurance liabilities. Depending on the measurement model, changes in market conditions for certain products (measured under the General Measurement Approach) are immediately recognised in profit or loss, while for other products (measured under the Variable Fee Approach) they will be included in the measurement of CSM.
- In accordance with IFRS 17, directly attributable costs will be included in the results of insurance services as profit is recognised over the duration of insurance contracts. Costs that are not directly attributable will remain in operating expenses. This will result in a reduction in operating expenses compared with the current accounting policy.

(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 and liabilities of branches, subsidiaries, joint ventures and associates whose functional currency is not US dollars are translated into the Group's presentation currency at the rate of exchange at the balance sheet date, while their results are translated into US dollars at the average rates of exchange for the reporting period. 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 2020* as follows:

- disclosures concerning the nature and extent of risks relating to insurance contracts and financial instruments are included in the 'Risk review' on pages 106 to 194;
- the 'Own funds disclosure' included in the 'Risk review' on page 174; and
- disclosures relating to HSBC's securitisation activities and structured products are included in the 'Risk review' on pages 106 to 194.

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 (including impairment of non-financial assets for the first time), 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 Executive Committee ('GEC'), 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 GEC.

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, capital requirements and capital resources. These considerations include stressed scenarios that reflect the increasing uncertainty that the global Covid-19 outbreak has had on HSBC's operations, as well as considering potential impacts from other top and emerging risks, and the related impact on profitability, capital and liquidity.

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 and non-financial assets (see Note 1.2(n)) 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 and non-financial asset 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 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 other than renegotiated loans

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. Mandatory and general offer loan modifications that are not borrower-specific, for example market-wide customer relief programmes, have not been classified as renegotiated loans and generally have not resulted in derecognition, but their stage allocation is determined considering all available and supportable information under our ECL impairment policy.

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 127.

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 • Making management adjustments to account for late breaking events, model and data limitations and deficiencies, and expert credit judgements	• The sections marked as audited on pages 127 to 141, '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 (see policy (c)), 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 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, taking into account the future reversal of existing taxable temporary differences and 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, the most significant of which are the uphold rate and average redress for complaints yet to be worked. 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.

(n) Impairment of non-financial assets

Software under development is tested for impairment at least annually. Other non-financial assets are property, plant and equipment, intangible assets (excluding goodwill) and right-of-use assets. They are tested for impairment at the individual asset level when there is indication of impairment at that level, or at the CGU level for assets that do not have a recoverable amount at the individual asset level. In addition, impairment is also tested at the CGU level when there is indication of impairment at that level. For this purpose, CGUs are considered to be the principal operating legal entities divided by global business.

Impairment testing compares the carrying amount of the non-financial asset or CGU with its recoverable amount, which is the higher of the fair value less costs of disposal or the value in use. The carrying amount of a CGU comprises the carrying value of its assets and liabilities, including non-financial assets that are directly attributable to it and non-financial assets that can be allocated to it on a reasonable and consistent basis. Non-financial assets that cannot be allocated to an individual CGU are tested for impairment at an appropriate grouping of CGUs. The recoverable amount of the CGU is the higher of the fair value less costs of disposal of the CGU, which is determined by independent and qualified valuers where relevant, and the value in use, which is calculated based on appropriate inputs (see Note 21).

When the recoverable amount of a CGU is less than its carrying amount, an impairment loss is recognised in the income statement to the extent that the impairment can be allocated on a pro-rata basis to the non-financial assets by reducing their carrying amounts to the higher of their respective individual recoverable amount or nil. Impairment is not allocated to the financial assets in a CGU.

Impairment loss recognised in prior periods for non-financial assets is reversed when there has been a change in the estimate used to determine the recoverable amount. The impairment loss is reversed to the extent that the carrying amount of the non-financial assets would not exceed the amount that would have been determined (net of amortisation or depreciation) had no impairment loss been recognised in prior periods.

Critical accounting estimates and judgements

The review of goodwill and other non-financial assets 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 described in the Critical accounting estimates and judgements in Note 1.2(a).

2 Net fee income

Net fee income by global business

	2020				
	Wealth and Personal Banking	**Commercial Banking**	**Global Banking and Markets**	**Corporate Centre**	**Total**
	$m	**$m**	**$m**	**$m**	**$m**
Funds under management	**1,686**	**126**	**477**	**—**	**2,289**
Cards	**1,564**	**360**	**25**	**—**	**1,949**
Broking income	**862**	**61**	**616**	**—**	**1,539**
Credit facilities	**93**	**740**	**626**	**—**	**1,459**
Account services	**431**	**598**	**264**	**—**	**1,293**
Underwriting	**5**	**9**	**1,002**	**(1)**	**1,015**
Global custody	**189**	**22**	**723**	**—**	**934**
Unit trusts	**881**	**18**	**—**	**—**	**899**
Remittances	**77**	**313**	**288**	**(1)**	**677**
Imports/exports	**—**	**417**	**160**	**—**	**577**
Insurance agency commission	**307**	**17**	**1**	**—**	**325**
Other	**1,123**	**893**	**2,369**	**(2,290)**	**2,095**
Fee income	**7,218**	**3,574**	**6,551**	**(2,292)**	**15,051**
Less: fee expense	**(1,810)**	**(349)**	**(3,284)**	**2,266**	**(3,177)**
Net fee income	**5,408**	**3,225**	**3,267**	**(26)**	**11,874**

	2019[1]					2018
	Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Corporate Centre	Total	Total
	$m	$m	$m	$m	$m	$m
Funds under management	1,597	120	460	—	2,177	2,221
Cards	1,602	358	15	—	1,975	1,956
Broking income	485	40	532	—	1,057	1,210
Credit facilities	90	785	743	—	1,618	1,723
Account services	991	654	365	(7)	2,003	2,177
Underwriting	3	6	821	(1)	829	723
Global custody	135	18	564	—	717	736
Unit trusts	1,011	22	2	—	1,035	1,038
Remittances	77	362	311	(3)	747	778
Imports/exports	1	497	164	—	662	709
Insurance agency commission	356	20	1	—	377	404
Other	1,284	887	2,353	(2,282)	2,242	2,369
Fee income	7,632	3,769	6,331	(2,293)	15,439	16,044
Less: fee expense	(1,998)	(380)	(3,292)	2,254	(3,416)	(3,424)
Net Fee income	5,634	3,389	3,039	(39)	12,023	12,620

1 *A change in reportable segments was made in 2020. Comparative data have been re-presented accordingly. For further guidance, see Note 10: Segmental Analysis on page 311.*

Net fee income includes $5,858m 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 (2019: $6,647m; 2018: $7,522m), $1,260m 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 (2019: $1,450m; 2018: $1,682m), $3,426m of fees earned on trust and other fiduciary activities (2019: $3,110m; 2018: $3,165m) and $267m of fees payable relating to trust and other fiduciary activities (2019: $237m; 2018: $175m).

3 Net income from financial instruments measured at fair value through profit or loss

	Footnotes	2020 $m	2019 $m	2018 $m
Net income/(expense) arising on:				
Net trading activities		**11,074**	16,121	6,982
Other instruments managed on a fair value basis		**(1,492)**	(5,890)	2,549
Net income from financial instruments held for trading or managed on a fair value basis		**9,582**	10,231	9,531
Financial assets held to meet liabilities under insurance and investment contracts		**2,481**	3,830	(1,585)
Liabilities to customers under investment contracts		**(400)**	(352)	97
Net income/(expense) from assets and liabilities of insurance businesses, including related derivatives, measured at fair value through profit or loss		**2,081**	3,478	(1,488)
Derivatives managed in conjunction with HSBC's issued debt securities		**2,619**	2,561	(626)
Other changes in fair value		**(2,388)**	(2,471)	529
Changes in fair value of designated debt and related derivatives	1	**231**	90	(97)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		**455**	812	695
Year ended 31 Dec		**12,349**	14,611	8,641

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

HSBC Holdings

	2020 $m	2019 $m	2018 $m
Net income/(expense) arising on:			
– trading activities	**(336)**	(559)	(176)
– other instruments managed on a fair value basis	**1,137**	2,036	421
Net income from financial instruments held for trading or managed on a fair value basis	**801**	1,477	245
Derivatives managed in conjunction with HSBC Holdings-issued debt securities	**694**	764	(337)
Other changes in fair value	**(1,020)**	(1,124)	260
Changes in fair value of designated debt and related derivatives	**(326)**	(360)	(77)
Changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss	**1,141**	1,659	43
Year ended 31 Dec	**1,616**	2,776	211

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	**8,321**	**579**	**1,563**	**10,463**
Reinsurers' share of gross insurance premium income	**(362)**	**(8)**	**–**	**(370)**
Year ended 31 Dec 2020	**7,959**	**571**	**1,563**	**10,093**
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

1 *Discretionary participation features.*

Net insurance claims and benefits paid and movement in liabilities to policyholders

	Non-linked insurance $m	Linked life insurance $m	Investment contracts with DPF[1] $m	Total $m
Gross claims and benefits paid and movement in liabilities	**10,050**	**1,112**	**1,853**	**13,015**
– claims, benefits and surrenders paid	**3,695**	**900**	**2,083**	**6,678**
– movement in liabilities	**6,355**	**212**	**(230)**	**6,337**
Reinsurers' share of claims and benefits paid and movement in liabilities	**(366)**	**(4)**	**–**	**(370)**
– claims, benefits and surrenders paid	**(430)**	**(10)**	**–**	**(440)**
– movement in liabilities	**64**	**6**	**–**	**70**
Year ended 31 Dec 2020	**9,684**	**1,108**	**1,853**	**12,645**
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

1 *Discretionary participation features.*

Liabilities under insurance contracts

	Footnotes	Non-linked insurance $m	Linked life insurance $m	Investment contracts with DPF[1] $m	Total $m
Gross liabilities under insurance contracts at 1 Jan 2020		**65,324**	**6,151**	**25,964**	**97,439**
Claims and benefits paid		**(3,695)**	**(900)**	**(2,083)**	**(6,678)**
Increase in liabilities to policyholders		**10,050**	**1,112**	**1,853**	**13,015**
Exchange differences and other movements	2	**785**	**86**	**2,544**	**3,415**
Gross liabilities under insurance contracts at 31 Dec 2020		**72,464**	**6,449**	**28,278**	**107,191**
Reinsurers' share of liabilities under insurance contracts		**(3,434)**	**(14)**	**–**	**(3,448)**
Net liabilities under insurance contracts at 31 Dec 2020		**69,030**	**6,435**	**28,278**	**103,743**
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

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, new business, the declaration of bonuses and other amounts attributable to policyholders.

5 Employee compensation and benefits

	2020 $m	2019 $m	2018 $m
Wages and salaries	**15,752**	15,581	14,751
Social security costs	**1,378**	1,472	1,490
Post-employment benefits	**946**	949	1,132
Year ended 31 Dec	**18,076**	18,002	17,373

Average number of persons employed by HSBC during the year by global business

	2020	2019[1]	2018[1]
Wealth and Personal Banking	**144,615**	148,680	144,109
Commercial Banking	**45,631**	46,584	48,983
Global Banking and Markets	**49,055**	51,313	49,217
Corporate Centre	**411**	478	541
Year ended 31 Dec	**239,712**	247,055	242,850

1 *A change in reportable segments was made in 2020. Comparative data have been re-presented accordingly. For further guidance, see Note 10: Segmental analysis on page 311.*

Average number of persons employed by HSBC during the year by geographical region

	2020	2019	2018
Europe	**64,886**	66,392	67,007
Asia	**129,923**	133,624	127,992
Middle East and North Africa	**9,550**	9,798	9,798
North America	**15,430**	16,615	17,350
Latin America	**19,923**	20,626	20,703
Year ended 31 Dec	**239,712**	247,055	242,850

Reconciliation of total incentive awards granted to income statement charge

	2020	2019	2018
	$m	$m	$m
Total incentive awards approved for the current year	**2,659**	3,341	3,473
Less: deferred bonuses awarded, expected to be recognised in future periods	**(239)**	(337)	(351)
Total incentives awarded and recognised in the current year	**2,420**	3,004	3,122
Add: current year charges for deferred bonuses from previous years	**286**	327	322
Other	**2**	(55)	(70)
Income statement charge for incentive awards	**2,708**	3,276	3,374

Share-based payments

'Wages and salaries' includes the effect of share-based payments arrangements, of which $434m was equity settled (2019: $478m; 2018: $450m), as follows:

	2020	2019	2018
	$m	$m	$m
Conditional share awards	**411**	521	499
Savings-related and other share award option plans	**51**	30	23
Year ended 31 Dec	**462**	551	522

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 awards, which are 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

	2020	2019
	Number	Number
	(000s)	(000s)
Conditional share awards outstanding at 1 Jan	**97,055**	94,897
Additions during the year	**72,443**	71,858
Released in the year	**(60,673)**	(67,737)
Forfeited in the year	**(5,352)**	(1,963)
Conditional share awards outstanding at 31 Dec	**103,473**	97,055
Weighted average fair value of awards granted ($)	**7.28**	7.89

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% (2019: 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	
		Number	WAEP[1]
	Footnotes	(000s)	£
Outstanding at 1 Jan 2020		**65,060**	**4.81**
Granted during the year	2	**111,469**	**2.63**
Exercised during the year	3	**(1,387)**	**4.48**
Expired during the year		**(43,032)**	**4.81**
Forfeited during the year		**(1,158)**	**4.88**
Outstanding at 31 Dec 2020		**130,952**	**2.97**
– of which exercisable		***8,170***	***4.50***
Weighted average remaining contractual life (years)		**3.68**	
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	

1 *Weighted average exercise price.*
2 *The weighted average fair value of options granted during the year was $0.47 (2019: $1.36).*
3 *The weighted average share price at the date the options were exercised was $7.08 (2019: $7.99).*

Post-employment benefit plans

The Group operates pension plans throughout the world for its employees. 'Pension risk management processes' on page 172 contains details of the policies and practices associated with these pension plans, some of which are defined benefit plans. The largest defined benefit plan is the HBUK section of the HSBC Bank (UK) Pension Scheme ('the principal plan'), created as a result of the HSBC Bank (UK) Pension Scheme being 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 together with the rights of third parties such as trustees.

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 2019 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 £31.1bn ($41.1bn) and this exceeded the value placed on its liabilities on an ongoing basis by £2.5bn ($3.3bn), giving a funding level of 109%. These figures include defined contribution assets amounting to £2.4bn ($3.2bn). 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 2022.

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 contribution is £160m ($218m) to be paid in 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. 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 were to have been 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 £33bn ($44bn) at 31 December 2019.

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. A further judgment by the High Court on 20 November 2020 ruled that GMPs should also be equalised for those who had previously transferred benefits from the principal plan to another arrangement, with £13m ($17m) consequently being recognised in 2020. We continue to assess the impact of GMP equalisation.

Income statement charge

	2020	2019	2018
	$m	$m	$m
Defined benefit pension plans	**146**	176	355
Defined contribution pension plans	**775**	758	756
Pension plans	**921**	934	1,111
Defined benefit and contribution healthcare plans	**25**	15	21
Year ended 31 Dec	**946**	949	1,132

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	**52,990**	**(43,995)**	**(44)**	**8,951**
Defined benefit healthcare plans	**114**	**(639)**	**—**	**(525)**
At 31 Dec 2020	**53,104**	**(44,634)**	**(44)**	**8,426**
Total employee benefit liabilities (within Note 26 'Accruals, deferred income and other liabilities')				**(2,025)**
Total employee benefit assets (within Note 22 'Prepayments, accrued income and other assets')				**10,450**
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

HSBC Holdings

Employee compensation and benefit expense in respect of HSBC Holdings' employees in 2020 amounted to $56m (2019: $37m). The average number of persons employed during 2020 was 59 (2019: 60). 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 2020	**37,874**	**9,693**	**(30,158)**	**(10,424)**	**—**	**(16)**	**7,716**	**(747)**
Service cost	**—**	**—**	**(68)**	**(172)**	**—**	**—**	**(68)**	**(172)**
– current service cost	**—**	**—**	**(28)**	**(184)**	**—**	**—**	**(28)**	**(184)**
– past service cost and gains/(losses) from settlements	**—**	**—**	**(40)**	**12**	**—**	**—**	**(40)**	**12**
Net interest income/(cost) on the net defined benefit asset/(liability)	**726**	**233**	**(575)**	**(245)**	**—**	**—**	**151**	**(12)**
Remeasurement effects recognised in other comprehensive income	**3,173**	**879**	**(2,118)**	**(547)**	**—**	**(26)**	**1,055**	**306**
– return on plan assets (excluding interest income)	**3,173**	**692**	**—**	**—**	**—**	**—**	**3,173**	**692**
– actuarial gains/(losses)[2]	**—**	**—**	**(2,118)**	**(428)**	**—**	**—**	**(2,118)**	**(428)**
– other changes	**—**	**187**	**—**	**(119)**	**—**	**(26)**	**—**	**42**
Exchange differences	**1,446**	**249**	**(1,100)**	**(387)**	**—**	**(2)**	**346**	**(140)**
Benefits paid	**(1,148)**	**(652)**	**1,148**	**727**	**—**	**—**	**—**	**75**
Other movements[4]	**434**	**83**	**(134)**	**58**	**—**	**—**	**300**	**141**
At 31 Dec 2020	**42,505**	**10,485**	**(33,005)**	**(10,990)**	**—**	**(44)**	**9,500**	**(549)**
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 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)[2,3]	—	—	(2,548)	(507)	—	—	(2,548)	(507)
– other changes[3]	—	(3)	—	(14)	—	20	—	3
Exchange differences	1,300	181	(1,036)	(180)	—	(1)	264	—
Benefits paid	(1,014)	(620)	1,014	694	—	—	—	74
Other movements[4]	370	271	(180)	89	—	—	190	360
At 31 Dec 2019	37,874	9,693	(30,158)	(10,424)	—	(16)	7,716	(747)

1 *For further details of the principal plan, see page 303.*
2 *Actuarial gains/(losses) for our principal plan includes losses relating to financial assumptions of $3,179m (2019: $3,049m), gains relating to demographic assumptions of $86m (2019: $186m) and experience adjustments of $975m (2019: $315m). Actuarial gains/(losses) for our other plans includes losses relating to financial assumptions of $564m (2019: $847m), gains relating to demographic assumptions of $49m (2019: $94m) and experience adjustments of $87m (2019: $246m).*
3 *The comparatives have been re-presented to reclassify gains and losses relating to demographic and experience assumptions in other plans from 'other changes' to 'actuarial gains and losses'.*
4 *Other movements include contributions by HSBC, contributions by employees, administrative costs and taxes paid by plan.*

HSBC expects to make $376m of contributions to defined benefit pension plans during 2021. 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

	2021	2022	2023	2024	2025	2026-2030
	$m	$m	$m	$m	$m	$m
The principal plan[1,2]	1,274	1,312	1,352	1,393	1,434	7,840
Other plans[1]	495	520	486	472	470	2,322

1 *The duration of the defined benefit obligation is 17.4 years for the principal plan under the disclosure assumptions adopted (2019: 18.1 years) and 13.5 years for all other plans combined (2019: 13.2 years).*
2 *For further details of the principal plan, see page 303.*

Fair value of plan assets by asset classes

	31 Dec 2020				31 Dec 2019			
	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	**42,505**	**37,689**	**4,816**	**973**	37,874	33,921	3,953	1,183
– equities	**268**	**7**	**261**	**—**	662	312	350	—
– bonds	**36,198**	**35,479**	**719**	**—**	31,699	31,699	—	—
– derivatives	**1,973**	**—**	**1,973**	**973**	2,052	—	2,052	1,183
– other	**4,066**	**2,203**	**1,863**	**—**	3,461	1,910	1,551	—
Other plans								
Fair value of plan assets	**10,485**	**9,512**	**973**	**54**	9,693	8,702	991	239
– equities	**1,484**	**1,069**	**415**	**3**	2,065	1,455	610	2
– bonds	**7,624**	**7,143**	**481**	**10**	6,608	6,376	232	8
– derivatives	**(57)**	**—**	**(57)**	**—**	—	—	—	—
– other	**1,434**	**1,300**	**134**	**41**	1,020	871	149	229

1 The fair value of plan assets includes derivatives entered into with HSBC Bank plc as detailed in Note 35. These derivatives are presented within the principal plan at 31 December 2020. Comparatives have been re-presented.
2 For further details on the principal plan, see page 303.

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 2020	**1.45**	**3.05**	**3.00**	**2.75**
At 31 Dec 2019	2.00	3.10	2.90	3.65

1 For further details on the principal plan, see page 303.

Mortality tables and average life expectancy at age 60[1] for the principal plan

	Mortality table	Life expectancy at age 60 for a male member currently:		Life expectancy at age 60 for a female member currently:	
		Aged 60	Aged 40	Aged 60	Aged 40
UK					
At 31 Dec 2020	**SAPS S3[2]**	**27.0**	**28.5**	**28.1**	**29.7**
At 31 Dec 2019	SAPS S2[3]	28.0	29.4	28.2	29.8

1 For further details of the principal plan, see page 303.
2 Self-administered pension scheme ('SAPS') S3 table (males: 'Normal health pensioners, Light' version; females: 'Normal health pensioners, Heavy' version) with a multiplier of 1 for both male and female pensioners. Improvements are projected in accordance with the continual mortality investigation ('CMI') 2019 core projection model with a long-term rate of improvement 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.
3 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') 2019 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.

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	
	2020	2019	2020	2019
	$m	$m	$m	$m
Discount rate – increase/decrease of 0.25%	**(1,383)**	(1,305)	**1,475**	1,395
Inflation rate – increase/decrease of 0.25%	**871**	781	**(830)**	(738)
Pension payments and deferred pensions – increase/decrease of 0.25%	**1,307**	1,100	**(1,222)**	(1,026)
Pay – increase/decrease of 0.25%	**60**	73	**(59)**	(72)
Change in mortality – increase of 1 year	**1,453**	1,267	**N/A**	N/A

1 For further details of the principal plan, see page 303.

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this in unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions the same method (present value of the defined benefit obligation calculated with the projected unit credit method at the end of the reporting period) has been applied as when calculating the defined benefit asset recognised in the balance sheet. The methods and types of assumptions used in preparing the sensitivity analysis did not change compared with the prior period.

Directors' emoluments

Details of Directors' emoluments, pensions and their interests are disclosed in the Directors' remuneration report on page 229.

6 Auditor's remuneration

	2020	2019	2018
	$m	$m	$m
Audit fees payable to PwC	92.9	85.2	86.6
Other audit fees payable	1.0	0.9	0.9
Year ended 31 Dec	93.9	86.1	87.5

Fees payable by HSBC to PwC

		2020	2019	2018
	Footnotes	$m	$m	$m
Fees for HSBC Holdings' statutory audit	1	21.9	15.7	16.4
Fees for other services provided to HSBC		108.3	95.0	103.1
– audit of HSBC's subsidiaries		71.0	69.5	70.2
– audit-related assurance services	2	17.2	10.0	11.4
– other assurance services	3,4	20.1	12.2	13.5
– taxation compliance services		—	1.6	1.4
– taxation advisory services		—	—	0.1
– other non-audit services	3	—	1.7	6.5
Year ended 31 Dec		130.2	110.7	119.5

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 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, including comfort letters.*
4 *Includes reviews of PRA regulatory reporting returns in 2020.*

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

	2020	2019	2018
	$000	$000	$000
Audit of HSBC's associated pension schemes	316	250	172
Year ended 31 Dec	316	250	172

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 amounted to $12.3m (2019: $17.2m; 2018: $14.0m). In these cases, HSBC was connected with the contracting party and may therefore have been involved in appointing PwC. These fees arose 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 Group.

7 Tax

Tax expense

		2020	2019	2018
	Footnotes	$m	$m	$m
Current tax	1	2,700	3,768	4,195
– for this year		2,883	3,689	4,158
– adjustments in respect of prior years		(183)	79	37
Deferred tax		(22)	871	670
– origination and reversal of temporary differences		(341)	684	656
– effect of changes in tax rates		58	(11)	17
– adjustments in respect of prior years		261	198	(3)
Year ended 31 Dec	2	2,678	4,639	4,865

1 *Current tax included Hong Kong profits tax of $888m (2019: $1,413m; 2018: $1,532m). The Hong Kong tax rate applying to the profits of subsidiaries assessable in Hong Kong was 16.5% (2019: 16.5%; 2018: 16.5%).*
2 *In addition to amounts recorded in the income statement, a tax charge of $7m (2019: charge of $6m) 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:

	2020		2019		2018	
	$m	%	$m	%	$m	%
Profit before tax	**8,777**		13,347		19,890	
Tax expense						
Taxation at UK corporation tax rate of 19.00% (2019: 19.00%; 2018: 19.00%)	**1,668**	**19.0**	2,536	19.0	3,779	19.0
Impact of differently taxed overseas profits in overseas locations	**178**	**2.0**	253	1.9	264	1.3
Items increasing tax charge in 2020:						
– non-UK movements in unrecognised deferred tax	**608**	**6.9**	12	0.1	32	0.2
– UK tax losses not recognised	**444**	**5.1**	364	2.7	435	2.2
– other permanent disallowables	**322**	**3.6**	481	3.6	396	2.0
– local taxes and overseas withholding taxes	**228**	**2.6**	484	3.6	437	2.2
– bank levy	**202**	**2.3**	184	1.4	191	1.0
– adjustments in respect of prior period liabilities	**78**	**0.9**	277	2.1	34	0.2
– impacts of hyperinflation	**65**	**0.7**	29	0.2	78	0.4
– impact of changes in tax rates	**58**	**0.6**	(11)	(0.1)	17	0.1
– non-deductible regulatory settlements	**33**	**0.4**	5	—	153	0.8
– non-deductible goodwill write-down	**—**	**—**	1,421	10.7	—	—
Items reducing tax charge in 2020:						
– non-taxable income and gains	**(515)**	**(5.8)**	(844)	(6.3)	(691)	(3.5)
– deductions for AT1 coupon payments	**(310)**	**(3.5)**	(263)	(2.0)	—	—
– effect of profits in associates and joint ventures	**(250)**	**(2.8)**	(467)	(3.5)	(492)	(2.5)
– UK banking surcharge	**(113)**	**(1.3)**	29	0.2	229	1.1
– non-deductible UK customer compensation	**(18)**	**(0.2)**	382	2.9	16	0.1
– non-taxable gain on dilution of shareholding in SABB	**—**	**—**	(181)	(1.3)	—	—
– other items	**—**	**—**	(52)	(0.4)	(13)	(0.1)
Year ended 31 Dec	**2,678**	**30.5**	4,639	34.8	4,865	24.5

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 2020 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 21.00% (2019: 20.90%). The effective tax rate for the year of 30.5% (2019: 34.8%) was lower than for 2019. The effective tax rate for 2019 included a non-deductible impairment of goodwill of $7.3bn (10.7% increase in effective tax rate) and a higher level of non-deductible customer compensation (3.1% increase in effective tax rate compared with 2020), both of which are non-recurring items. This was partly offset by the impact of non-recognition of deferred tax, mainly in the UK ($0.4bn) and France ($0.4bn), being greater in 2020 than 2019 (9.2% increase in effective tax rate compared with 2019).

Following an amendment to IAS 12 effective 1 January 2019, the income tax consequences of distributions, including AT1 coupon payments, were recorded in the income statement tax expense. The 2018 reconciliation has 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	Unused tax losses and tax credits	Derivatives, FVOD[1] and other investments	Insurance business	Expense provisions	Fixed assets	Retirement obligations	Other	Total
		$m	$m	$m	$m	$m	$m	$m	$m	$m
Assets		**983**	**1,414**	**979**	**—**	**650**	**1,002**	**—**	**422**	**5,450**
Liabilities		**—**	**—**	**(558)**	**(1,621)**	**—**	**—**	**(1,613)**	**(401)**	**(4,193)**
At 1 Jan 2020		**983**	**1,414**	**421**	**(1,621)**	**650**	**1,002**	**(1,613)**	**21**	**1,257**
Income statement		**295**	**355**	**(274)**	**(32)**	**(81)**	**(112)**	**(190)**	**61**	**22**
Other comprehensive income		**—**	**—**	**(23)**	**—**	**—**	**—**	**(387)**	**(660)**	**(1,070)**
Equity		**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Foreign exchange and other adjustments		**(36)**	**52**	**(281)**	**31**	**(4)**	**11**	**(116)**	**304**	**(39)**
At 31 Dec 2020		**1,242**	**1,821**	**(157)**	**(1,622)**	**565**	**901**	**(2,306)**	**(274)**	**170**
Assets	2	**1,242**	**1,821**	**548**	**—**	**565**	**901**	**—**	**960**	**6,037**
Liabilities	2	**—**	**—**	**(705)**	**(1,622)**	**—**	**—**	**(2,306)**	**(1,234)**	**(5,867)**
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)

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 $4,483m (2019: $4,632m) and deferred tax liabilities $4,313m (2019: $3,375m).

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 Group's net deferred tax asset of $0.2bn (2019: $1.3bn) included $2.4bn (2019: $2.8bn) of deferred tax assets relating to the US, of which $1.0bn related to US tax losses that expire in 13 to 17 years. Management expects the US deferred tax asset to be substantially recovered in seven to eight years, with the majority recovered in the first five years. During 2020, the Group derecognised $250m of deferred tax asset relating to US state tax losses as management did not consider there to be sufficient evidence of future taxable profits against which to recover these losses before they expire. Management's assessment of the likely availability of future taxable profits against which to recover the US deferred tax assets takes into consideration the reversal of existing taxable temporary differences, past business performance and forecasts of future business performance. 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.

The Group's net deferred tax asset of $0.2bn (2019: $1.3bn) also included a net UK deferred tax asset of $0.6bn (2019: liability of $0.5bn), of which $0.5bn related to UK banking tax losses created in 2020. The net UK deferred tax asset of $0.6bn excludes the deferred tax liability arising on the UK pension scheme surplus, the reversal of which is not taken into account when estimating future taxable profits. The UK deferred tax asset is supported by forecasts of taxable profit, also taking into consideration the history of profitability in the combined UK banking entities and the fact that the loss arising in 2020 arose due to an identifiable and non-recurring reason, being the economic impacts of Covid-19.

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 $15.6bn (2019: $9.9bn). This amount included unused UK corporation tax losses of $9.3bn (2019: $7.3bn) which were not recognised due to uncertainty regarding the availability of sufficient future taxable profits against which to recover them. Of the total amounts unrecognised, $11.5bn (2019: $7.4bn) had no expiry date, $0.7bn (2019: $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 $12.1bn (2019: $13.4bn) and the corresponding unrecognised deferred tax liability was $0.7bn (2019: $1.0bn).

8 Dividends

Dividends to shareholders of the parent company

	2020			2019			2018		
	Per share	**Total**	**Settled in scrip**	Per share	Total	Settled in scrip	Per share	Total	Settled in scrip
	$	**$m**	**$m**	$	$m	$m	$	$m	$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
In respect of current year:									
– first interim dividend	—	—	—	0.10	2,013	375	0.10	2,008	213
– second interim dividend	—	—	—	0.10	2,021	795	0.10	1,990	181
– third interim dividend	—	—	—	0.10	2,029	357	0.10	1,992	707
Total	—	—	—	0.51	10,269	2,687	0.51	10,187	1,494
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		**1,241**			1,324			1,270	
Dividends to shareholders		**1,331**			11,683			11,547	

Total coupons on capital securities classified as equity

	Footnotes	First call date	2020 Per security	2020 Total $m	2019 Total $m	2018 Total $m
Perpetual subordinated capital securities	1, 3					
$2,200m issued at 8.125%		Apr 2013	**$0.000**	**—**	—	89
$3,800m issued at 8.000%		Dec 2015	**$0.000**	**—**	—	76
Perpetual subordinated contingent convertible securities	2, 3					
$1,500m issued at 5.625%	4	Nov 2019	**$56.250**	**—**	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	180
$2,350m issued at 6.250%		Mar 2023	**$62.500**	**147**	147	73
$1,800m issued at 6.500%		Mar 2028	**$65.000**	**117**	117	59
$1,500m issued at 4.600%	5	Jun 2031	**$46.000**	**—**	—	—
€1,500m issued at 5.250%		Sep 2022	**€52.500**	**90**	88	95
€1,000m issued at 6.000%		Sep 2023	**€60.000**	**67**	66	72
€1,250m issued at 4.750%		July 2029	**€47.500**	**67**	68	70
£1,000m issued at 5.875%		Sep 2026	**£58.750**	**74**	75	—
SGD1,000m issued at 4.700%		Jun 2022	**SGD47.000**	**35**	34	35
SGD750m issued at 5.000%		Sep 2023	**SGD50.000**	**27**	28	—
Total				**1,241**	1,324	1,270

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 *For further details of these securities, see 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. For further details on additional tier 1 securities, see Note 31.*
5 *This security was issued by HSBC Holdings on 17 December 2020. The first call date commences six calendar months prior to the reset date of 17 June 2031.*

After the end of the year, the Directors approved an interim dividend in respect of the financial year ended 31 December 2020 of $0.15 per ordinary share, a distribution of approximately $3,055m. The interim dividend will be payable on 29 April 2021 to holders on the Principal Register in the UK, the Hong Kong Overseas Branch Register or the Bermuda Overseas Branch Register on 12 March 2021. No liability was recorded in the financial statements in respect of the interim dividend for 2020.

On 4 January 2021, HSBC paid a coupon on its €1,250m subordinated capital securities, representing a total distribution of €30m ($36m). No liability was recorded in the balance sheet at 31 December 2020 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

	2020 $m	2019 $m	2018 $m
Profit attributable to shareholders of the parent company	**5,229**	7,383	13,727
Dividend payable on preference shares classified as equity	**(90)**	(90)	(90)
Coupon payable on capital securities classified as equity	**(1,241)**	(1,324)	(1,029)
Year ended 31 Dec	**3,898**	5,969	12,608

Basic and diluted earnings per share

		2020			2019			2018		
	Footnotes	Profit $m	Number of shares (millions)	Per share $	Profit $m	Number of shares (millions)	Per share $	Profit $m	Number of shares (millions)	Per share $
Basic	1	**3,898**	**20,169**	**0.19**	5,969	20,158	0.30	12,608	19,896	0.63
Effect of dilutive potential ordinary shares			**73**			75			87	
Diluted	1	**3,898**	**20,242**	**0.19**	5,969	20,233	0.30	12,608	19,983	0.63

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 14.6 million (2019: 1.1 million; 2018: nil).

10 Segmental analysis

The Group Chief Executive, supported by the rest of the Group Executive Committee ('GEC'), 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. Therefore, we present these results on an adjusted basis as required by IFRSs. The 2019 and 2018 adjusted performance information is presented on a constant currency basis. The 2019 and 2018 income statements are converted at the average rates of exchange for 2020, and the balance sheets at 31 December 2019 and 31 December 2018 at the prevailing rates of exchange on 31 December 2020.

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.

Change in reportable segments

Effective from the second quarter of 2020, we made the following realignments within our internal reporting to the GEC and CODM:

- We simplified our matrix organisational structure by combining Global Private Banking and Retail Banking and Wealth Management to form Wealth and Personal Banking.
- We reallocated our reporting of Markets Treasury, hyperinflation accounting in Argentina and HSBC Holdings net interest expense from Corporate Centre to the global businesses.

Comparative data have been re-presented accordingly.

Our global businesses

We provide a comprehensive range of banking and related financial services to our customers in our three global businesses. The products and services offered to customers are organised by these global businesses.

- Wealth and Personal Banking ('WPB') provides a full range of retail banking and wealth products to our customers from personal banking to ultra high net worth individuals. Typically, customer offerings include retail banking products, such as current and savings accounts, mortgages and personal loans, credit cards, debit cards and local and international payment services. We also provide wealth management services, including insurance and investment products, global asset management services, investment management and Private Wealth Solutions for customers with more sophisticated and international requirements.
- Commercial Banking ('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 customers access to products and services offered by other global businesses, such as Global Banking and Markets, which include foreign exchange products, raising capital on debt and equity markets and advisory services.
- Global Banking and Markets ('GBM') 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.

HSBC adjusted profit before tax and balance sheet data

		2020				
		Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Corporate Centre	Total
	Footnotes	$m	$m	$m	$m	$m
Net operating income/(expense) before change in expected credit losses and other credit impairment charges	1	22,013	13,312	15,303	(262)	50,366
– external		19,990	13,741	18,162	(1,527)	50,366
– inter-segment		2,023	(429)	(2,859)	1,265	–
of which: net interest income/(expense)		*15,090*	*9,317*	*4,518*	*(1,326)*	*27,599*
Change in expected credit losses and other credit impairment (charges)/recoveries		(2,855)	(4,754)	(1,209)	1	(8,817)
Net operating income/(expense)		19,158	8,558	14,094	(261)	41,549
Total operating expenses		(15,024)	(6,689)	(9,264)	(482)	(31,459)
Operating profit/(loss)		4,134	1,869	4,830	(743)	10,090
Share of profit in associates and joint ventures		6	(1)	–	2,054	2,059
Adjusted profit before tax		4,140	1,868	4,830	1,311	12,149
		%	%	%	%	%
Share of HSBC's adjusted profit before tax		34.1	15.4	39.7	10.8	100.0
Adjusted cost efficiency ratio		68.3	50.2	60.5	(184.0)	62.5
Adjusted balance sheet data		$m	$m	$m	$m	$m
Loans and advances to customers (net)		469,186	343,182	224,364	1,255	1,037,987
Interests in associates and joint ventures		447	14	143	26,080	26,684
Total external assets		881,918	570,295	1,347,440	184,511	2,984,164
Customer accounts		834,759	470,428	336,983	610	1,642,780

Financial statements

HSBC adjusted profit before tax and balance sheet data (continued)

	Footnotes	2019[2]				
		Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Corporate Centre	Total
		$m	$m	$m	$m	$m
Net operating income/(expense) before change in expected credit losses and other credit impairment charges	1	25,565	15,164	14,869	(654)	54,944
– external		21,252	16,094	20,314	(2,716)	54,944
– inter-segment		4,313	(930)	(5,445)	2,062	—
of which: net interest income/(expense)		*17,423*	*10,957*	*5,223*	*(3,264)*	*30,339*
Change in expected credit losses and other credit impairment (charges)/ recoveries		(1,348)	(1,162)	(153)	36	(2,627)
Net operating income/(expense)		24,217	14,002	14,716	(618)	52,317
Total operating expenses		(15,388)	(6,832)	(9,544)	(755)	(32,519)
Operating profit/(loss)		8,829	7,170	5,172	(1,373)	19,798
Share of profit in associates and joint ventures		54	—	—	2,297	2,351
Adjusted profit before tax		8,883	7,170	5,172	924	22,149
		%	%	%	%	%
Share of HSBC's adjusted profit before tax		40.1	32.4	23.4	4.2	100.0
Adjusted cost efficiency ratio		60.2	45.1	64.2	(115.4)	59.2
Adjusted balance sheet data		$m	$m	$m	$m	$m
Loans and advances to customers (net)		455,618	353,781	252,131	1,166	1,062,696
Interests in associates and joint ventures		449	14	16	24,941	25,420
Total external assets		793,100	523,585	1,310,772	156,354	2,783,811
Customer accounts		768,151	397,182	304,094	780	1,470,207

1 *Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.*
2 *A change in reportable segments was made in 2020. Comparative data have been re-presented accordingly.*

HSBC adjusted profit before tax and balance sheet data (continued)

	Footnotes	2018[2]				
		Wealth and Personal Banking	Commercial Banking	Global Banking and Markets	Corporate Centre	Total
		$m	$m	$m	$m	$m
Net operating income/(expense) before change in expected credit losses and other credit impairment charges	1	23,551	14,374	15,056	(883)	52,098
– external		19,096	14,675	18,780	(453)	52,098
– inter-segment		4,455	(301)	(3,724)	(430)	—
of which: net interest income/(expense)		*16,418*	*10,220*	*4,880*	*(2,070)*	*29,448*
Change in expected credit losses and other credit impairment (charges)/ recoveries		(1,072)	(683)	34	101	(1,620)
Net operating income/(expense)		22,479	13,691	15,090	(782)	50,478
Total operating expenses		(14,614)	(6,307)	(9,316)	(1,486)	(31,723)
Operating profit/(loss)		7,865	7,384	5,774	(2,268)	18,755
Share of profit in associates and joint ventures		32	—	—	2,412	2,444
Adjusted profit before tax		7,897	7,384	5,774	144	21,199
		%	%	%	%	%
Share of HSBC's adjusted profit before tax		37.3	34.8	27.2	0.7	100.0
Adjusted cost efficiency ratio		62.1	43.9	61.9	(168.3)	60.9
Adjusted balance sheet data		$m	$m	$m	$m	$m
Loans and advances to customers (net)		419,231	344,855	253,319	1,599	1,019,004
Interests in associates and joint ventures		399	—	—	22,753	23,152
Total external assets		741,222	520,403	1,261,807	128,021	2,651,453
Customer accounts		729,902	372,551	306,438	831	1,409,722

1 *Net operating income before change in expected credit losses and other credit impairment charges, also referred to as revenue.*
2 *A change in reportable segments was made in 2020. Comparative data have been re-presented accordingly.*

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	**2020**	2019	2018
		$m	$m	$m
Reported external net operating income by country/territory	1	**50,429**	56,098	53,780
– UK		**9,163**	9,011	10,340
– Hong Kong		**15,783**	18,449	17,162
– US		**4,474**	4,471	4,379
– France		**1,753**	1,942	1,898
– other countries		**19,256**	22,225	20,001

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

Adjusted results reconciliation

		2020			2019				2018			
		Adjusted	**Significant items**	**Reported**	Adjusted	Currency translation	Significant items	Reported	Adjusted	Currency translation	Significant items	Reported
	Footnotes	**$m**	**$m**	**$m**	$m	$m	$m	$m	$m	$m	$m	$m
Revenue	1	**50,366**	**63**	**50,429**	54,944	471	683	56,098	52,098	1,854	(172)	53,780
ECL		**(8,817)**	**—**	**(8,817)**	(2,627)	(129)	—	(2,756)	(1,620)	(147)	—	(1,767)
Operating expenses		**(31,459)**	**(2,973)**	**(34,432)**	(32,519)	(223)	(9,607)	(42,349)	(31,723)	(1,280)	(1,656)	(34,659)
Share of profit in associates and joint ventures		**2,059**	**(462)**	**1,597**	2,351	3	—	2,354	2,444	92	—	2,536
Profit/(loss) before tax		**12,149**	**(3,372)**	**8,777**	22,149	122	(8,924)	13,347	21,199	519	(1,828)	19,890

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

Adjusted balance sheet reconciliation

	2020	2019			2018		
	Reported and adjusted	Adjusted	Currency translation	Reported	Adjusted	Currency translation	Reported
	$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers (net)	**1,037,987**	1,062,696	(25,953)	1,036,743	1,019,004	(37,308)	981,696
Interests in associates and joint ventures	**26,684**	25,420	(946)	24,474	23,152	(745)	22,407
Total external assets	**2,984,164**	2,783,811	(68,659)	2,715,152	2,651,453	(93,329)	2,558,124
Customer accounts	**1,642,780**	1,470,207	(31,092)	1,439,115	1,409,722	(47,079)	1,362,643

Adjusted profit reconciliation

		2020	2019	2018
	Footnotes	**$m**	$m	$m
Year ended 31 Dec				
Adjusted profit before tax		**12,149**	22,149	21,199
Significant items		**(3,372)**	(8,924)	(1,828)
– customer redress programmes (revenue)		**(21)**	(163)	53
– disposals, acquisitions and investment in new businesses (revenue)		**(10)**	768	(113)
– fair value movements on financial instruments	1	**264**	84	(100)
– restructuring and other related costs (revenue)	2	**(170)**	—	—
– costs of structural reform	3	**—**	(158)	(361)
– customer redress programmes (operating expenses)		**54**	(1,281)	(146)
– disposals, acquisitions and investment in new businesses (operating expenses)		**—**	—	(52)
– impairment of goodwill and other intangible assets		**(1,090)**	(7,349)	—
– past service costs of guaranteed minimum pension benefits equalisation		**(17)**	—	(228)
– restructuring and other related costs (operating expenses)	4	**(1,908)**	(827)	(66)
– settlements and provisions in connection with legal and other regulatory matters		**(12)**	61	(816)
– impairment of goodwill (share of profit in associates and joint ventures)	5	**(462)**	—	—
– currency translation on significant items			(59)	1
Currency translation			122	519
Reported profit before tax		**8,777**	13,347	19,890

1 *Includes fair value movements on non-qualifying hedges and debt valuation adjustments on derivatives.*
2 *Comprises losses associated with the RWA reduction commitments and gains relating to the business update in February 2020.*
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 *Includes impairment of software intangible assets of $189m (of the total software intangible asset impairment of $1,347m) and impairment of tangible assets of $197m.*
5 *During the year, The Saudi British Bank ('SABB'), an associate of HSBC, impaired the goodwill that arose following the merger with Alawwal bank in 2019. HSBC's post-tax share of the goodwill impairment was $462m.*

11 Trading assets

		2020	2019
	Footnotes	**$m**	$m
Treasury and other eligible bills		**24,035**	21,789
Debt securities		**102,846**	126,043
Equity securities		**77,643**	78,827
Trading securities		**204,524**	226,659
Loans and advances to banks	1	**8,242**	8,402
Loans and advances to customers	1	**19,224**	19,210
Year ended 31 Dec		**231,990**	254,271

1 *Loans and advances to banks and customers include reverse repos, stock borrowing and other accounts.*

Trading securities[1]

	Footnotes	2020 $m	2019 $m
US Treasury and US Government agencies	2	**17,393**	25,722
UK Government		**8,046**	10,040
Hong Kong Government		**6,500**	9,783
Other governments		**70,580**	72,456
Asset-backed securities	3	**4,253**	4,691
Corporate debt and other securities		**20,109**	25,140
Equity securities		**77,643**	78,827
At 31 Dec		**204,524**	226,659

1 *Included within these figures are debt securities issued by banks and other financial institutions of $10,876m (2019: $17,846m), of which $1,298m (2019: $2,637m) 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 GBM. GBM'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

	2020				2019			
	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	**167,980**	**61,511**	**2,499**	**231,990**	186,653	62,639	4,979	254,271
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	**19,711**	**14,365**	**11,477**	**45,553**	18,626	15,525	9,476	43,627
Derivatives	**2,602**	**302,454**	**2,670**	**307,726**	1,728	239,131	2,136	242,995
Financial investments	**303,654**	**94,746**	**3,654**	**402,054**	261,341	93,018	3,218	357,577
Liabilities								
Trading liabilities	**53,290**	**21,814**	**162**	**75,266**	66,925	16,192	53	83,170
Financial liabilities designated at fair value	**1,267**	**150,866**	**5,306**	**157,439**	9,549	149,901	5,016	164,466
Derivatives	**1,788**	**297,025**	**4,188**	**303,001**	1,331	235,864	2,302	239,497

Balances from 2019 have been re-presented to disclose a consistent application of the levelling methodology, primarily for private debt and equity and real estate investments during the period. This resulted in $15.1bn and $2.9bn moving into Levels 2 and 3, respectively, from Level 1. The change has impacted the disclosure for 'Financial investments' and 'Financial assets designated and otherwise mandatorily measured at fair value'.

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 2020							
Transfers from Level 1 to Level 2	**4,514**	**3,891**	**245**	**–**	**155**	**7,414**	**–**
Transfers from Level 2 to Level 1	**7,764**	**5,517**	**328**	**1**	**433**	**–**	**–**
At 31 Dec 2019							
Transfers from Level 1 to Level 2	7,965	3,304	—	24	278	—	—
Transfers from Level 2 to Level 1	4,184	2,726	673	111	220	—	117

Balances from 2019 have been re-presented to disclose a consistent application of the levelling methodology.

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

We adopt the use of fair value adjustments when we take into consideration additional factors not incorporated within the valuation model that would otherwise be considered by a market participant. We classify fair value adjustments as either 'risk-related' or 'model-related'. The majority of these adjustments relate to GBM. Movements in the level of fair value adjustments do not necessarily result in the recognition of profits or losses within the income statement. For example, as models are enhanced, fair value adjustments may no longer be required. Similarly, fair value adjustments will decrease when the related positions are unwound, but this may not result in profit or loss.

Global Banking and Markets fair value adjustments

	2020		2019	
	GBM	Corporate Centre	GBM	Corporate Centre
	$m	$m	$m	$m
Type of adjustment				
Risk-related	**1,170**	**28**	1,118	47
– bid-offer	**514**	**–**	506	1
– uncertainty	**106**	**1**	115	1
– credit valuation adjustment	**445**	**27**	355	38
– debt valuation adjustment	**(120)**	**–**	(126)	—
– funding fair value adjustment	**204**	**–**	241	7
– other	**21**	**–**	27	—
Model-related	**74**	**–**	71	3
– model limitation	**70**	**–**	68	3
– other	**4**	**–**	3	—
Inception profit (Day 1 P&L reserves)	**104**	**–**	72	—
At 31 Dec	**1,348**	**28**	1,261	50

We reallocated our reporting of Markets Treasury and the funding costs of HSBC Holdings debt from Corporate Centre to the global businesses. Comparative data have been re-presented accordingly.

Fair value adjustment changes were mainly driven by an increase in inception profit (Day 1 P&L reserves), and an increase in credit valuation adjustment ('CVA') due to widening credit spreads and changes to derivative exposures caused by interest rates moves.

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	**930**	**4**	**10,971**	**—**	**11,905**	**4**	**—**	**—**	**4**
Asset-backed securities	**1,286**	**523**	**25**	**—**	**1,834**	**—**	**—**	**—**	**—**
Loans held for securitisation	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Structured notes	**—**	**—**	**—**	**—**	**—**	**29**	**5,301**	**—**	**5,330**
Derivatives with monolines	**—**	**—**	**—**	**68**	**68**	**—**	**—**	**—**	**—**
Other derivatives	**—**	**—**	**—**	**2,602**	**2,602**	**—**	**—**	**4,187**	**4,187**
Other portfolios	**1,438**	**1,972**	**481**	**—**	**3,891**	**129**	**5**	**1**	**135**
At 31 Dec 2020	**3,654**	**2,499**	**11,477**	**2,670**	**20,300**	**162**	**5,306**	**4,188**	**9,656**
Private equity including strategic investments	716	4	8,831	—	9,551	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	1,628	4,037	578	—	6,243	2	—	—	2
At 31 Dec 2019	3,218	4,979	9,476	2,136	19,809	53	5,016	2,302	7,371

Balances from 2019 have been re-presented to disclose a consistent application of the levelling methodology. This resulted in an increase of $2.9bn of assets in Level 3. 'Other portfolios' increased by $1.4bn and 'Private equity including strategic investments' increased by $1.5bn.

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; the price at which similar companies have changed ownership; or from published net asset values ('NAVs') received. If necessary, adjustments are made to the NAV of funds to obtain the best estimate of fair value.

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 investments	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 2020		**3,218**	**4,979**	**9,476**	**2,136**	**53**	**5,016**	**2,302**
Total gains/(losses) recognised in profit or loss		17	(6)	504	2,281	307	(59)	3,398
– net income/(losses) from financial instruments held for trading or managed on a fair value basis		–	(6)	–	2,281	307	–	3,398
– changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		–	–	504	–	–	(59)	–
– gains less losses from financial investments at fair value through other comprehensive income		17	–	–	–	–	–	–
– expected credit loss charges and other credit risk charges		–	–	–	–	–	–	–
Total gains recognised in other comprehensive income ('OCI')	1	394	115	286	143	17	204	169
– financial investments: fair value gains		270	–	–	–	–	–	–
– exchange differences		124	115	286	143	17	204	169
Purchases		671	687	3,701	–	66	–	–
New issuances		–	–	1	–	6	1,876	–
Sales		(674)	(1,579)	(2,042)	–	(260)	–	–
Settlements		(530)	(1,122)	(435)	(1,542)	(26)	(1,531)	(1,462)
Transfers out		(101)	(1,790)	(140)	(565)	(9)	(777)	(528)
Transfers in		659	1,215	126	217	8	577	309
At 31 Dec 2020		**3,654**	**2,499**	**11,477**	**2,670**	**162**	**5,306**	**4,188**
Unrealised gains/(losses) recognised in profit or loss relating to assets and liabilities held at 31 Dec 2020		–	(32)	412	707	1	(91)	(1,621)
– net income/(losses) from financial instruments held for trading or managed on a fair value basis		–	(32)	–	707	1	–	(1,621)
– changes in fair value of other financial instruments mandatorily measured at fair value through profit or loss		–	–	412	–	–	(91)	–
– loan impairment recoveries and other credit risk provisions		–	–	–	–	–	–	–

Movement in Level 3 financial instruments (continued)

	Footnotes	Assets				Liabilities		
		Financial investments	Trading assets	Designated and otherwise mandatorily measured at fair value through profit or loss	Derivatives	Trading liabilities	Designated at fair value	Derivatives
		$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2019		2,796	6,759	7,080	2,423	58	5,328	1,756
Total gains/(losses) recognised in profit or loss		6	(112)	587	278	(4)	195	930
– net income/(losses) 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		—	—	587	—	—	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	309	76	(4)	49	1	18	52
– financial investments: fair value gains		301	—	—	—	—	—	—
– exchange differences		8	76	(4)	49	1	18	52
Purchases		693	2,206	2,506	—	8	157	—
New issuances		—	154	—	—	6	1,601	—
Sales		(56)	(895)	(276)	—	(9)	(193)	—
Settlements		(329)	(2,107)	(434)	(100)	(7)	(1,048)	(162)
Transfers out		(488)	(1,558)	(23)	(710)	(9)	(1,079)	(473)
Transfers in		287	456	40	196	9	37	199
At 31 Dec 2019		3,218	4,979	9,476	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)	465	279	—	57	(407)
– net income/(losses) 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		—	—	465	—	—	57	—
– loan impairment recoveries and other credit risk provisions		(4)	—	—	—	—	—	—

1 *Included in 'financial investments: fair value gains/(losses)' in the current year and 'exchange differences' in the consolidated statement of comprehensive income.*

Balances from 2019 have been re-presented to disclose a consistent application of the levelling methodology. The result of this is an increase of $2.9bn of assets in Level 3. 'Financial investments' increased by $1.2bn and 'Private equity including strategic investments financial assets designated and otherwise mandatorily measured at fair value' increased by $1.7bn.

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 fair values to reasonably possible alternative assumptions

	Footnotes	**2020**				2019			
		Reflected in profit or loss		**Reflected in OCI**		Reflected in profit or loss		Reflected in OCI	
		Favourable changes	**Un-favourable changes**	**Favourable changes**	**Un-favourable changes**	Favourable changes	Un-favourable changes	Favourable changes	Un-favourable changes
		$m	**$m**	**$m**	**$m**	$m	$m	$m	$m
Derivatives, trading assets and trading liabilities	1	**229**	**(244)**	**—**	**—**	255	(230)	—	—
Financial assets and liabilities designated and otherwise mandatorily measured at fair value through profit or loss		**644**	**(643)**	**—**	**—**	618	(503)	—	—
Financial investments		**35**	**(35)**	**110**	**(110)**	48	(53)	81	(81)
At 31 Dec		**908**	**(922)**	**110**	**(110)**	921	(786)	81	(81)

1 *'Derivatives, trading assets and trading liabilities' are presented as one category to reflect the manner in which these instruments are risk-managed.*

Balances from 2019 have been re-presented to disclose a consistent application of the levelling methodology. The result of this is an increase in 'Financial investments reflected through OCI' and 'Financial asset designated and mandatorily measured at fair value reflected in profit or loss' of $59m and $86m respectively.

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 2020.

Quantitative information about significant unobservable inputs in Level 3 valuations

	Fair value				2020		2019	
	Assets	Liabilities	Valuation techniques	Key unobservable inputs	Full range of inputs		Full range of inputs	
	$m	$m			Lower	Higher	Lower	Higher
Private equity including strategic investments	**11,905**	**4**	**See below**	**See below**				
Asset-backed securities	**1,834**	**–**						
– collateralised loan/debt obligation	**59**	**–**	**Market proxy**	**Prepayment rate**	**0%**	**9%**	0%	9%
			Market proxy	**Bid quotes**	**0**	**100**	0	100
– other ABSs	**1,775**	**–**	**Market proxy**	**Bid quotes**	**0**	**101**	0	101
Loans held for securitisation	**–**	**–**						
Structured notes	**–**	**5,330**						
– equity-linked notes	**–**	**4,069**	**Model – Option model**	**Equity volatility**	**6%**	**115%**	5%	90%
			Model – Option model	**Equity correlation**	**(4)%**	**88%**	9%	93%
– FX-linked notes	**–**	**608**	**Model – Option model**	**FX volatility**	**0%**	**36%**	1%	23%
– other	**–**	**653**						
Derivatives with monolines	**68**	**–**	**Model – Discounted cash flow**	**Credit spread**	**2%**	**2%**	0%	2%
Other derivatives	**2,602**	**4,187**						
– interest rate derivatives	**1,300**	**1,414**						
securitisation swaps	**285**	**707**	**Model – Discounted cash flow**	**Prepayment rate**	**6%**	**6%**	6%	7%
long-dated swaptions	**529**	**370**	**Model – Option model**	**IR volatility**	**6%**	**28%**	8%	22%
other	**486**	**337**						
– FX derivatives	**468**	**466**						
FX options	**152**	**194**	**Model – Option model**	**FX volatility**	**0%**	**43%**	1%	25%
other	**316**	**272**						
– equity derivatives	**754**	**2,244**						
long-dated single stock options	**583**	**1,091**	**Model – Option model**	**Equity volatility**	**0%**	**120%**	0%	89%
other	**171**	**1,153**						
– credit derivatives	**80**	**63**						
other	**80**	**63**						
Other portfolios	**3,891**	**135**						
– structured certificates	**–**	**–**	**Model – Discounted cash flow**	**Credit volatility**	**–**	**–**	4%	4%
– repurchase agreements	**872**	**128**	**Model – Discounted cash flow**	**IR curve**	**0%**	**5%**	1%	8%
– other[1]	**3,019**	**7**						
At 31 Dec 2020	**20,300**	**9,656**						

1 *'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

	2020	2019
	$m	$m
Valuation technique using observable inputs: Level 2		
Assets at 31 Dec		
– derivatives	**4,698**	2,002
– designated and otherwise mandatorily measured at fair value through profit or loss	**65,253**	61,964
Liabilities at 31 Dec		
– designated at fair value	**25,664**	30,303
– derivatives	**3,060**	2,021

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 2020					
Assets					
Loans and advances to banks	**81,616**	**—**	**80,457**	**1,339**	**81,796**
Loans and advances to customers	**1,037,987**	**—**	**9,888**	**1,025,573**	**1,035,461**
Reverse repurchase agreements – non-trading	**230,628**	**—**	**230,330**	**272**	**230,602**
Financial investments – at amortised cost	**88,639**	**28,722**	**67,572**	**507**	**96,801**
Liabilities					
Deposits by banks	**82,080**	**—**	**81,996**	**—**	**81,996**
Customer accounts	**1,642,780**	**—**	**1,642,988**	**143**	**1,643,131**
Repurchase agreements – non-trading	**111,901**	**3**	**111,898**	**—**	**111,901**
Debt securities in issue	**95,492**	**—**	**96,371**	**657**	**97,028**
Subordinated liabilities	**21,951**	**—**	**28,552**	**—**	**28,552**
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

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

	2020		2019	
	Carrying amount	Fair value[1]	Carrying amount	Fair value[1]
	$m	$m	$m	$m
Assets at 31 Dec				
Loans and advances to HSBC undertakings	10,443	10,702	10,218	10,504
Financial investments – at amortised cost	17,485	17,521	16,106	16,121
Liabilities at 31 Dec				
Amounts owed to HSBC undertakings	330	330	464	464
Debt securities in issue	64,029	67,706	56,844	59,140
Subordinated liabilities	17,916	22,431	18,361	22,536

1 *Fair values (other than Level 1 financial investments) were determined using valuation techniques with observable inputs (Level 2).*

14 Financial assets designated and otherwise mandatorily measured at fair value through profit or loss

	2020			2019		
	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	2,492	39,088	41,580	2,344	35,808	38,152
– treasury and other eligible bills	635	26	661	630	31	661
– debt securities	1,857	5,250	7,107	1,714	4,838	6,552
– equity securities	–	33,812	33,812	–	30,939	30,939
Loans and advances to banks and customers	–	2,988	2,988	1	4,555	4,556
Other	–	985	985	–	919	919
At 31 Dec	2,492	43,061	45,553	2,345	41,282	43,627

Securities[1]

	Footnotes	2020 Designated at fair value	2020 Mandatorily measured at fair value	2020 Total	2019 Designated at fair value	2019 Mandatorily measured at fair value	2019 Total
		$m	$m	$m	$m	$m	$m
Hong Kong Government		**22**	**—**	**22**	4	—	4
Other governments		**648**	**674**	**1,322**	666	754	1,420
Asset-backed securities	2	**—**	**235**	**235**	—	363	363
Corporate debt and other securities		**1,822**	**4,367**	**6,189**	1,674	3,752	5,426
Equities		**—**	**33,812**	**33,812**	—	30,939	30,939
At 31 Dec		**2,492**	**39,088**	**41,580**	2,344	35,808	38,152

1 *Included within these figures are debt securities issued by banks and other financial institutions of $1,180m (2019 re-presented: $1,244m), of which nil (2019: 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	**7,606,446**	**35,021**	**106,696**	**309**	**107,005**	**108,903**	**1,182**	**110,085**
Interest rate	**15,240,867**	**157,436**	**249,204**	**1,914**	**251,118**	**236,594**	**2,887**	**239,481**
Equities	**652,288**	**—**	**14,043**	**—**	**14,043**	**15,766**	**—**	**15,766**
Credit	**269,401**	**—**	**2,590**	**—**	**2,590**	**3,682**	**—**	**3,682**
Commodity and other	**120,259**	**—**	**2,073**	**—**	**2,073**	**3,090**	**—**	**3,090**
Gross total fair values	**23,889,261**	**192,457**	**374,606**	**2,223**	**376,829**	**368,035**	**4,069**	**372,104**
Offset (Note 30)					**(69,103)**			**(69,103)**
At 31 Dec 2020	**23,889,261**	**192,457**	**374,606**	**2,223**	**307,726**	**368,035**	**4,069**	**303,001**
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

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 2020, 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	**23,413**	**—**	**506**	**—**	**506**	**870**	**—**	**870**
Interest rate	**47,569**	**34,006**	**966**	**3,221**	**4,187**	**2,176**	**8**	**2,184**
At 31 Dec 2020	**70,982**	**34,006**	**1,472**	**3,221**	**4,693**	**3,046**	**8**	**3,054**
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

Use of derivatives

For details regarding the use of derivatives, see page 186 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	2020 $m	2019 $m
Unamortised balance at 1 Jan		**73**	86
Deferral on new transactions		**232**	145
Recognised in the income statement during the year:		**(205)**	(154)
– amortisation		**(116)**	(80)
– subsequent to unobservable inputs becoming observable		**(4)**	(3)
– maturity, termination or offsetting derivative		**(85)**	(71)
Exchange differences		**4**	1
Other		**–**	(5)
Unamortised balance at 31 Dec	1	**104**	73

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 'Risk review'.

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			
Hedged risk	Notional amount[1] $m	Assets $m	Liabilities $m	Balance sheet presentation	Change in fair value[2] $m
Interest rate[3]	**121,573**	**1,675**	**3,761**	**Derivatives**	**(1,894)**
At 31 Dec 2020	**121,573**	**1,675**	**3,761**		**(1,894)**
Interest rate[3]	122,753	1,056	2,208	Derivatives	(1,531)
At 31 Dec 2019	122,753	1,056	2,208		(1,531)

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]					
Hedged risk	Assets $m	Liabilities $m	Assets $m	Liabilities $m	Balance sheet presentation	Change in fair value[1] $m	Recognised in profit and loss $m	Profit and loss presentation
Interest rate[3]	**102,260**		**3,392**		**Financial assets designated and otherwise mandatorily measured at fair value through other comprehensive income**	**2,456**	**(11)**	**Net income from financial instruments held for trading or managed on a fair value basis**
	6		**3**		**Loans and advances to banks**	**1**		
	2,280		**56**		**Loans and advances to customers**	**21**		
		12,148		**1,620**	**Debt securities in issue**	**(613)**		
		89		**3**	**Deposits by banks**	**18**		
At 31 Dec 2020	**104,546**	**12,237**	**3,451**	**1,623**		**1,883**	**(11)**	

HSBC hedged item by hedged risk (continued)

	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				
Hedged risk	$m	$m	$m	$m	Balance sheet presentation	$m	$m	Profit and loss presentation
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)	

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 $855m for FVOCI and assets of $17m for debt issued.*
3 *The hedged risk 'interest rate' includes inflation risk.*

HSBC Holdings hedging instrument by hedged risk

	Hedging instrument				
		Carrying amount			
	Notional amount[1,4]	Assets	Liabilities	Balance sheet	Change in fair value[2]
Hedged risk	$m	$m	$m	presentation	$m
Interest rate[3]	**34,006**	**3,221**	**8**	**Derivatives**	**1,927**
At 31 Dec 2020	**34,006**	**3,221**	**8**		**1,927**
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 $34,006m, of which the weighted-average maturity date is February 2028 and the weighted-average swap rate is 1.71%. The majority of these hedges are internal to the Group.*

HSBC Holdings 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	
	Assets	Liabilities	Assets	Liabilities	Balance sheet			Profit and loss
Hedged risk	$m	$m	$m	$m	presentation	$m	$m	presentation
Interest rate[3]		**37,338**		**3,027**	**Debt securities in issue**	**(1,910)**	**17**	**Net income from financial instruments held for trading or managed on a fair value basis**
At 31 Dec 2020	**–**	**37,338**	**–**	**3,027**		**(1,910)**	**17**	
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 $62.8m 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

	Hedging instrument					Hedged item	Ineffectiveness	
		Carrying amount						
Hedged risk	Notional amount[1] $m	Assets $m	Liabilities $m	Balance sheet presentation	Change in fair value[2] $m	Change in fair value[3] $m	Recognised in profit and loss $m	Profit and loss presentation
Foreign currency	**24,506**	**309**	**448**	**Derivatives**	**(630)**	**(630)**	**—**	**Net income from financial instruments held for trading or managed on a fair value basis**
Interest rate	**35,863**	**239**	**2**	**Derivatives**	**519**	**514**	**5**	
At 31 Dec 2020	**60,369**	**548**	**450**		**(111)**	**(116)**	**5**	
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	

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 2020	**204**	**(205)**
Fair value gains/(losses)	**514**	**(630)**
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	**(107)**	**822**
Income taxes	**(79)**	**(23)**
Others	**(37)**	**(1)**
Cash flow hedging reserve at 31 Dec 2020	**495**	**(37)**
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 has affected profit or loss	99	(371)
Income taxes	(53)	4
Others	(9)	3
Cash flow hedging reserve at 31 Dec 2019	204	(205)

Hedges of net investments in foreign operations

The Group applies hedge accounting in respect of certain consolidated net investments. Hedging is undertaken for Group structural exposure to changes in the US dollar-sterling exchange rate using forward foreign exchange contracts or by financing with foreign currency borrowings. This risk arises due to the Group investment in sterling functional currency subsidiaries and is only hedged for changes in spot exchange rates. At 31 December 2020, the fair values of outstanding financial instruments designated as hedges of net investments in foreign operations were assets of nil (2019: nil), liabilities of $733m (2019: $485m) and notional derivative contract values of $10,500m (2019: $10,500m). These values are included in 'Derivatives' presented in the balance sheet. Ineffectiveness recognised in 'Net income from financial instruments held for trading or managed on a fair value basis' in the year ended 31 December 2020 was nil (2019: nil) and the net investment hedge reserve was a negative $56m as of 31 December 2020 ($304m in 2019 and $780m in 2018). There were no amounts reclassified to the profit and loss account during the accounting periods presented.

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

The first set of amendments ('Phase 1') to IFRS 9 and IAS 39, published in September 2019 and endorsed in January 2020, primarily allows the assumption that interbank offered rates ('Ibors') are to continue unaltered for the purposes of forecasting hedged cash flows until such time as the uncertainty of transitioning to near risk-free rates ('RFRs') is resolved. The second set of amendments ('Phase 2'), issued in August 2020 and endorsed in January 2021, allows the modification of hedge documentation to reflect the components of hedge relationships that have transitioned to RFRs on an economically equivalent basis as a direct result of the Ibor transition.

While the application of Phase 1 amendments is mandatory for accounting periods starting on or after 1 January 2020, the Group chose to early adopt the Phase 2 amendments from the beginning of 2020. Significant judgement will be required in determining when Ibor transition uncertainty is resolved and therefore decide when Phase 1 amendments cease to apply and when some of the Phase 2 amendments can be applied.

The notional value of the derivatives impacted by the Ibors reform but which are not used in designated hedge accounting relationships is disclosed on page 113 in the section 'Financial instruments impacted by the Ibor reform'.

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'). Existing financial instruments (such as derivatives, loans and bonds) designated in relationships referencing these benchmarks are expected to transition to 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 Phase 1 and Phase 2 amendments are 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 expected to be directly affected by market-wide Ibors reform and in scope of Phase 1 and Phase 2 amendments. 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	**17,792**	**3,706**	**32,789**	**10,128**	**64,415**	**57,157**	**121,572**
Cash flow hedges	**8,344**	**2,522**	**8,705**	**6,797**	**26,368**	**9,495**	**35,863**
At 31 Dec 2020	**26,136**	**6,228**	**41,494**	**16,925**	**90,783**	**66,652**	**157,435**
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.*

During 2019, the main market event in scope of Ibor reform was the change to the calculation of Eonia to be calculated as the euro short-term rate ('€STR') plus a fixed spread of 8.5 basis points. This event had no material impact to the valuation of components of designated hedge accounting relationships and there were no discontinuations of existing designated relationships. The main market events in scope of Ibor reform during 2020 were the changes applied by central clearing counterparties to remunerating euro and US dollar collateral. While there was a minimal valuation impact to the derivatives in scope that are used for hedge accounting, these changes had no discontinuation impact to any of the designated relationships affected.

For further details of Ibor transition, see 'Areas of special interest' in the Risk review 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	**4,290**	**5,393**	**21,081**	**3,242**	**34,006**	**–**	**34,006**
At 31 Dec 2020	**4,290**	**5,393**	**21,081**	**3,242**	**34,006**	**–**	**34,006**
Fair value hedges	3,928	5,222	24,500	3,119	36,769	–	36,769
At 31 Dec 2019	3,928	5,222	24,500	3,119	36,769	–	36,769

16 Financial investments

Carrying amount of financial investments

	2020	2019
	$m	$m
Financial investments measured at fair value through other comprehensive income	**402,054**	357,577
– treasury and other eligible bills	**118,163**	95,043
– debt securities	**281,467**	260,536
– equity securities	**2,337**	1,913
– other instruments	**87**	85
Debt instruments measured at amortised cost	**88,639**	85,735
– treasury and other eligible bills	**11,757**	10,476
– debt securities	**76,882**	75,259
At 31 Dec	**490,693**	443,312

Equity instruments measured at fair value through other comprehensive income

	Fair value	Dividends recognised
Type of equity instruments	**$m**	**$m**
Investments required by central institutions	**904**	**22**
Business facilitation	**1,387**	**22**
Others	**46**	**3**
At 31 Dec 2020	**2,337**	**47**
Investments required by central institutions	738	22
Business facilitation	1,124	19
Others	51	9
At 31 Dec 2019	1,913	50

Financial investments at amortised cost and fair value

		2020		2019	
		Amortised cost	Fair value[1]	Amortised cost	Fair value[1]
	Footnotes	$m	$m	$m	$m
US Treasury		**75,531**	**78,251**	79,633	80,589
US Government agencies	2	**19,851**	**20,320**	26,356	26,387
US Government-sponsored entities		**10,691**	**11,224**	8,070	8,259
UK Government		**28,094**	**28,754**	28,621	28,973
Hong Kong Government		**55,483**	**55,507**	47,824	47,820
Other governments		**178,091**	**180,881**	140,510	142,511
Asset-backed securities	3	**2,708**	**2,536**	2,954	2,889
Corporate debt and other securities		**110,015**	**118,960**	101,750	107,364
Equities		**1,410**	**2,337**	1,241	1,913
At 31 Dec		**481,874**	**498,770**	436,959	446,705

1 *Included within 'fair value' figures are debt securities issued by banks and other financial institutions of $62bn (2019: $61bn), of which $10bn (2019: $11bn) 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	1 to 5 years	5 to 10 years	Over 10 years	Total
	$m	$m	$m	$m	$m
Debt securities measured at fair value through other comprehensive income	**72,250**	**131,859**	**42,168**	**35,190**	**281,467**
Debt securities measured at amortised cost	**6,135**	**16,499**	**19,437**	**34,811**	**76,882**
At 31 Dec 2020	**78,385**	**148,358**	**61,605**	**70,001**	**358,349**
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

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	6,596	1.2	22,945	1.6	15,618	1.5	4,195	2.3
US Government agencies	–	–	95	1.8	43	2.8	12,608	1.8
US Government-sponsored agencies	30	2.8	789	2.2	2,988	2.5	4,968	1.8
UK Government	2,765	1.5	5,126	0.8	6,220	0.2	4,910	2.3
Hong Kong Government	84	1.6	247	1.6	167	1.8	–	–
Other governments	51,507	1.7	62,587	2.3	8,184	1.6	2,089	4.3
Asset-backed securities	18	2.9	93	1.4	399	1.8	2,199	1.2
Corporate debt and other securities	10,831	2.1	35,615	1.4	7,169	1.8	2,583	3.4
Total amortised cost at 31 Dec 2020	71,831		127,497		40,788		33,552	
Total carrying value	72,250		131,859		42,168		35,190	
Debt securities measured at amortised cost								
US Treasury	3,769	0.1	4,618	1.6	3,003	2.0	969	2.8
US Government agencies	–	–	9	3.8	13	4.5	7,084	2.6
US Government-sponsored agencies	110	2.5	258	2.7	436	2.2	1,112	3.3
Hong Kong Government	13	3.0	23	1.6	118	2.6	12	4.8
Other governments	179	3.4	370	4.1	426	3.8	1,011	4.2
Asset-backed securities	–	–	–	–	–	–	2	6.0
Corporate debt and other securities	2,064	3.3	11,221	3.4	15,441	3.4	24,621	3.8
Total amortised cost at 31 Dec 2020	6,135		16,499		19,437		34,811	
Total carrying value	6,135		16,497		19,439		34,812	

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 2020 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

	2020	2019
	$m	$m
Debt instruments measured at amortised cost		
– treasury and other eligible bills	10,941	10,081
– debt securities	6,544	6,025
At 31 Dec	17,485	16,106

Financial investments at amortised cost and fair value

	2020		2019	
	Amortised cost	Fair value	Amortised cost	Fair value
	$m	$m	$m	$m
US Treasury	17,485	17,521	16,106	16,121
US Government agencies	–	–	–	–
US Government-sponsored entities	–	–	–	–
At 31 Dec	17,485	17,521	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	3,767	2,777	–	–	6,544
At 31 Dec 2020	3,767	2,777	–	–	6,544
Debt securities measured at amortised cost	3,010	3,015	–	–	6,025
At 31 Dec 2019	3,010	3,015	–	–	6,025

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	3,767	1.5	2,777	0.3	–	–	–	–
US Government agencies	–	–	–	–	–	–	–	–
US Government-sponsored agencies	–	–	–	–	–	–	–	–
Total amortised cost at 31 Dec 2020	3,767		2,777		–		–	
Total carrying value	3,767		2,777		–		–	

The weighted average yield for each range of maturities is calculated by dividing the annualised interest income for the year ended 31 December 2020 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

	2020	2019
	$m	$m
Treasury bills and other eligible securities	**12,774**	14,034
Loans and advances to banks	**236**	1,975
Loans and advances to customers	**43,168**	26,017
Debt securities	**67,312**	60,995
Equity securities	**26,101**	24,626
Other	**60,810**	50,231
Assets pledged at 31 Dec	**210,401**	177,878

Assets pledged as collateral include all assets categorised as encumbered in the disclosure on page 78 of the Pillar 3 Disclosures at 31 December 2020*.*

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 for 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

	2020	2019
	$m	$m
Trading assets	**64,225**	63,163
Financial investments	**16,915**	10,782
At 31 Dec	**81,140**	73,945

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 $447,101m (2019: $468,798m). The fair value of any such collateral sold or repledged was $246,520m (2019: $304,261m).

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 2020					
Repurchase agreements	**52,413**	**51,092**			
Securities lending agreements	**38,364**	**124**			
Other sales (recourse to transferred assets only)	**3,564**	**3,478**	**3,619**	**3,564**	**55**
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

18 Interests in associates and joint ventures

Carrying amount of HSBC's interests in associates and joint ventures

	2020	2019
	$m	$m
Interests in associates	26,594	24,384
Interests in joint ventures	90	90
Interests in associates and joint ventures	**26,684**	24,474

Principal associates of HSBC

	2020		2019	
	Carrying amount	Fair value[1]	Carrying amount	Fair value[1]
	$m	$m	$m	$m
Bank of Communications Co., Limited	21,248	7,457	18,982	10,054
The Saudi British Bank	4,215	4,197	4,370	5,550

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 2020		
	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	31.00

1 *In December 2020, HSBC purchased additional shares and increased its shareholding in The Saudi British Bank ('SABB') from 29.2% to 31.0%. SABB will continue to be accounted for as 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 with consideration of all relevant factors, including representation on BoCom's Board of Directors and participation in a Resource and Experience Sharing ('RES') agreement. Under the RES, 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 2020, the fair value of the Group's investment in BoCom had been below the carrying amount for approximately nine years. As a result, the Group performed an impairment test on the carrying amount, which confirmed that there was no impairment at 31 December 2020 as the recoverable amount as determined by a value-in-use ('VIU') calculation was higher than the carrying value.

	At 31 Dec 2020			At 31 Dec 2019		
	VIU	Carrying value	Fair value	VIU	Carrying value	Fair value
	$bn	$bn	$bn	$bn	$bn	$bn
BoCom	21.8	21.2	7.5	21.5	19.0	10.1

Compared with 31 December 2019, the extent to which the VIU exceeds the carrying value ('headroom') decreased by $1.9bn. The reduction in headroom was principally due to the impact on the VIU from BoCom's actual performance, which was lower than earlier forecasts due to the impact of the Covid-19 outbreak and the disruption to global economic activity, downward revisions to management's best estimates of BoCom's future earnings in the short to medium term, and the net impact of revisions to certain long-term assumptions. Both the VIU and the carrying value increased due to the impact of foreign exchange movements.

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 forecast of 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 into 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% (2019: 3%) for periods after 2024, which does not exceed forecast GDP growth in mainland China and is consistent with forecasts by external analysts.
- Long-term asset growth rate: 3% (2019: 3%) for periods after 2024, which is the rate that assets are expected to grow to achieve long-term profit growth of 3%.
- Discount rate: 11.37% (2019: 11.24%). 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 10.3% to 15.0% (2019: 10.0% to 15.0%) indicated by external sources. The increased rate reflects the net impact of updates to certain components of CAPM due to elevated levels of risk arising from the impact of the Covid-19 outbreak and the disruption to global economic activity.
- Expected credit losses ('ECL') as a percentage of customer advances: This ranges from 0.98% to 1.22% (2019: 0.95%) in the short to medium term, reflecting increases due to the Covid-19 outbreak and BoCom's actual results. For periods after 2024, the ratio is 0.88% (2019: 0.76%), which is slightly higher than BoCom's average ECL in recent years. This ratio was increased to reflect trends in BoCom's actual results in recent years of increasing ECL and of changes to BoCom's loan portfolio.
- Risk-weighted assets as a percentage of total assets: This ranges from 61% to 62% (2019: 61%) in the short to medium term, reflecting increases that may arise from higher ECL in the short term, followed by reductions that may arise from a subsequent lowering of ECL and a continuation of the trend of strong retail loan growth. For periods after 2024, the ratio is 61% (2019: 61%). These rates are similar to BoCom's actual results in recent years and are slightly below forecasts disclosed by external analysts.
- Operating income growth rate: This ranges from 3.5% to 6.7% (2019: 4.9% to 9.4%) in the short to medium term, and is lower than BoCom's actual results in recent years and the forecasts disclosed by external analysts, reflecting economic pressures from the Covid-19 outbreak, global trade tensions and industry developments in mainland China.
- Cost-income ratio: This ranges from 36.3% to 36.8% (2019: 37.1% to 38.8%) in the short to medium term. These ratios are similar to BoCom's actual results in recent years and slightly higher than forecasts disclosed by external analysts.
- Effective tax rate: This ranges from 7.8% to 16.5% (2019: 12.0% to 17.0%) in the short to medium term, reflecting BoCom's actual results and an expected increase towards the long-term assumption through the forecast period. For periods after 2024, the rate is 16.8% (2019: 22.5%), which is higher than the recent historical average. This rate was reduced on expectations of a lower effective tax rate in the long term, reflecting BoCom's actual results in recent years and forecast financial asset composition, and forecasts disclosed by external analysts.
- Capital requirements: This was based on a capital adequacy ratio of 11.5% (2019: 11.5%) and tier 1 capital adequacy ratio of 9.5% (2019: 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 22 basis points
• Long-term asset growth rate	• Increase by 20 basis points
• Discount rate	• Increase by 26 basis points
• Expected credit losses as a percentage of customer advances	• Increase by 3 basis points
• Risk-weighted assets as a percentage of total assets	• Increase by 136 basis points
• Operating income growth rate	• Decrease by 28 basis points
• Cost-income ratio	• Increase by 77 basis points
• Long-term effective tax rate	• Increase by 216 basis points
• Capital requirements – capital adequacy ratio	• Increase by 26 basis points
• Capital requirements – tier 1 capital adequacy ratio	• Increase by 90 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 2020						
Long-term profit growth rate	**—**	**—**	**21.8**	**(50)**	**(1.3)**	**20.5**
Long-term asset growth rate	**(50)**	**1.4**	**23.2**	**—**	**—**	**21.8**
Discount rate	**—**	**1.2**	**23.0**	**53**	**(1.2)**	**20.6**
Expected credit losses as a percentage of customer advances	**2020 to 2024: 96 2025 onwards: 76**	**2.3**	**24.1**	**2020 to 2024: 122 2025 onwards: 95**	**(2.1)**	**19.7**
Risk-weighted assets as a percentage of total assets	**(40)**	**0.1**	**21.9**	**166**	**(0.8)**	**21.0**
Operating income growth rate	**2**	**0.2**	**22.0**	**(69)**	**(1.5)**	**20.3**
Cost-income ratio	**(149)**	**1.3**	**23.1**	**120**	**(1.2)**	**20.6**
Long-term effective tax rate	**(316)**	**0.9**	**22.7**	**820**	**(2.2)**	**19.6**
Capital requirements – capital adequacy ratio	**—**	**—**	**21.8**	**297**	**(7.8)**	**14.0**
Capital requirements – tier 1 capital adequacy ratio	**—**	**—**	**21.8**	**263**	**(5.3)**	**16.5**
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
Operating income growth rate	14	—	21.8	(102)	(1.8)	19.7
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
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

Considering the interrelationship of the changes set out in the table above, management estimates that the reasonably possible range of VIU is $18.2bn to $24.2bn (2019: $18.5bn to $22.8bn). 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 2020, HSBC included the associate's results on the basis of the financial statements for the 12 months ended 30 September 2020, taking into account changes in the subsequent period from 1 October 2020 to 31 December 2020 that would have materially affected the results.

Selected balance sheet information of BoCom

	At 30 Sep	
	2020	2019
	$m	$m
Cash and balances at central banks	**121,987**	112,239
Loans and advances to banks and other financial institutions	**107,334**	108,026
Loans and advances to customers	**870,728**	730,510
Other financial assets	**508,328**	435,740
Other assets	**44,622**	40,101
Total assets	**1,652,999**	1,426,616
Deposits by banks and other financial institutions	**273,708**	290,492
Customer accounts	**1,012,732**	868,627
Other financial liabilities	**207,110**	131,772
Other liabilities	**31,105**	23,074
Total liabilities	**1,524,655**	1,313,965
Total equity	**128,344**	112,651

Reconciliation of BoCom's total shareholders' equity to the carrying amount in HSBC's consolidated financial statements

	At 30 Sep	
	2020	2019
	$m	$m
HSBC's share of total shareholders' equity	**20,743**	18,509
Goodwill and other intangible assets	**505**	473
Carrying amount	**21,248**	18,982

Selected income statement information of BoCom

	For the 12 months ended 30 Sep	
	2020	2019
	$m	$m
Net interest income	**21,994**	20,558
Net fee and commission income	**6,398**	6,411
Change in expected credit losses and other credit impairment charges	**(9,698)**	(7,479)
Depreciation and amortisation	**(2,072)**	(1,934)
Tax expense	**(858)**	(1,636)
Profit for the year	**10,261**	11,175
Other comprehensive income	**(769)**	315
Total comprehensive income	**9,492**	11,490
Dividends received from BoCom	**633**	613

The Saudi British Bank

The Group's investment in The Saudi British Bank ('SABB') is classified as an associate. In June 2019, the merger between SABB and Alawwal bank ('Alawwal') became effective, which reduced HSBC's 40% interest in SABB to 29.2%. On 3 December 2020, HSBC purchased additional shares in SABB, which increased the Group's shareholding to 31%. HSBC remains the largest shareholder in SABB. Significant influence in SABB is established via representation on the Board of Directors. Investments in associates are recognised using the equity method of accounting in accordance with IAS 28, as described previously for BoCom.

Impairment testing

At 31 December 2020, the fair value of the Group's investment in SABB of $4.20bn was below the carrying amount of $4.22bn. As a result, the Group performed an impairment test on the carrying amount, which confirmed no impairment. The recoverable amount as determined by a VIU calculation is $4.74bn.

The basis of recoverable amount

The impairment test was performed by comparing the recoverable amount of SABB, 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, which requires significant management judgement. A key component to the VIU calculation is management's best estimate of SABB's earnings, which is based on explicit forecasts over the short to medium term. This 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. 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: 2.85% for periods after 2024. This does not exceed forecast GDP growth in Saudi Arabia.
- Long-term asset growth rate: 2.85% for periods after 2024. This is the rate that assets are expected to grow to achieve long-term profit growth of 2.85%.
- Discount rate: 10.4%. This is based on a CAPM calculation for Saudi Arabia using market data. Management also compares the rate derived from the CAPM with cost of capital rates from external sources.
- Management's judgement in estimating the cash flows of SABB: Cash flow projections have considered the scale of the entity following the merger with Alawwal, current market conditions and our macroeconomic outlook.

Sensitivity of VIU to reasonably possible changes in key assumptions

At 31 December 2020, the Group's investment in SABB was sensitive to reasonably possible adverse changes in key assumptions supporting the recoverable amount. The most sensitive inputs to the impairment test are set out in the following table. A reasonable change in a single key assumption may not result in impairment, although taken together a combination of reasonable changes in key assumptions could result in a recoverable amount that is lower than the carrying amount.

Key assumption	Reasonably possible change
• Cash flow projections	• Cash flow projections decrease by 15%. This could result in an impairment of $0.2bn.
• Discount rate	• Discount rate increases by 100 basis points. This does not result in impairment.

19 Investments in subsidiaries

Main subsidiaries of HSBC Holdings

	At 31 Dec 2020		
	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 Continental Europe	**France**	**99.99**	**€5 Actions**
HSBC Trinkaus & Burkhardt AG[1]	**Germany**	**99.33**	**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**	**RM0.5 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**

1 *The Group acquired the remaining minority equity interest in HSBC Trinkaus & Burkhardt AG on 1 February 2021. The Group now owns 100% of this subsidiary.*

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 net reduction in investments in subsidiaries was partly due to the impairment of HSBC Overseas Holdings (UK) Limited of $0.4bn.

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 2020, 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

	2020	2019
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	**843**	1,229
Accumulated non-controlling interests of the subsidiary	**7,604**	7,262
Dividends paid to non-controlling interests	**625**	720
Summarised financial information:		
– total assets	**224,483**	212,485
– total liabilities	**202,907**	191,819
– net operating income before changes in expected credit losses and other credit impairment charges	**4,568**	5,558
– profit for the year	**2,230**	3,251
– total comprehensive income for the year	**2,535**	3,461

Financial statements

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 2020	**6.9**	**11.7**	**5.3**	**10.8**	**34.7**
At 31 Dec 2019	8.6	9.6	6.8	6.7	31.7

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 2020, Solitaire, HSBC's principal SIC, held $1.9bn of ABSs (2019: $2.1bn). It is currently funded entirely by commercial paper ('CP') issued to HSBC. At 31 December 2020, HSBC held $2.1bn of CP (2019: $3.2bn).

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 $9.6bn at 31 December 2020 (2019: $12.4bn). 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	**86**	**292**	**1,430**	**47**	**1,855**
500–2,000	**9**	**94**	**733**	**2**	**838**
2,000–5,000	**—**	**32**	**389**	**—**	**421**
5,000–25,000	**—**	**14**	**311**	**—**	**325**
25,000+	**—**	**5**	**41**	**—**	**46**
Number of entities at 31 Dec 2020	**95**	**437**	**2,904**	**49**	**3,485**
	$bn	**$bn**	**$bn**	**$bn**	**$bn**
Total assets in relation to HSBC's interests in the unconsolidated structured entities	**4.4**	**9.9**	**17.5**	**2.1**	**33.9**
– trading assets	**—**	**0.3**	**3.2**	**—**	**3.5**
– financial assets designated and otherwise mandatorily measured at fair value	**—**	**8.6**	**13.8**	**—**	**22.4**
– loans and advances to customers	**4.4**	**—**	**—**	**1.5**	**5.9**
– financial investments	**—**	**1**	**0.5**	**—**	**1.5**
– other assets	**—**	**—**	**—**	**0.6**	**0.6**
Total liabilities in relation to HSBC's interests in the unconsolidated structured entities	**—**	**—**	**—**	**0.3**	**0.3**
– other liabilities	**—**	**—**	**—**	**0.3**	**0.3**
Other off-balance sheet commitments	**0.1**	**0.5**	**4.9**	**1.2**	**6.7**
HSBC's maximum exposure at 31 Dec 2020	**4.5**	**10.4**	**22.4**	**3.6**	**40.9**
Total asset values of the entities ($m)					
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

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 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 90.

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 2020 and 2019 were not significant.

21 Goodwill and intangible assets

	Footnotes	2020 $m	2019 $m
Goodwill		**5,881**	5,590
Present value of in-force long-term insurance business		**9,435**	8,945
Other intangible assets	1	**5,127**	5,628
At 31 Dec		**20,443**	20,163

1 *Included within other intangible assets is internally generated software with a net carrying value of $4,452m (2019: $4,829m). During the year, capitalisation of internally generated software was $1,934m (2019: $2,086m), impairment was $1,322m (2019: $38m) and amortisation was $1,085m (2019: $947m).*

Movement analysis of goodwill

	2020 $m	2019 $m
Gross amount		
At 1 Jan	**22,084**	22,180
Exchange differences	**967**	(154)
Other	**84**	58
At 31 Dec	**23,135**	22,084
Accumulated impairment losses		
At 1 Jan	**(16,494)**	(9,194)
Impairment losses	**(41)**	(7,349)
Exchange differences	**(719)**	49
At 31 Dec	**(17,254)**	(16,494)
Net carrying amount at 31 Dec	**5,881**	5,590

Goodwill

Impairment testing

In previous years the Group's annual impairment test in respect of goodwill allocated to each CGU was performed at 1 July. Beginning in 2020 the annual impairment test will be performed as at 1 October to better align the timing of the test with cash flow projections approved by the Board. A review for indicators of impairment is undertaken at each subsequent quarter-end.

Basis of the recoverable amount

The recoverable amount of all CGUs to which goodwill has been allocated was equal to its value in use ('VIU') at each respective testing date. The VIU is calculated by discounting management's cash flow projections for the CGU. At 1 October 2020, all CGUs supporting goodwill had a VIU larger than their respective carrying amounts. 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 1 October 2020

	Goodwill at 1 Oct 2020 $m	Discount rate %	Growth rate beyond initial cash flow %	Goodwill at 1 Jul 2020 $m	Discount rate %	Nominal growth rate beyond initial cash flow projections %	Goodwill at 31 Dec 2019 $m	Discount rate %	Nominal growth rate beyond initial cash flow projections %
Cash-generating unit Europe – WPB[1]	**3,582**	**9.6**	**1.9**	**3,496**	**8.3**	**3.2**	3,464	8.3	1.7

1 *CGU tested as Europe – RBWM at 31 December 2019. Details regarding our change in global businesses are set out in Note 10.*

At 1 October 2020, aggregate goodwill of $2,059m (1 July 2019: $2,938m; 31 December 2019: $2,126m) 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 1 October 2020 impairment test, cash flow projections until the end of the first quarter of 2025 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.

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. These growth rates reflect inflation for the countries within which the CGU operates or from which it derives revenue.

Sensitivities of key assumptions in calculating VIU

At 31 December 2020, Europe – WPB 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 one or more of these assumptions could result in an impairment.

	Input	Key assumptions	Associated risks	Reasonably possible change
Cash-generating unit				
Europe – WPB	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%.
	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 100bps. 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

	Europe – WPB
In $bn (unless otherwise stated)	
At 31 December 2020	
Carrying amount	**11.1**
VIU	**16.4**
Impact on VIU	
100 bps increase in the discount rate – single variable	**(2.3)**
30% decrease in cash flow projections – single variable	**(6.0)**
Cumulative impact of all changes	**(7.6)**
Changes to key assumption to reduce headroom to nil – single variable	
Discount rate – bps	**271**
Cash flows – %	**(26.5)**

30 June impairment indicators review

At 30 June 2020, we considered the pervasive macroeconomic deterioration caused by the outbreak of Covid-19, along with the impact on forecast profitability in some businesses, to be an indicator of goodwill impairment. As a result, an interim impairment test was performed by comparing the estimated recoverable amount of each CGU carrying goodwill, determined by a VIU calculation, with its carrying amount. At 30 June 2020, the goodwill allocated to Middle East and North Africa – WPB ($41m) was fully impaired. This CGU carried no further significant non-financial assets.

Other intangible assets

Impairment testing

We considered the pervasive macroeconomic deterioration caused by the outbreak of Covid-19, along with the impact of forecast profitability in some businesses, to be indicators of intangible asset impairment during the period. The impairment tests were performed by comparing the net carrying amount of CGUs containing intangible assets with their recoverable amounts. Recoverable amounts were determined by calculating an estimated VIU or fair value, as appropriate, for each CGU. Our cash flow forecasts were updated for changes in the external outlook, although economic and geopolitical risks increase the inherent estimation uncertainty.

We recognised $1.3bn of capitalised software impairment related principally to businesses within HSBC Bank plc, our non-ring-fenced bank in Europe, and to a lesser degree businesses within HSBC USA Inc. This impairment reflected underperformance and deterioration in the future forecasts of these businesses, substantially relating to prior periods in HSBC Bank plc.

Key assumptions in VIU calculation

We used a number of assumptions in our VIU calculation, in accordance with the requirements of IAS 36:

- Management's judgement in estimating future cash flows: We considered past business performance, the scale of the current impact from the Covid-19 outbreak on our operations, current market conditions and our macroeconomic outlook to estimate future earnings. 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. For some businesses, this means that the benefit of certain strategic actions are not included in this impairment assessment, including capital releases.

- Long-term growth rates: The long-term growth rate is used to extrapolate the cash flows in perpetuity because of the long-term perspective of the businesses within the Group.
- Discount rates: Rates are based on a CAPM calculation considering market data for the businesses and geographies in which the Group operates. Discount rates ranged from 8.5% to 9.7% for HSBC Bank plc's businesses.

Future software capitalisation

We will continue to invest in digital capabilities to meet our strategic objectives. However, software capitalisation within businesses where impairment was identified will not resume until the performance outlook for each business indicates future profits are sufficient to support capitalisation. The cost of additional software investment in these businesses will be recognised as an operating expense until such time.

Sensitivity of estimates relating to non-financial assets

As explained in Note 1.2(a), estimates of future cash flows for cash-generating units ('CGUs') are made in the review of goodwill and non-financial assets for impairment. Non-financial assets include other intangible assets shown above, and owned property, plant and equipment and right-of-use assets (see Note 22). The most significant sources of estimation uncertainty are in respect of the goodwill balances disclosed above. There are no non-financial asset balances relating to individual CGUs which involve estimation uncertainty that represents a significant risk of resulting in a material adjustment to the results and financial position of the Group within the next financial year. Non-financial assets are widely distributed across CGUs within the legal entities of the Group, including Corporate Centre assets that cannot be allocated to CGUs and are therefore tested for impairment at consolidated level, and the recoverable amounts of other intangible assets, owned property, plant and equipment, and right-of-use assets cannot be lower than individual asset fair values less costs to dispose, where relevant. At HSBC Holdings plc consolidated level, Corporate Centre assets that cannot be allocated to CGUs within the legal entities of the Group were sensitive to reasonably possible adverse changes in cash flow projections and discount rates, which could result in a recoverable amount that is lower than the carrying amount. Corporate Centre non-financial assets include owned property, plant and equipment ($2.1bn), right-of-use assets ($0.6bn) and other intangible assets ($0.5bn). A 12% decrease in cash flow projections or a 110bps increase in the discount rate (from 10.5% to 11.6%) would reduce the current CGU headroom ($27.5bn) to nil.

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

		2020	2019
	Footnotes	**$m**	$m
At 1 Jan		**8,945**	7,149
Change in PVIF of long-term insurance business		**382**	1,749
– value of new business written during the year		**776**	1,225
– expected return	1	**(1,003)**	(836)
– assumption changes and experience variances (see below)		**604**	1,378
– other adjustments		**5**	(18)
Exchange differences and other movements		**108**	47
At 31 Dec		**9,435**	8,945

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:

- $132m (2019: $1,126m), directly offsetting interest rate-driven changes to the valuation of liabilities under insurance contracts;
- $247m (2019: $36m), 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; and
- $225m (2019: $216m), 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.

	2020		2019	
	Hong Kong	**France[1]**	Hong Kong	France[1]
	%	**%**	%	%
Weighted average risk-free rate	**0.71**	**0.34**	1.84	0.44
Weighted average risk discount rate	**4.96**	**1.34**	5.44	1.27
Expense inflation	**3.00**	**1.60**	3.00	1.70

1 For 2020, the calculation of France's PVIF assumes a risk discount rate of 1.34% (2019: 1.27%) plus a risk margin of $213m (2019: $130m).

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 accounted for as a deduction from the PVIF asset, unless the cost of such guarantees is already allowed for as an explicit addition to liabilities under insurance contracts. For further details of these guarantees and the impact of changes in economic assumptions on our insurance manufacturing subsidiaries, see page 193.

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 194.

22 Prepayments, accrued income and other assets

	2020	2019
	$m	$m
Prepayments and accrued income	8,114	9,057
Settlement accounts	17,316	14,744
Cash collateral and margin receivables	59,543	49,148
Assets held for sale	299	123
Bullion	20,151	14,830
Endorsements and acceptances	10,278	10,198
Reinsurers' share of liabilities under insurance contracts (Note 4)	3,448	3,592
Employee benefit assets (Note 5)	10,450	8,280
Right-of-use assets	4,002	4,222
Owned property, plant and equipment	10,412	10,480
Other accounts	12,399	12,006
At 31 Dec	**156,412**	136,680

Prepayments, accrued income and other assets include $105,469m (2019: $92,979m) of financial assets, the majority of which are measured at amortised cost.

23 Trading liabilities

		2020	2019
	Footnotes	$m	$m
Deposits by banks	1	6,689	4,187
Customer accounts	1	10,681	6,999
Other debt securities in issue (Note 25)		1,582	1,404
Other liabilities – net short positions in securities		56,314	70,580
At 31 Dec		**75,266**	83,170

1 *'Deposits by banks' and 'Customer accounts' include repos, stock lending and other amounts.*

24 Financial liabilities designated at fair value

HSBC

		2020	2019
	Footnotes	$m	$m
Deposits by banks and customer accounts	1, 2	19,176	17,660
Liabilities to customers under investment contracts		6,385	5,893
Debt securities in issue (Note 25)		121,034	130,364
Subordinated liabilities (Note 28)		10,844	10,130
Preferred securities (Note 28)		–	419
At 31 Dec		**157,439**	164,466

1 *Structured deposits placed at HSBC Bank USA are insured by the Federal Deposit Insurance Corporation, a US government agency, up to $250,000 per depositor.*
2 *In 2020, cash prime brokerage balances of $3,889m have been presented as a single balance, resulting in a reclassification from customer accounts at amortised cost to provide more relevant information on the effect of these transactions on the Group's financial position. Comparatives have not been re-presented.*

The carrying amount of financial liabilities designated at fair value was $9,333m more than the contractual amount at maturity (2019: $6,120m more). The cumulative amount of change in fair value attributable to changes in credit risk was a loss of $2,542m (2019: loss of $2,877m).

HSBC Holdings

	2020	2019
	$m	$m
Debt securities in issue (Note 25)	19,624	24,687
Subordinated liabilities (Note 28)	6,040	5,616
At 31 Dec	**25,664**	30,303

The carrying amount of financial liabilities designated at fair value was $3,019m more than the contractual amount at maturity (2019: $2,227m more). The cumulative amount of change in fair value attributable to changes in credit risk was a loss of $1,210m (2019: $1,386m).

25 Debt securities in issue

HSBC

	2020	2019
	$m	$m
Bonds and medium-term notes	176,570	180,969
Other debt securities in issue	41,538	55,354
Total debt securities in issue	**218,108**	236,323
Included within:		
– trading liabilities (Note 23)	(1,582)	(1,404)
– financial liabilities designated at fair value (Note 24)	(121,034)	(130,364)
At 31 Dec	**95,492**	104,555

HSBC Holdings

	2020	2019
	$m	$m
Debt securities	83,653	81,531
Included within:		
– financial liabilities designated at fair value (Note 24)	(19,624)	(24,687)
At 31 Dec	**64,029**	56,844

26 Accruals, deferred income and other liabilities

	2020	2019
	$m	$m
Accruals and deferred income	10,406	11,808
Settlement accounts	13,008	14,356
Cash collateral and margin payables	65,557	56,646
Endorsements and acceptances	10,293	10,127
Employee benefit liabilities (Note 5)	2,025	1,771
Lease liabilities	4,614	4,604
Other liabilities	22,721	18,844
At 31 Dec	**128,624**	118,156

Accruals, deferred income and other liabilities include $120,229m (2019: $111,395m) of financial liabilities, the majority of which are measured at amortised cost.

27 Provisions

	Restructuring costs	Legal proceedings and regulatory matters	Customer remediation	Other provisions	Total
	$m	$m	$m	$m	$m
Provisions (excluding contractual commitments)					
At 1 Jan 2020	**356**	**605**	**1,646**	**280**	**2,887**
Additions	**698**	**347**	**189**	**222**	**1,456**
Amounts utilised	**(322)**	**(177)**	**(739)**	**(125)**	**(1,363)**
Unused amounts reversed	**(74)**	**(75)**	**(240)**	**(80)**	**(469)**
Exchange and other movements	**13**	**56**	**2**	**8**	**79**
At 31 Dec 2020	**671**	**756**	**858**	**305**	**2,590**
Contractual commitments[1]					
At 1 Jan 2020					**511**
Net change in expected credit loss provision and other movements					**577**
At 31 Dec 2020					**1,088**
Total provisions					
At 31 Dec 2019					3,398
At 31 Dec 2020					**3,678**

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

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.

At 31 December 2020, $0.3bn (2019: $1.1bn) of the customer remediation provision related to the estimated liability for redress in respect of the possible mis-selling of payment protection insurance ('PPI') policies in previous years. Of the $1.1bn balance at 31 December 2019, $0.6bn has been utilised during 2020 and an unused release of $0.1bn was recognised.

At 31 December 2020, a provision of $0.3bn (2019: $0.3bn) was held relating to the estimated liability for redress payable to customers following a review of historical collections and recoveries practices in the UK.

For further details of the impact of IFRS 9 on undrawn loan commitments and financial guarantees, presented in 'Contractual commitments', see Note 32. 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 136.

28 Subordinated liabilities

HSBC's subordinated liabilities

	2020	2019
	$m	$m
At amortised cost	21,951	24,600
– subordinated liabilities	20,095	22,775
– preferred securities	1,856	1,825
Designated at fair value (Note 24)	10,844	10,549
– subordinated liabilities	10,844	10,130
– preferred securities	—	419
At 31 Dec	**32,795**	35,149
Issued by HSBC subsidiaries	10,223	12,363
Issued by HSBC Holdings	22,572	22,786

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 reset 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	2020 $m	2019 $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**	900
					900	900
Additional tier 1 capital securities guaranteed by HSBC Bank plc		1				
£300m	5.862% non-cumulative step-up perpetual preferred securities	2	Apr 2020		**—**	420
£700m	5.844% non-cumulative step-up perpetual preferred securities		Nov 2031		**956**	925
					956	1,345
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	**409**	396
£350m	5.375% callable subordinated step-up notes	3	Nov 2025	Nov 2030	**583**	549
£500m	5.375% subordinated notes		—	Aug 2033	**981**	875
£225m	6.25% subordinated notes		—	Jan 2041	**306**	296
£600m	4.75% subordinated notes		—	Mar 2046	**812**	785
					3,091	2,901
					4,941	4,751
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	7	Nov 2022	Nov 2027	**124**	122
					124	122
Tier 2 securities issued by HSBC USA Inc.		7				
$750m	5.00% subordinated notes	8	—	Sep 2020	**—**	748
$250m	7.20% subordinated debentures		—	Jul 2097	**222**	221
	Other subordinated liabilities each less than $150m				**200**	202
					422	1,171
Tier 2 securities issued by HSBC Bank USA, N.A.						
$1,250m	4.875% subordinated notes	8	—	Aug 2020	**—**	1,246
$1,000m	5.875% subordinated notes	5	—	Nov 2034	**497**	463
$750m	5.625% subordinated notes	5	—	Aug 2035	**533**	496
$700m	7.00% subordinated notes		—	Jan 2039	**700**	700
					1,730	2,905
Tier 2 securities issued by HSBC Finance Corporation						
$2,939m	6.676% senior subordinated notes	6,7	—	Jan 2021	**509**	507
Tier 2 securities issued by HSBC Bank Canada						
	Other subordinated liabilities each less than $150.00m		Oct 1996	Nov 2083	**9**	26
					9	26
Securities issued by other HSBC subsidiaries						
Other subordinated liabilities each less than $200m		4			**232**	236
Subordinated liabilities issued by HSBC subsidiaries at 31 Dec					**10,223**	12,363

1 See paragraph below, 'Guaranteed by HSBC Holdings or HSBC Bank plc'.
2 HSBC Bank plc exercised the call option on the security in April 2020 and the security was subsequently redeemed.
3 The interest rate payable after November 2025 is the sum of the three-month sterling Libor plus 1.5 percentage points.
4 These securities are included in the capital base of HSBC, a subset of which are included in accordance with the grandfathering provisions under CRR II, with the exception of $109m in relation to securities which matured 31 December 2020, settlement expected in June 2021, which are no longer eligible for inclusion in the capital base of HSBC.
5 HSBC tendered for these securities in November 2019. The principal balance is $358m and $383m respectively. The original notional value of these securities are $1,000m and $750m respectively.
6 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. This instrument matured and settled in January 2021.
7 These securities are ineligible for inclusion in the capital base of HSBC.
8 These securities matured in 2020 and were redeemed.

HSBC Holdings' subordinated liabilities

	2020 $m	2019 $m
At amortised cost	**17,916**	18,361
Designated at fair value (Note 24)	**6,040**	5,616
At 31 Dec	**23,956**	23,977

HSBC Holdings' subordinated liabilities in issue

		Footnotes	First call date	Maturity date	2020 $m	2019 $m
Tier 2 securities issued by HSBC Holdings						
Amounts owed to third parties						
$2,000m	4.25% subordinated notes	2,3	—	Mar 2024	**2,151**	2,076
$1,500m	4.25% subordinated notes	2	—	Aug 2025	**1,702**	1,611
$1,500m	4.375% subordinated notes	2	—	Nov 2026	**1,736**	1,626
$488m	7.625% subordinated notes	1	—	May 2032	**541**	545
$222m	7.35% subordinated notes	1	—	Nov 2032	**243**	245
$2,000m	6.50% subordinated notes	1	—	May 2036	**2,034**	2,036
$2,500m	6.50% subordinated notes	1	—	Sep 2037	**3,033**	2,738
$1,500m	6.80% subordinated notes	1	—	Jun 2038	**1,490**	1,490
$1,500m	5.25% subordinated notes	2	—	Mar 2044	**2,092**	1,886
£650m	5.75% subordinated notes	2	—	Dec 2027	**1,130**	1,059
£650m	6.75% subordinated notes	2	—	Sep 2028	**884**	855
£750m	7.00% subordinated notes	2	—	Apr 2038	**1,157**	1,064
£900m	6.00% subordinated notes	2	—	Mar 2040	**1,483**	1,294
€1,500m	3.0% subordinated notes	2	—	Jun 2025	**1,916**	1,736
€1,000m	3.125% subordinated notes	2	—	Jun 2028	**1,472**	1,321
					23,064	21,582
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					**23,956**	23,977

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 capital security guaranteed by HSBC Bank plc also qualifies 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 the preferred securities guaranteed by HSBC Bank plc are outstanding in November 2048, 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 security 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 security and its 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 348 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.

HSBC

Maturity analysis of assets, liabilities and off-balance sheet commitments

	Due not more than 1 month $m	Due over 1 month but not more than 3 months $m	Due over 3 months but not more than 6 months $m	Due over 6 months but not more than 9 months $m	Due over 9 months but not more than 1 year $m	Due over 1 year but not more than 2 years $m	Due over 2 years but not more than 5 years $m	Due over 5 years $m	Total $m
Financial assets									
Cash and balances at central banks	304,481	–	–	–	–	–	–	–	304,481
Items in the course of collection from other banks	4,094	–	–	–	–	–	–	–	4,094
Hong Kong Government certificates of indebtedness	40,420	–	–	–	–	–	–	–	40,420
Trading assets	228,434	1,778	458	135	67	644	474	–	231,990
Financial assets designated or otherwise mandatorily measured at fair value	3,061	240	466	262	454	1,424	1,992	37,654	45,553
Derivatives	306,561	15	12	14	14	441	424	245	307,726
Loans and advances to banks	51,652	11,283	5,640	3,068	2,284	4,059	3,359	271	81,616
Loans and advances to customers	172,306	70,746	65,838	44,392	38,606	112,440	206,448	327,211	1,037,987
– personal	51,711	9,645	7,918	7,270	7,033	26,318	70,447	275,736	456,078
– corporate and commercial	101,684	55,009	51,755	31,529	28,553	76,225	125,393	47,446	517,594
– financial	18,911	6,092	6,165	5,593	3,020	9,897	10,608	4,029	64,315
Reverse repurchase agreements – non-trading	157,234	44,658	16,655	5,113	1,324	3,058	2,586	–	230,628
Financial investments	47,270	77,450	44,255	14,523	24,112	48,741	100,007	134,335	490,693
Accrued income and other financial assets	93,118	5,951	2,743	475	458	267	444	2,107	105,563
Financial assets at 31 Dec 2020	1,408,631	212,121	136,067	67,982	67,319	171,074	315,734	501,823	2,880,751
Non-financial assets	–	–	–	–	–	–	–	103,413	103,413
Total assets at 31 Dec 2020	1,408,631	212,121	136,067	67,982	67,319	171,074	315,734	605,236	2,984,164
Off-balance sheet commitments received									
Loan and other credit-related commitments	60,849	–	–	–	–	–	–	–	60,849
Financial liabilities									
Hong Kong currency notes in circulation	40,420	–	–	–	–	–	–	–	40,420
Deposits by banks	60,973	1,396	714	695	197	718	16,757	630	82,080
Customer accounts[1]	1,533,595	61,376	22,568	9,375	8,418	4,467	2,859	122	1,642,780
– personal	766,631	32,429	15,511	6,276	5,825	3,591	1,976	39	832,278
– corporate and commercial	588,887	22,856	5,963	2,966	2,058	627	777	37	624,171
– financial	178,077	6,091	1,094	133	535	249	106	46	186,331
Repurchase agreements – non-trading	102,633	3,979	2,165	386	675	16	1,035	1,012	111,901
Items in the course of transmission to other banks	4,343	–	–	–	–	–	–	–	4,343
Trading liabilities	70,799	3,377	400	143	185	289	72	1	75,266
Financial liabilities designated at fair value	18,434	7,333	6,973	6,775	6,593	14,182	40,510	56,639	157,439
– debt securities in issue: covered bonds	–	–	–	–	–	1,239	2,918	–	4,157
– debt securities in issue: unsecured	10,762	4,470	5,522	5,604	5,530	10,455	31,710	42,825	116,878
– subordinated liabilities and preferred securities	–	–	–	–	–	–	3,912	6,932	10,844
– other[2]	7,672	2,863	1,451	1,171	1,063	2,488	1,970	6,882	25,560
Derivatives	300,902	264	198	38	55	237	726	581	303,001
Debt securities in issue	6,552	12,329	14,964	9,764	3,878	9,215	16,618	22,172	95,492
– covered bonds	–	–	28	–	750	1,275	999	–	3,052
– otherwise secured	1,094	1,585	1,001	1,000	–	274	1,640	1,590	8,184
– unsecured	5,458	10,744	13,935	8,764	3,128	7,666	13,979	20,582	84,256
Accruals and other financial liabilities	96,821	9,794	3,886	692	1,174	1,742	3,179	3,053	120,341
Subordinated liabilities	619	–	237	–	12	12	2,658	18,413	21,951
Total financial liabilities at 31 Dec 2020	2,236,091	99,848	52,105	27,868	21,187	30,878	84,414	102,623	2,655,014
Non-financial liabilities	–	–	–	–	–	–	–	124,155	124,155
Total liabilities at 31 Dec 2020	2,236,091	99,848	52,105	27,868	21,187	30,878	84,414	226,778	2,779,169
Off-balance sheet commitments given									
Loan and other credit-related commitments	842,974	435	172	243	296	180	299	171	844,770
– personal	235,606	172	27	47	115	125	288	171	236,551
– corporate and commercial	471,410	250	138	194	178	37	11	–	472,218
– financial	135,958	13	7	2	3	18	–	–	136,001

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	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 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 bonds	—	—	—	—	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

1 *'Customer accounts' includes $463,524m (2019: $408,090m) insured by guarantee schemes.*
2 *In 2020, cash prime brokerage balances of $3,889m have been presented as a single balance, resulting in a reclassification from customer accounts at amortised cost to provide more relevant information on the effect of these transactions on the Group's financial position. Comparatives have not been re-presented.*

HSBC Holdings

Maturity analysis of assets, liabilities and off-balance sheet commitments (continued)

	Due not more than 1 month $m	Due over 1 month but not more than 3 months $m	Due over 3 months but not more than 6 months $m	Due over 6 months but not more than 9 months $m	Due over 9 months but not more than 1 year $m	Due over 1 year but not more than 2 years $m	Due over 2 years but not more than 5 years $m	Due over 5 years $m	Total $m
Financial assets									
Cash at bank and in hand:									
– balances with HSBC undertakings	**2,913**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**2,913**
Derivatives	**1,473**	**—**	**5**	**—**	**—**	**9**	**1,131**	**2,080**	**4,698**
Loans and advances to HSBC undertakings	**—**	**600**	**120**	**—**	**—**	**312**	**6,027**	**3,384**	**10,443**
Financial assets with HSBC undertakings designated and otherwise mandatorily measured at fair value	**—**	**451**	**—**	**—**	**—**	**4,320**	**23,203**	**37,279**	**65,253**
Financial investments	**3,701**	**3,769**	**2,924**	**799**	**3,528**	**2,764**	**—**	**—**	**17,485**
Accrued income and other financial assets	**1,015**	**275**	**100**	**33**	**22**	**—**	**—**	**—**	**1,445**
Total financial assets at 31 Dec 2020	**9,102**	**5,095**	**3,149**	**832**	**3,550**	**7,405**	**30,361**	**42,743**	**102,237**
Non-financial assets	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**160,936**	**160,936**
Total assets at 31 Dec 2020	**9,102**	**5,095**	**3,149**	**832**	**3,550**	**7,405**	**30,361**	**203,679**	**263,173**
Financial liabilities									
Amounts owed to HSBC undertakings	**—**	**330**	**—**	**—**	**—**	**—**	**—**	**—**	**330**
Financial liabilities designated at fair value	**—**	**984**	**859**	**—**	**—**	**3,088**	**3,810**	**16,923**	**25,664**
– debt securities in issue	**—**	**984**	**859**	**—**	**—**	**3,088**	**2,108**	**12,585**	**19,624**
– subordinated liabilities and preferred securities	**—**	**—**	**—**	**—**	**—**	**—**	**1,702**	**4,338**	**6,040**
Derivatives	**3,052**	**—**	**—**	**—**	**—**	**—**	**—**	**8**	**3,060**
Debt securities in issue	**—**	**503**	**1,621**	**563**	**—**	**2,186**	**24,489**	**34,667**	**64,029**
Accruals and other financial liabilities	**3,769**	**689**	**301**	**57**	**12**	**—**	**1**	**36**	**4,865**
Subordinated liabilities	**—**	**—**	**—**	**—**	**—**	**—**	**4,067**	**13,849**	**17,916**
31 Dec 2020	**6,821**	**2,506**	**2,781**	**620**	**12**	**5,274**	**32,367**	**65,483**	**115,864**
Non-financial liabilities	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**509**	**509**
Total liabilities at 31 Dec 2020	**6,821**	**2,506**	**2,781**	**620**	**12**	**5,274**	**32,367**	**65,992**	**116,373**
Off-balance sheet commitments given									
Undrawn formal standby facilities, credit lines and other commitments to lend	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
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
Loans and advances to HSBC undertakings designated at fair value	—	—	—	—	—	458	24,845	36,661	61,964
Financial investments in HSBC undertakings	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
Total financial liabilities at 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 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	**61,001**	**1,442**	**1,639**	**17,352**	**632**	**82,066**
Customer accounts	**1,530,584**	**64,809**	**40,755**	**7,720**	**153**	**1,644,021**
Repurchase agreements – non-trading	**102,664**	**3,984**	**3,257**	**1,058**	**1,017**	**111,980**
Trading liabilities	**75,266**	**—**	**—**	**—**	**—**	**75,266**
Financial liabilities designated at fair value[1]	**18,815**	**7,556**	**19,243**	**59,835**	**55,475**	**160,924**
Derivatives	**300,158**	**356**	**579**	**1,830**	**2,128**	**305,051**
Debt securities in issue	**6,551**	**12,709**	**29,520**	**28,787**	**24,075**	**101,642**
Subordinated liabilities	**739**	**170**	**1,102**	**7,024**	**28,812**	**37,847**
Other financial liabilities	**140,094**	**9,120**	**5,113**	**5,030**	**2,887**	**162,244**
	2,235,872	**100,146**	**101,208**	**128,636**	**115,179**	**2,681,041**
Loan and other credit-related commitments	**842,945**	**434**	**740**	**480**	**171**	**844,770**
Financial guarantees[2]	**18,200**	**13**	**93**	**37**	**41**	**18,384**
At 31 Dec 2020	**3,097,017**	**100,593**	**102,041**	**129,153**	**115,391**	**3,544,195**
Proportion of cash flows payable in period	**87%**	**3%**	**3%**	**4%**	**3%**	
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[2]	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%	

1 *In 2020, cash prime brokerage balances of $3,889m have been presented as a single balance, resulting in a reclassification from customer accounts at amortised cost to provide more relevant information on the effect of these transactions on the Group's financial position. Comparatives have not been re-presented.*

2 *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 2020, 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		**—**	**330**	**—**	**—**	**—**	**330**
Financial liabilities designated at fair value		**70**	**1,109**	**1,412**	**9,110**	**16,104**	**27,805**
Derivatives		**3,085**	**—**	**2**	**—**	**—**	**3,087**
Debt securities in issue		**135**	**760**	**3,354**	**31,567**	**37,103**	**72,919**
Subordinated liabilities		**82**	**156**	**726**	**7,513**	**21,552**	**30,029**
Other financial liabilities		**3,769**	**690**	**370**	**—**	**36**	**4,865**
		7,141	**3,045**	**5,864**	**48,190**	**74,795**	**139,035**
Loan commitments		**—**	**—**	**—**	**—**	**—**	**—**
Financial guarantees	1	**13,787**	**—**	**—**	**—**	**—**	**13,787**
At 31 Dec 2020		**20,928**	**3,045**	**5,864**	**48,190**	**74,795**	**152,822**
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

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	**368,057**	**(69,103)**	**298,954**	**(230,758)**	**(13,766)**	**(48,154)**	**6,276**	**8,772**	**307,726**
Reverse repos, stock borrowing and similar agreements classified as:	2									
– trading assets		**21,204**	**(461)**	**20,743**	**(709)**	**(20,030)**	**—**	**4**	**1,534**	**22,277**
– non-trading assets		**318,424**	**(115,678)**	**202,746**	**(13,936)**	**(188,646)**	**(73)**	**91**	**28,258**	**231,004**
Loans and advances to customers	3	**30,983**	**(10,882)**	**20,101**	**(17,031)**	**—**	**—**	**3,070**	**428**	**20,529**
At 31 Dec 2020		**738,668**	**(196,124)**	**542,544**	**(262,434)**	**(222,442)**	**(48,227)**	**9,441**	**38,992**	**581,536**
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
Financial liabilities										
Derivatives (Note 15)	1	**364,121**	**(69,103)**	**295,018**	**(230,758)**	**(21,387)**	**(37,343)**	**5,530**	**7,983**	**303,001**
Repos, stock lending and similar agreements classified as:	2									
– trading liabilities		**16,626**	**(461)**	**16,165**	**(709)**	**(15,456)**	**—**	**—**	**159**	**16,324**
– non-trading liabilities		**200,999**	**(115,678)**	**85,321**	**(13,936)**	**(71,142)**	**(215)**	**28**	**26,580**	**111,901**
Customer accounts	4	**41,177**	**(10,882)**	**30,295**	**(17,031)**	**—**	**—**	**13,264**	**13**	**30,308**
At 31 Dec 2020		**622,923**	**(196,124)**	**426,799**	**(262,434)**	**(107,985)**	**(37,558)**	**18,822**	**34,735**	**461,534**
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

1 *At 31 December 2020, the amount of cash margin received that had been offset against the gross derivatives assets was $7,899m (2019: $2,350m). The amount of cash margin paid that had been offset against the gross derivatives liabilities was $17,955m (2019: $8,303m).*
2 *For the amount of repos, reverse repos, stock lending, stock borrowing and similar agreements recognised on the balance sheet within 'Trading assets' $22,277m (2019: $21,350m) and 'Trading liabilities' $16,324m (2019: $10,260m), see the 'Funding sources and uses' table on page 178.*
3 *At 31 December 2020, the total amount of 'Loans and advances to customers' was $1,037,987m (2019: $1,036,743m), of which $20,101m (2019: $22,911m) was subject to offsetting.*
4 *At 31 December 2020, the total amount of 'Customer accounts' was $1,642,780m (2019: $1,439,115m), of which $30,295m (2019: $26,622m) 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	2020		2019	
		Number	$m	Number	$m
At 1 Jan		**20,638,524,545**	**10,319**	20,360,841,496	10,180
Shares issued under HSBC employee share plans		**55,096,555**	**28**	71,588,032	36
Shares issued in lieu of dividends		**—**	**—**	341,872,011	171
Less: Shares repurchased and cancelled		**—**	**—**	(135,776,994)	(68)
At 31 Dec	1	**20,693,621,100**	**10,347**	20,638,524,545	10,319

HSBC Holdings 6.2% non-cumulative US dollar preference shares, Series A

		2020		2019	
	Footnotes	Number	$m	Number	$m
At 1 Jan and 31 Dec	2	**1,450,000**	**—**	1,450,000	—

HSBC Holdings share premium

	2020	2019
	$m	$m
At 31 Dec	**14,277**	13,959

Total called up share capital and share premium

	2020	2019
	$m	$m
At 31 Dec	**24,624**	24,278

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 *In 2019 this security was 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. This security was called by HSBC Holdings on 10 December 2020 and was redeemed and cancelled on 13 January 2021. Between the date of exercise of the call option and the redemption, this security was considered as an other liability.*

HSBC Holdings 6.20% non-cumulative US dollar preference shares, Series A of $0.01

The 6.20% non-cumulative US dollar preference shares, Series A of $0.01 each were redeemed on 13 January 2021.

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 Holdings 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 typically 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 typically 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' 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 non-transitional CET1 ratio fall below 7.0%. Therefore, in accordance with the terms of the securities, if the non-transitional 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	2020 $m	2019 $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	**2,000**	1,998
$2,250m	6.375% perpetual subordinated contingent convertible securities		Sep 2024	**2,250**	2,244
$2,450m	6.375% perpetual subordinated contingent convertible securities		Mar 2025	**2,450**	2,460
$3,000m	6.000% perpetual subordinated contingent convertible securities		May 2027	**3,000**	2,997
$2,350m	6.250% perpetual subordinated contingent convertible securities		Mar 2023	**2,350**	2,347
$1,800m	6.500% perpetual subordinated contingent convertible securities		Mar 2028	**1,800**	1,798
$1,500m	4.600% perpetual subordinated contingent convertible securities	2	Jun 2031	**1,500**	–
€1,500m	5.250% perpetual subordinated contingent convertible securities		Sep 2022	**1,945**	1,943
€1,000m	6.000% perpetual subordinated contingent convertible securities		Sep 2023	**1,123**	1,120
€1,250m	4.750% perpetual subordinated contingent convertible securities		Jul 2029	**1,422**	1,420
£1,000m	5.875% perpetual subordinated contingent convertible securities		Sep 2026	**1,301**	1,299
SGD1,000m	4.700% perpetual subordinated contingent convertible securities		Jun 2022	**723**	723
SGD750m	5.000% perpetual subordinated contingent convertible securities		Sep 2023	**550**	549
At 31 Dec				**22,414**	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. See Note 28.*
2 *This security was issued by HSBC Holdings on 17 December 2020. The first call date commences six calendar months prior to the reset date of 17 June 2031.*

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 (UK), see Note 5.

Aggregate options outstanding under these plans

31 Dec 2020			31 Dec 2019		
Number of HSBC Holdings ordinary shares	**Usual period of exercise**	**Exercise price**	Number of HSBC Holdings ordinary shares	Usual period of exercise	Exercise price
130,952,539	**2019 to 2026**	**£2.6270–£5.9640**	65,060,681	2018 to 2025	£4.0472–£5.9640

Maximum obligation to deliver HSBC Holdings ordinary shares

At 31 December 2020, 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 238,278,952 (2019: 163,567,253). The total number of shares at 31 December 2020 held by employee benefit trusts that may be used to satisfy such obligations to deliver HSBC Holdings ordinary shares was 5,179,531 (2019: 5,397,395).

32 Contingent liabilities, contractual commitments and guarantees

		HSBC		HSBC Holdings[1]	
		2020	2019	**2020**	2019
	Footnotes	**$m**	$m	**$m**	$m
Guarantees and other contingent liabilities:					
– financial guarantees		**18,384**	20,214	**13,787**	11,061
– performance and other guarantees		**78,114**	75,933	**–**	–
– other contingent liabilities		**1,219**	1,576	**119**	289
At 31 Dec		**97,717**	97,723	**13,906**	11,350
Commitments:	2				
– documentary credits and short-term trade-related transactions		**7,178**	6,316	**–**	–
– forward asset purchases and forward deposits placed		**66,506**	56,326	**–**	–
– standby facilities, credit lines and other commitments to lend		**771,086**	734,966	**–**	–
At 31 Dec		**844,770**	797,608	**–**	–

1 *Guarantees by HSBC Holdings are all in favour of other Group entities.*
2 *Includes $659,783m of commitments at 31 December 2020 (31 December 2019: $600,029m), 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 excluded from this note but are disclosed in Notes 27 and 34.

Financial Services Compensation Scheme

The Financial Services Compensation Scheme ('FSCS') provides compensation, up to certain limits, to eligible customers of financial services firms that are unable, or likely to be unable, to pay claims against them. The FSCS may impose a further levy on the Group 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 $53.1bn at 31 December 2020 (2019: $46.7bn). 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.

	2020			2019		
	Total future minimum payments	Unearned finance income	Present value	Total future minimum payments	Unearned finance income	Present value
	$m	$m	$m	$m	$m	$m
Lease receivables:						
No later than one year	3,108	(257)	2,851	1,674	(157)	1,517
One to two years	2,476	(196)	2,280	1,634	(155)	1,479
Two to three years	2,055	(143)	1,912	1,889	(151)	1,738
Three to four years	1,380	(109)	1,271	1,704	(136)	1,568
Four to five years	787	(80)	707	1,558	(132)	1,426
Later than one year and no later than five years	6,698	(528)	6,170	6,785	(574)	6,211
Later than five years	4,221	(451)	3,770	6,136	(614)	5,522
At 31 Dec	14,027	(1,236)	12,791	14,595	(1,345)	13,250

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 outcomes of legal proceedings and regulatory matters are 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 2020 (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. Following the US Supreme Court's denial of certiorari in June 2020, the cases were remanded to the US Bankruptcy Court, where they are now pending.

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, and certain claims against the remaining HSBC defendants, were dismissed. In May 2019, the liquidators appealed certain issues from the US Bankruptcy Court to the US District Court for the Southern District of New York (the 'New York District Court') and, in January 2020, the liquidators filed amended complaints on the claims remaining in the US Bankruptcy Court. In March 2020, HSBC and other parties to the action moved to dismiss the amended complaints in the US Bankruptcy Court. In December 2020, the US Bankruptcy Court granted in part and denied in part the defendants' motion. This action remains pending in the US Bankruptcy Court and 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 2021 for UK-based defendants and November 2021 for all other defendants.

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 appeal. In August 2019, Primeo filed a notice of appeal to the UK Privy Council, which has listed the first of two possible hearings for April 2021.

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 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. These matters are currently pending before the Luxembourg District Court.

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 plc asserting identical claims before the Luxembourg District Court. In December 2018, Senator brought additional claims against HSSL and HSBC Bank plc 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 the decision. In July 2020, the Irish Supreme Court ruled in part in favour of Defender Limited and returned the case to the High Court for further proceedings, which will resume in April 2021.

There are many factors that may affect the range of possible outcomes, and any 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, any possible damages that might ultimately arise could differ significantly from this amount.

Anti-money laundering and sanctions-related matters

In December 2012, HSBC Holdings entered into a number of agreements, including an undertaking with the UK Financial Services Authority (replaced with a Direction issued by the UK Financial Conduct Authority ('FCA') in 2013 and again in 2020) as well as 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 was, 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. In 2020, HSBC's engagement with the independent compliance monitor, acting in his roles as both Skilled Person and Independent Consultant, concluded. The role of FCA Skilled Person was assigned to a new individual in the second quarter of 2020. Separately, a new FRB Independent Consultant will be appointed pursuant to the cease-and-desist order. The roles of each of the FCA Skilled Person and the FRB Independent Consultant are discussed on page 188.

The FCA is conducting an investigation into HSBC Bank plc's and HSBC UK Bank plc's compliance with UK money laundering regulations and financial crime systems and controls requirements. HSBC continues to cooperate with the FCA's investigation, which is at or nearing completion.

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, but the appellate court reversed the decision in November 2018 and reinstated the action. In June 2020, the parties reached an agreement to resolve this derivative action, under which HSBC has received a payment from directors and officers liability insurance providers and will continue for a period of time certain corporate governance practices. In November 2020, the court issued an order granting final settlement approval and dismissing the action. This matter is now concluded.

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. Currently, 10 actions remain pending in federal courts in New York or the District of Columbia. In March, September and October 2019, the courts granted HSBC's motions to dismiss in three of these cases. In October 2020, the appellate court affirmed the dismissal of one of the actions on appeal. An appeal remains pending in another case, and plaintiffs are seeking certification to appeal in the third case. HSBC filed motions to dismiss in three further cases, with two of the motions granted in June 2020, and the third granted in November 2020. These dismissals are subject to appeal. The four remaining actions are at a very early stage.

There are many factors that may affect the range of outcomes, and the resulting financial impact, of these matters, which could be significant.

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; persons who purchased US dollar Libor-indexed interest rate swaps and other instruments directly from the defendant banks and their affiliates; 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. The New York District Court has granted final approval of each of the five referenced settlements. 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 March 2020, the court granted the defendants' joint motion to dismiss in its entirety. This matter is on appeal.

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

Since at least 2014, the EC has been conducting an investigation into trading activities by a number of banks, including HSBC, in the foreign exchange spot market. HSBC is cooperating with this investigation.

In January 2021, HSBC Holdings exited its 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. HSBC Holdings entered into the FX DPA in January 2018, following the conclusion of the DoJ's investigation into HSBC's historical foreign exchange activities. Under the terms of the FX DPA, the DoJ is expected to file a motion to dismiss the charges deferred by the FX DPA in due course.

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 June 2020, the Competition Commission of South Africa, having initially referred a complaint for proceedings before the South African Competition Tribunal in February 2017, filed a revised complaint against 28 financial institutions, including HSBC Bank plc and HSBC Bank USA, for alleged anti-competitive behaviour in the South African foreign exchange market. In August 2020, HSBC Bank plc and HSBC Bank USA filed an application to dismiss the revised complaint, which remains pending.

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. In April 2020, HSBC reached an agreement with the plaintiffs to resolve the indirect purchaser action. In November 2020, the New York District Court granted final approval of the settlement.

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 August 2020, HSBC

Bank plc filed a motion to dismiss and, in January 2021, HSBC Holdings filed a motion seeking to challenge the service of the motion for certification on defendants outside Israel. These motions remain pending.

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. In May 2020, the New York District Court granted in part and denied in part the defendants' motion to dismiss the US opt-out actions. These matters remain 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. In October 2020, HSBC reached a settlement in principle with the plaintiffs to resolve the consolidated action. The settlement remains subject to court approval.

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 ongoing.

Silver: Beginning in July 2014, numerous putative class actions were filed in federal district courts in 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. These actions are ongoing.

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. In March 2020, the court granted the defendants' motion to dismiss the third amended complaint but granted the plaintiffs leave to re-plead certain claims. The plaintiffs have filed an appeal.

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 June 2020, two separate claims were issued against HSBC UK Bank plc (as successor to PBGB's business) by two separate groups of investors in Eclipse film finance schemes in connection with PBGB's role in the development of such schemes. These matters are at an early stage.

In February 2020, a claim was issued against HSBC UK Bank plc (as successor to PBGB's business) by two individuals in relation to the Zeus film finance schemes. The claimants failed to serve the claim on time, and this claim has now lapsed. Separately, in June 2020, HSBC UK Bank plc received an application for disclosure of documents by a law firm acting on behalf of a number of investors in the Zeus film finance schemes. This application was dismissed by the court in November 2020.

It is possible that additional actions or investigations will be initiated against HSBC UK Bank plc as a result of PBGB's 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 any possible impact on HSBC, 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:

- investigations by tax administration, regulatory and law enforcement authorities in Argentina, India and elsewhere in connection with allegations of tax evasion or tax fraud, money laundering and unlawful cross-border banking solicitation;
- an investigation by the US Commodity Futures Trading Commission regarding interest rate swap transactions related to bond issuances;
- 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;
- a putative class action brought in the New York District Court relating to the Mexican government bond market;
- 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 plc'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. These individuals also constitute 'senior management' for the purposes of the Hong Kong Listing Rules. In applying IAS 24, it was determined that for this financial reporting period all KMP included Directors, former Directors and senior management listed on pages 198 to 203 and that the roles of Chief Legal Officer, Group Head of Audit, Group Chief Human Resources Officer, Group Chief Compliance Officer, Group Company Secretary and Chief Governance Officer 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 229 to 255. IAS 24 'Related party disclosures' requires the following additional information for key management compensation.

Compensation of Key Management Personnel

	2020	2019	2018
	$m	$m	$m
Short-term employee benefits	39	64	52
Other long-term employee benefits	5	8	6
Share-based payments	20	27	34
Year ended 31 Dec	64	99	92

Shareholdings, options and other securities of Key Management Personnel

	2020	2019
	(000s)	(000s)
Number of options held over HSBC Holdings ordinary shares under employee share plans	27	18
Number of HSBC Holdings ordinary shares held beneficially and non-beneficially	11,916	15,546
At 31 Dec	11,943	15,564

Advances and credits, guarantees and deposit balances during the year with Key Management Personnel

		2020		2019	
		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					
Advances and credits	1	221	357	283	328
Guarantees		30	55	34	34
Deposits		281	874	268	659

1 *Advances and credits entered into by subsidiaries of HSBC Holdings plc during 2020 with Directors and former Directors, disclosed pursuant to section 413 of the Companies Act 2006, totalled $4.7m (2019: $3m).*

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

	2020		2019	
	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	147	147	132	123
Unsubordinated amounts due from associates	4,330	2,942	4,554	2,054
Amounts due to associates	5,466	2,226	2,517	516
Amounts due to joint ventures	102	102	28	28
Guarantees and commitments	433	283	647	407

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 2020, $3.5bn (2019: $3.9bn re-presented) of HSBC post-employment benefit plan assets were under management by HSBC companies, earning management fees of $13m in 2020 (2019: $8m). The 2019 plan assets under management by HSBC companies have been re-presented to exclude $1.5bn of assets identified to be managed by third parties. At 31 December 2020, HSBC's post-employment benefit plans had placed deposits of $452m (2019: $530m) with its banking subsidiaries, earning interest payable to the schemes of nil (2019: $0.3m). 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 2020, the gross notional value of the swaps was $7.7bn (2019: $9.9bn); these swaps had a positive fair value to the scheme of $1.0bn (2019: $1.2bn); and HSBC had delivered collateral of $1.0bn (2019: $1.2bn) 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

	2020		2019	
	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	5,476	2,913	5,029	2,382
Financial assets with HSBC undertakings designated and otherwise mandatorily measured at fair value	65,253	65,253	61,964	61,964
Derivatives	5,784	4,698	3,902	2,002
Loans and advances to HSBC undertakings	10,785	10,443	43,436	10,218
Prepayments, accrued income and other assets	1,838	1,363	655	480
Investments in subsidiaries	161,546	160,660	163,258	161,473
Total related party assets at 31 Dec	250,682	245,330	278,244	238,519
Liabilities				
Amounts owed to HSBC undertakings	581	330	1,553	464
Derivatives	3,376	3,060	2,183	2,021
Accruals, deferred income and other liabilities	2,737	1,936	—	—
Subordinated liabilities	892	892	892	892
Total related party liabilities at 31 Dec	7,586	6,218	4,628	3,377
Guarantees and commitments	15,661	13,787	11,541	11,061

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

An interim dividend for 2020 of $0.15 per ordinary share (a distribution of approximately $3,055m) was declared by the Directors after 31 December 2020. HSBC Holdings called $1,450m 6.20% non-cumulative US dollar preference shares on 10 December 2020. The security was redeemed and cancelled on 13 January 2021. These accounts were approved by the Board of Directors on 23 February 2021 and authorised for issue.

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 2020 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
452 TALF Plus ABS Opportunities SPV LLC	100.00		13
452 TALF SPV LLC	100.00		13
Almacenadora Banpacifico S.A. (In Liquidation)	99.99		14
Assetfinance December (F) Limited	100.00		15
Assetfinance December (H) Limited	100.00		16
Assetfinance December (M) Limited (In Liquidation)	100.00		17
Assetfinance December (P) Limited	100.00		16
Assetfinance December (R) Limited	100.00		16
Assetfinance June (A) Limited	100.00		16
Assetfinance June (D) Limited	100.00		15
Assetfinance Limited	100.00		16
Assetfinance March (B) Limited	100.00		18
Assetfinance March (D) Limited	100.00		15
Assetfinance March (F) Limited	100.00		16
Assetfinance September (F) Limited	100.00		16
Assetfinance September (G) Limited	100.00		15
B&Q Financial Services Limited	100.00		16
Banco HSBC S.A.	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		10, 23
Billingsgate Nominees Limited (In Liquidation)	100.00		24
Canada Crescent Nominees (UK) Limited	100.00		16
Canada Square Nominees (UK) Limited	100.00		16
Capco/Cove, Inc.	100.00		25
Card-Flo #1, Inc.	100.00		13
Card-Flo #3, Inc.	100.00		13
CC&H Holdings LLC	100.00		26
CCF HOLDING (LIBAN) S.A.L. (In Liquidation)	74.99		27
Charterhouse Administrators (D.T.) Limited	100.00	(99.99)	16
Charterhouse Management Services Limited	100.00	(99.99)	16
Charterhouse Pensions Limited	100.00		16
Chongqing Dazu HSBC Rural Bank Company Limited	100.00		10, 28
Chongqing Fengdu HSBC Rural Bank Company Limited	100.00		10, 29
Chongqing Rongchang HSBC Rural Bank Company Limited	100.00		10, 30
COIF Nominees Limited	N/A		0, 16
Cordico Management AG (In Liquidation)	100.00		31
Corsair IV Financial Services Capital Partners-B, LP	N/A		0, 185
Dalian Pulandian HSBC Rural Bank Company Limited	100.00		10, 32
Decision One Mortgage Company, LLC	N/A		0, 33
Dem 9	100.00	(99.99)	4, 34
Dempar 1	100.00	(99.99)	4, 34
Desarrollo Turistico, S.A. de C.V. (In Liquidation)	100.00	(99.99)	14
Electronic Data Process México, S.A. de C.V.	100.00		14
Equator Holdings Limited (In Liquidation)	100.00		17
Eton Corporate Services Limited	100.00		20
Far East Leasing SA (In Dissolution)	100.00		35
Flandres Contentieux S.A.	100.00	(99.99)	34
Foncière Elysées	100.00	(99.99)	34
Fujian Yongan HSBC Rural Bank Company Limited	100.00		10, 36
Fulcher Enterprises Company Limited	100.00	(62.14)	37
Fundacion HSBC, A.C.	100.00	(99.99)	9, 14
Giller Ltd.	100.00		25
GPIF Co-Investment, LLC	N/A		0, 13

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Griffin International Limited	100.00		16
Grundstuecksgesellschaft Trinkausstrasse Kommanditgesellschaft	N/A		0, 38
Grupo Financiero HSBC, S. A. de C. V.	99.99		14
Guangdong Enping HSBC Rural Bank Company Limited	100.00		10, 39
Guangzhou HSBC Real Estate Company Ltd	100.00		40
Hang Seng (Nominee) Limited	100.00	(62.14)	37
Hang Seng Bank (China) Limited	100.00	(62.14)	41
Hang Seng Bank (Trustee) Limited	100.00	(62.14)	37
Hang Seng Bank Limited	62.14		37
Hang Seng Bullion Company Limited	100.00	(62.14)	37
Hang Seng Credit Limited	100.00	(62.14)	37
Hang Seng Data Services Limited	100.00	(62.14)	37
Hang Seng Finance Limited	100.00	(62.14)	37
Hang Seng Financial Information Limited	100.00	(62.14)	37
Hang Seng Indexes (Netherlands) B.V.	100.00	(62.14)	42
Hang Seng Indexes Company Limited	100.00	(62.14)	37
Hang Seng Insurance Company Limited	100.00	(62.14)	37
Hang Seng Investment Management Limited	100.00	(62.14)	37
Hang Seng Investment Services Limited	100.00	(62.14)	37
Hang Seng Life Limited	100.00	(62.14)	37
Hang Seng Real Estate Management Limited	100.00	(62.14)	37
Hang Seng Securities Limited	100.00	(62.14)	37
Hang Seng Security Management Limited	100.00	(62.14)	37
Haseba Investment Company Limited	100.00	(62.14)	37
HFC Bank Limited (In Liquidation)	100.00		17
High Time Investments Limited	100.00	(62.14)	37
Honey Green Enterprises Ltd.	100.00		43
Honey Grey Enterprises Limited	100.00		44
Honey Silver Enterprises Limited	100.00		44
Household International Europe Limited (In Liquidation)	100.00		17
Household Pooling Corporation	100.00		45
Housing (USA) LLP	N/A		
HSBC (BGF) Investments Limited	100.00		16
HSBC (General Partner) Limited	100.00		2, 47
HSBC (Guernsey) GP PCC Limited	100.00		20
HSBC (Kuala Lumpur) Nominees Sdn Bhd	100.00		48
HSBC (Malaysia) Trustee Berhad	100.00		49
HSBC (Singapore) Nominees Pte Ltd	100.00		50
HSBC Agency (India) Private Limited	100.00		51
HSBC Alternative Credit Strategies General Partner S.a r.l.	N/A		0, 52
HSBC Alternative Investments Limited	100.00		16
HSBC Amanah Malaysia Berhad	100.00		48
HSBC Americas Corporation (Delaware)	100.00		13
HSBC Argentina Holdings S.A.	100.00		53
HSBC Asia Holdings B.V.	100.00		16
HSBC Asia Holdings Limited	100.00		2, 44
HSBC Asia Pacific Holdings (UK) Limited	100.00		16
HSBC Asset Finance (UK) Limited	100.00		16
HSBC Asset Finance M.O.G. Holdings (UK) Limited	100.00		16
HSBC Asset Management (India) Private Limited	100.00		54
HSBC Assurances Vie (France)	100.00	(99.99)	55
HSBC Australia Holdings Pty Limited	100.00		56
HSBC BANK (CHILE)	100.00		57
HSBC Bank (China) Company Limited	100.00		10, 58
HSBC Bank (General Partner) Limited	100.00		47
HSBC Bank (Mauritius) Limited	100.00		59
HSBC Bank (RR) (Limited Liability Company)	N/A		0, 11, 60
HSBC Bank (Singapore) Limited	100.00		50
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		64

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Bank Argentina S.A.	100.00		53
HSBC Bank Armenia cjsc	100.00		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, 47
HSBC Bank Capital Funding (Sterling 2) LP	N/A		0, 47
HSBC Bank Egypt S.A.E	99.63	(94.54)	67
HSBC Bank Malaysia Berhad	100.00		48
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		16
HSBC Bank plc	100.00		16
HSBC Bank USA, National Association	100.00		3, 72
HSBC Branch Nominee (UK) Limited	100.00		15
HSBC Brasil Holding S.A.	100.00		19
HSBC Broking Forex (Asia) Limited	100.00		44
HSBC Broking Futures (Asia) Limited	100.00		44
HSBC Broking Futures (Hong Kong) Limited	100.00		44
HSBC Broking Securities (Asia) Limited	100.00		44
HSBC Broking Securities (Hong Kong) Limited	100.00		44
HSBC Broking Services (Asia) Limited	100.00		44
HSBC Canadian Covered Bond (Legislative) Guarantor Limited Partnership	N/A		0, 73
HSBC Capital (USA), Inc.	100.00		13
HSBC Capital Funding (Dollar 1) L.P.	N/A		0, 47
HSBC Capital Limited	100.00		44
HSBC Card Services Inc.	100.00		13
HSBC Casa de Bolsa, S.A. de C.V., Grupo Financiero HSBC	100.00	(99.99)	14
HSBC Cayman Limited	100.00		74
HSBC Cayman Services Limited	100.00		74
HSBC City Funding Holdings	100.00		16
HSBC Client Holdings Nominee (UK) Limited	100.00		16
HSBC Client Nominee (Jersey) Limited	100.00		75
HSBC Columbia Funding, LLC	N/A		0, 13
HSBC Continental Europe	99.99		34
HSBC Corporate Advisory (Malaysia) Sdn Bhd	100.00		48
HSBC Corporate Finance (Hong Kong) Limited	100.00		44
HSBC Corporate Trustee Company (UK) Limited	100.00		16
HSBC Custody Nominees (Australia) Limited	100.00		56
HSBC Custody Services (Guernsey) Limited	100.00		20
HSBC Daisy Investments (Mauritius) Limited	100.00		76
HSBC Diversified Loan Fund General Partner Sarl	100.00		77
HSBC Electronic Data Processing (Guangdong) Limited	100.00		10, 78
HSBC Electronic Data Processing (Malaysia) Sdn Bhd	100.00		79
HSBC Electronic Data Processing (Philippines), Inc.	99.99		80
HSBC Electronic Data Processing India Private Limited	100.00		81
HSBC Electronic Data Processing Lanka (Private) Limited	100.00		82
HSBC Electronic Data Service Delivery (Egypt) S.A.E.	100.00		83
HSBC Enterprise Investment Company (UK) Limited (In Liquidation)	100.00		17
HSBC Epargne Entreprise (France)	100.00	(99.99)	55
HSBC Equator (UK) Limited (In Liquidation)	100.00		17
HSBC Equipment Finance (UK) Limited	100.00		15
HSBC Equity (UK) Limited	100.00		16
HSBC Europe B.V.	100.00		16

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Executor & Trustee Company (UK) Limited	100.00		15
HSBC Factoring (France)	100.00	(99.99)	34
HSBC Finance (Netherlands)	100.00		2, 16
HSBC Finance Corporation	100.00		13
HSBC Finance Limited	100.00		16
HSBC Finance Mortgages Inc.	100.00		84
HSBC Finance Transformation (UK) Limited	100.00		16
HSBC Financial Services (Lebanon) s.a.l.	99.65		85
HSBC Financial Services (Middle East) Limited (In Liquidation)	100.00		86
HSBC Financial Services (Uruguay) S.A. (In Liquidation)	100.00		87
HSBC FinTech Services (Shanghai) Company Limited	100.00		88
HSBC Germany Holdings GmbH	100.00		38
HSBC Global Asset Management (Bermuda) Limited	100.00		3, 21
HSBC Global Asset Management (Canada) Limited	100.00		66
HSBC Global Asset Management (Deutschland) GmbH	100.00	(99.33)	38
HSBC Global Asset Management (France)	100.00	(99.99)	55
HSBC Global Asset Management (Hong Kong) Limited	100.00		22
HSBC Global Asset Management (International) Limited (In Liquidation)	100.00		89
HSBC Global Asset Management (Japan) K. K.	100.00		90
HSBC Global Asset Management (Malta) Limited	100.00	(70.03)	91
HSBC Global Asset Management (México), S.A. de C.V., Sociedad Operadora de Fondos de Inversión, Grupo Financiero HSBC	100.00	(99.99)	14
HSBC Global Asset Management (Oesterreich) GmbH	100.00	(99.33)	6, 92
HSBC Global Asset Management (Singapore) Limited	100.00		50
HSBC Global Asset Management (Switzerland) AG	100.00	(99.66)	4, 93
HSBC Global Asset Management (Taiwan) Limited	100.00		94
HSBC Global Asset Management (UK) Limited	100.00		16
HSBC Global Asset Management (USA) Inc.	100.00		95
HSBC Global Asset Management Argentina S.A. Sociedad Gerente de Fondos Comunes de Inversión	100.00	(99.99)	96
HSBC Global Asset Management Holdings (Bahamas) Limited	100.00		97
HSBC Global Asset Management Limited	100.00		2, 16
HSBC Global Custody Nominee (UK) Limited	100.00		16
HSBC Global Custody Proprietary Nominee (UK) Limited	100.00		1, 16
HSBC Global Services (Canada) Limited	100.00		98
HSBC Global Services (China) Holdings Limited	100.00		16
HSBC Global Services (Hong Kong) Limited	100.00		44
HSBC Global Services (UK) Limited	100.00		16
HSBC Global Services Limited	100.00		2, 16
HSBC Global Shared Services (India) Private Limited (In Liquidation)	99.99		1, 51
HSBC Group Management Services Limited	100.00		16
HSBC Group Nominees UK Limited	100.00		2, 16
HSBC Holdings B.V.	100.00		16
HSBC IM Pension Trust Limited	100.00		16
HSBC Infrastructure Debt GP 1 S.à r.l.	N/A		0, 52
HSBC Infrastructure Debt GP 2 S.à r.l.	N/A		0, 52
HSBC Infrastructure Limited	100.00		16
HSBC INKA Investment-AG TGV	100.00	(99.33)	12, 99
HSBC Inmobiliaria (Mexico), S.A. de C.V.	100.00	(99.99)	14
HSBC Institutional Trust Services (Asia) Limited	100.00		44
HSBC Institutional Trust Services (Bermuda) Limited	100.00		21

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Institutional Trust Services (Mauritius) Limited	100.00		59
HSBC Institutional Trust Services (Singapore) Limited	100.00		50
HSBC Insurance (Asia) Limited	100.00		100
HSBC Insurance (Asia-Pacific) Holdings Limited	100.00		101
HSBC Insurance (Bermuda) Limited	100.00		21
HSBC Insurance (Singapore) Pte. Limited	100.00		50
HSBC Insurance Agency (USA) Inc.	100.00		95
HSBC Insurance Brokers (Philippines) Inc	99.99		102
HSBC Insurance Holdings Limited	100.00		2, 16
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)	99.99		103
HSBC Insurance Services Holdings Limited	100.00		16
HSBC International Finance Corporation (Delaware)	100.00		104
HSBC International Trustee (BVI) Limited	100.00		8, 105
HSBC International Trustee (Holdings) Pte. Limited	100.00		50
HSBC International Trustee Limited	100.00		106
HSBC Inversiones S.A.	99.99		57
HSBC InvestDirect (India) Limited	100.00	(99.98)	107
HSBC InvestDirect Financial Services (India) Limited	99.99	(99.98)	107
HSBC InvestDirect Sales & Marketing (India) Limited	98.99	(98.98)	51
HSBC InvestDirect Securities (India) Private Limited	99.99		107
HSBC Investment Bank Holdings B.V.	100.00		16
HSBC Investment Bank Holdings Limited	100.00		16
HSBC Investment Company (Egypt) S.A.E (In Liquidation)	100.00	(97.81)	108
HSBC Investment Company Limited	100.00		2, 16
HSBC Investment Funds (Canada) Inc.	100.00		109
HSBC Investment Funds (Hong Kong) Limited	100.00		22
HSBC Investment Funds (Luxembourg) SA	100.00		52
HSBC Invoice Finance (UK) Limited	100.00		110
HSBC Issuer Services Common Depositary Nominee (UK) Limited	100.00		16
HSBC Issuer Services Depositary Nominee (UK) Limited	100.00		16
HSBC Latin America B.V.	100.00		16
HSBC Latin America Holdings (UK) Limited	100.00		2, 16
HSBC Leasing (Asia) Limited	100.00		44
HSBC Leasing (France)	100.00	(99.99)	34
HSBC Life (Cornell Centre) Limited	100.00		100
HSBC Life (Edwick Centre) Limited	100.00		100
HSBC Life (International) Limited	100.00		21
HSBC Life (Property Investment) Limited	100.00		100
HSBC Life (Property Light) Limited	100.00		100
HSBC Life (Property) Limited	100.00		100
HSBC Life (Tsing Yi Industrial) Limited	100.00		100
HSBC Life (UK) Limited	100.00		16
HSBC Life Assurance (Malta) Limited	100.00	(70.03)	91
HSBC LU Nominees Limited	100.00		16
HSBC Management (Guernsey) Limited	100.00		20
HSBC Markets (USA) Inc.	100.00		13
HSBC Marking Name Nominee (UK) Limited	100.00		16
HSBC Master Trust Trustee Limited	100.00		16
HSBC Mexico, S.A., Institucion de Banca Multiple, Grupo Financiero HSBC	99.99		14
HSBC Middle East Finance Company Limited	100.00	(80.00)	111
HSBC Middle East Holdings B.V.	100.00		2, 112
HSBC Middle East Leasing Partnership	N/A		0, 113
HSBC Middle East Securities L.L.C	N/A		0, 114
HSBC Mortgage Corporation (Canada)	100.00		115
HSBC Mortgage Corporation (USA)	100.00		13

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Nominees (Asing) Sdn Bhd	100.00		48
HSBC Nominees (Hong Kong) Limited	100.00		44
HSBC Nominees (New Zealand) Limited	100.00		116
HSBC Nominees (Tempatan) Sdn Bhd	100.00		48
HSBC North America Holdings Inc.	100.00		3, 13
HSBC Operational Services GmbH	90.10	(89.49)	117
HSBC Overseas Holdings (UK) Limited	100.00		2, 16
HSBC Overseas Investments Corporation (New York)	100.00		118
HSBC Overseas Nominee (UK) Limited	100.00		16
HSBC Participaciones (Argentina) S.A.	100.00	(99.99)	53
HSBC PB Corporate Services 1 Limited	100.00		119
HSBC PB Services (Suisse) SA	100.00		120
HSBC Pension Trust (Ireland) DAC	100.00		121
HSBC Pensiones, S.A.	100.00		14
HSBC PI Holdings (Mauritius) Limited	100.00		59
HSBC Portfoy Yonetimi A.S.	100.00		122
HSBC Preferential LP (UK)	100.00		16
HSBC Private Bank (Luxembourg) S.A.	100.00		52
HSBC Private Bank (Suisse) SA	100.00		123
HSBC Private Bank (UK) Limited	100.00		16
HSBC Private Banking Holdings (Suisse) SA	100.00		120
HSBC Private Banking Nominee 3 (Jersey) Limited	100.00		124
HSBC Private Equity Investments (UK) Limited	100.00		16
HSBC Private Trustee (Hong Kong) Limited	100.00		44
HSBC Private Wealth Services (Canada) Inc.	100.00		109
HSBC Professional Services (India) Private Limited	100.00		125
HSBC Property (UK) Limited	100.00		16
HSBC Property Funds (Holding) Limited	100.00		16
HSBC Provident Fund Trustee (Hong Kong) Limited	100.00		44
HSBC Qianhai Securities Limited	100.00	(51.00)	10, 126
HSBC Real Estate Leasing (France)	100.00	(99.99)	34
HSBC Realty Credit Corporation (USA)	100.00		13
HSBC REGIO Fund General Partner S.à r.l.	100.00		52
HSBC REIM (France)	100.00	(99.99)	55
HSBC Retirement Benefits Trustee (UK) Limited	100.00		1, 2, 16
HSBC Retirement Services Limited	100.00		1, 16
HSBC Savings Bank (Philippines) Inc.	99.99		127
HSBC Securities (Asia) Limited (In Liquidation)	100.00		44
HSBC Securities (Canada) Inc.	100.00		98
HSBC Securities (Egypt) S.A.E.	100.00	(94.65)	67
HSBC Securities (Japan) Limited	100.00		16
HSBC Securities (Singapore) Pte Limited	100.00		50
HSBC Securities (South Africa) (Pty) Limited	100.00		128
HSBC Securities (Taiwan) Corporation Limited	100.00		129
HSBC Securities (USA) Inc.	100.00		13
HSBC Securities and Capital Markets (India) Private Limited	99.99		51
HSBC Securities Asia Nominees Limited (In Liquidation)	100.00		44
HSBC Securities Brokers (Asia) Limited	100.00		44
HSBC Securities Investments (Asia) Limited	100.00		44
HSBC Securities Services (Bermuda) Limited	100.00		21
HSBC Securities Services (Guernsey) Limited	100.00		20
HSBC Securities Services (Ireland) DAC	100.00		121
HSBC Securities Services (Luxembourg) S.A.	100.00		52
HSBC Securities Services Holdings (Ireland) DAC	100.00		121
HSBC Securities Services Nominees Limited	100.00		44
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	100.00	(99.99)	3, 14
HSBC Service Company Germany GmbH	100.00	(99.33)	130
HSBC Service Delivery (Polska) Sp. z o.o.	100.00		131
HSBC Services (France)	100.00	(99.99)	34
HSBC Services Japan Limited	100.00		132

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
HSBC Services USA Inc.	100.00		133
HSBC Servicios Financieros, S.A. de C.V	100.00	(99.99)	14
HSBC Servicios, S.A. DE C.V., Grupo Financiero HSBC	100.00	(99.99)	14
HSBC SFH (France)	100.00	(99.99)	4, 55
HSBC SFT (C.I.) Limited	100.00		20
HSBC Software Development (Guangdong) Limited	100.00		134
HSBC Software Development (India) Private Limited	100.00		135
HSBC Software Development (Malaysia) Sdn Bhd	100.00		79
HSBC Specialist Investments Limited	100.00		16
HSBC Technology & Services (China) Limited	100.00		136
HSBC Technology & Services (USA) Inc.	100.00		13
HSBC Transaction Services GmbH	100.00	(99.33)	6, 137
HSBC Trinkaus & Burkhardt (International) S.A.	100.00	(99.33)	52
HSBC Trinkaus & Burkhardt AG	99.33		38
HSBC Trinkaus & Burkhardt Gesellschaft fur Bankbeteiligungen mbH	100.00	(99.33)	38
HSBC Trinkaus Europa Immobilien-Fonds Nr. 5 GmbH	100.00	(99.33)	38
HSBC Trinkaus Family Office GmbH	100.00	(99.33)	6, 38
HSBC Trinkaus Immobilien Beteiligungs KG	100.00	(99.33)	38
HSBC Trinkaus Real Estate GmbH	100.00	(99.33)	6, 38
HSBC Trust Company (Canada)	100.00		115
HSBC Trust Company (Delaware), National Association	100.00		104
HSBC Trust Company (UK) Limited	100.00		16
HSBC Trust Company AG (In Liquidation)	100.00		31
HSBC Trustee (C.I.) Limited	100.00		124
HSBC Trustee (Cayman) Limited	100.00		138
HSBC Trustee (Guernsey) Limited	100.00		20
HSBC Trustee (Hong Kong) Limited	100.00		44
HSBC Trustee (Singapore) Limited	100.00		50
HSBC UK Bank plc	100.00		15
HSBC UK Client Nominee Limited	100.00		15
HSBC UK Holdings Limited	100.00		2, 16
HSBC USA Inc.	100.00		118
HSBC Ventures USA Inc.	100.00		13
HSBC Violet Investments (Mauritius) Limited	100.00		76
HSBC Wealth Client Nominee Limited	100.00		1, 15
HSBC Yatirim Menkul Degerler A.S.	100.00		122
HSI Asset Securitization Corporation	100.00		13
HSI International Limited	100.00	(62.14)	37
HSIL Investments Limited	100.00		16
Hubei Macheng HSBC Rural Bank Company Limited	100.00		139
Hubei Suizhou Cengdu HSBC Rural Bank Company Limited	100.00		10, 140
Hubei Tianmen HSBC Rural Bank Company Limited	100.00		141
Hunan Pingjiang HSBC Rural Bank Company Limited	100.00		10, 142
Imenson Limited	100.00	(62.14)	37
Infrared NF China Real Estate Investments LP	N/A		0, 186
INKA Internationale Kapitalanlagegesellschaft mbH	100.00	(99.33)	137
Inmobiliaria Banci, S.A. de C.V.	100.00	(99.68)	14
Inmobiliaria Bisa, S.A. de C.V.	99.98		14
Inmobiliaria Grufin, S.A. de C.V.	100.00	(99.99)	14
Inmobiliaria Guatusi, S.A. de C.V.	100.00	(99.99)	14
James Capel & Co. Limited	100.00		16
James Capel (Nominees) Limited	100.00		16
James Capel (Taiwan) Nominees Limited	100.00		16
John Lewis Financial Services Limited	100.00		16
Keyser Ullmann Limited	100.00	(99.99)	16
Lion Corporate Services Limited	100.00		44
Lion International Corporate Services Limited	100.00		1, 106
Lion International Management Limited	100.00		106
Lion Management (Hong Kong) Limited	100.00		1, 44
Lyndholme Limited	100.00		44
Marks and Spencer Financial Services plc	100.00		143
Marks and Spencer Unit Trust Management Limited	100.00		143
Maxima S.A. AFJP (In Liquidation)	99.98		53
Mexicana de Fomento, S.A. de C.V.	100.00	(99.90)	14
Midcorp Limited	100.00		16
Midland Bank (Branch Nominees) Limited	100.00		15
Midland Nominees Limited	100.00		15
MIL (Cayman) Limited	100.00		74
MW Gestion SA	100.00		53
Promocion en Bienes Raices, S.A. de C.V.	100.00	(99.99)	14
Prudential Client HSBC GIS Nominee (UK) Limited	100.00		16
PT Bank HSBC Indonesia	99.99	(98.93)	144
PT HSBC Sekuritas Indonesia	85.00		145
R/CLIP Corp.	100.00		13
Real Estate Collateral Management Company	100.00		13
Republic Nominees Limited	100.00		20
Republic Overseas Capital Corporation	100.00		95
RLUKREF Nominees (UK) One Limited	100.00		1, 16
RLUKREF Nominees (UK) Two Limited	100.00		1, 16
S.A.P.C. - Ufipro Recouvrement	99.99		34
Saf Baiyun	100.00	(99.99)	4, 34
Saf Guangzhou	100.00	(99.99)	4, 34
Saf Zhu Jiang Shi Ba	100.00	(99.99)	4, 34
Saf Zhu Jiang Shi Er	100.00	(99.99)	4, 34
Saf Zhu Jiang Shi Jiu	100.00	(99.99)	4, 34
Saf Zhu Jiang Shi Liu	100.00	(99.99)	4, 34
Saf Zhu Jiang Shi Qi	100.00	(99.99)	4, 34
Saf Zhu Jiang Shi Wu	100.00	(99.99)	4, 34
SCI HSBC Assurances Immo	100.00	(99.99)	55
Serai Limited	100.00		1, 44
Serai Technology Development (Shanghai) Limited	100.00		10, 147
SFM	100.00	(99.99)	34
SFSS Nominees (Pty) Limited	100.00		128
Shandong Rongcheng HSBC Rural Bank Company Limited	100.00		10, 148
Shenzhen HSBC Development Company Ltd	100.00		149
Sico Limited	100.00		150
SNC Dorique	99.99		1, 9, 151
SNC Les Mercuriales	100.00	(99.99)	1, 9, 34
SNC Les Oliviers D'Antibes	60.00		55
SNC Makala	100.00	(99.99)	1, 9, 34
SNCB/M6 - 2008 A	100.00	(99.99)	34
SNCB/M6-2007 A	100.00	(99.99)	4, 34
SNCB/M6-2007 B	100.00	(99.99)	4, 34
Société Française et Suisse	100.00	(99.99)	34
Somers Dublin DAC	100.00	(99.99)	121
Somers Nominees (Far East) Limited	100.00		21
Sopingest	100.00	(99.99)	34
South Yorkshire Light Rail Limited	100.00		16
St Cross Trustees Limited	100.00		15
Sun Hung Kai Development (Lujiazui III) Limited	100.00		10, 152
Swan National Limited	100.00		16
Tasfiye Halinde HSBC Odeme Sistemleri Bilgisayar Teknolojileri Basin Yayin Ve Musteri Hizmetleri (In Liquidation)	100.00		153
The Hongkong and Shanghai Banking Corporation Limited	100.00		44
The Venture Catalysts Limited	100.00		16
Tooley Street View Limited	100.00		2, 16
Tower Investment Management	100.00		154
Trinkaus Australien Immobilien Fonds Nr. 1 Brisbane GmbH & Co. KG	100.00	(99.33)	38
Trinkaus Australien Immobilien-Fonds Nr. 1 Treuhand-GmbH	100.00	(99.33)	6, 38

Subsidiaries	% of share class held by immediate parent company (or by the Group where this varies)		Footnotes
Trinkaus Europa Immobilien-Fonds Nr.3 Objekt Utrecht Verwaltungs-GmbH	100.00	(99.33)	38
Trinkaus Immobilien-Fonds Geschaeftsfuehrungs-GmbH	100.00	(99.33)	6, 38
Trinkaus Immobilien-Fonds Verwaltungs-GmbH	100.00	(99.33)	6, 38
Trinkaus Private Equity Management GmbH	100.00	(99.33)	38
Trinkaus Private Equity Verwaltungs GmbH	100.00	(99.33)	6, 38
Tropical Nominees Limited	100.00		74
Turnsonic (Nominees) Limited	100.00		15
Valeurs Mobilières Elysées	100.00	(99.99)	34
Wardley Limited	100.00		44
Wayfoong Nominees Limited	100.00		44
Wayhong (Bahamas) Limited	100.00		97
Westminster House, LLC	N/A		0, 13
Woodex Limited	100.00		21
Yan Nin Development Company Limited	100.00	(62.14)	37

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
CCF & Partners Asset Management Limited	100.00	(99.99)	16
Global Payments Technology Mexico S.A. De C.V.	50.00		14
House Network Sdn Bhd	25.00		155
HSBC Life Insurance Company Limited	50.00		156
HSBC Pollination Climate Asset Management Limited	40.00		157
ProServe Bermuda Limited	50.00		158
The London Silver Market Fixing Limited	N/A		0, 1, 159
Vaultex UK Limited	50.00		160

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	161
Barrowgate Limited	15.31	162
BGF Group PLC	24.56	163
Bud Financial Limited	10.82	1, 164
Canara HSBC Oriental Bank of Commerce Life Insurance Company Limited	26.00	165
CFAC Payment Scheme Limited	33.33	166
Chemi & Cotex (Rwanda) Limited	33.99	1, 167
Chemi & Cotex Kenya Limited	33.99	1, 168
Chemi and Cotex Industries Limited	33.99	169
Contour	10.80	191
Episode Six Limited	9.10	187
EPS Company (Hong Kong) Limited	38.66	44
EURO Secured Notes Issuer	16.66	170
GIE GNIFI	N/A	0, 1, 171
GZHS Research Co Ltd	20.50	172
Hang Seng Qianhai Fund Management Company Limited	43.49	1, 10, 173
HCM Holdings Limited (In Liquidation)	50.99	17
HSBC Canadian Covered Bond (Legislative) GP Inc.	100.00	73
HSBC Jintrust Fund Management Company Limited	49.00	174
HSBC Saudi Arabia, a Saudi closed Joint Stock Company	66.18	175
Icon Brickell LLC (In Liquidation)	N/A	0, 176
Jeppe Star Limited	33.99	177
Liquidity Match LLC	N/A	0, 188
London Precious Metals Clearing Limited	30.00	189
MENA Infrastructure Fund (GP) Ltd	33.33	178
Novo Star Limited	33.99	179
Quantexa Ltd	10.99	146
Services Epargne Entreprise	14.18	180
Simon Group LLC	N/A	0, 190
sino AG	24.77	181
The London Gold Market Fixing Limited	25.00	159
The Saudi British Bank	30.99	182
Trade Information Network	16.67	192
Trinkaus Europa Immobilien-Fonds Nr. 7 Frankfurt Mertonviertel KG	N/A	0, 38
Vizolution Limited	17.95	1, 183
We Trade Innovation Designated Activity Company	8.52	1, 184

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	Non-Participating Voting Shares
9	Parts
10	Registered Capital Shares
11	Russian Limited Liability Company Shares
12	Stückaktien

Registered offices

13	c/o The Corporation Trust Company 1209 Orange Street, Wilmington, Delaware, United States of America, 19801
14	Paseo de la Reforma 347 Col. Cuauhtemoc, Mexico, 06500
15	1 Centenary Square, Birmingham, United Kingdom, B1 1HQ
16	8 Canada Square, London, United Kingdom, E14 5HQ
17	Hill House 1 Little New Street, London, United Kingdom, EC4A 3TR
18	5 Donegal Square South, Northern Ireland, Belfast, United Kingdom, BT1 5JP
19	1909 Avenida Presidente Juscelino Kubitschek, 19° andar, Torre Norte, São Paulo Corporate Towers, São Paulo, Brazil, 04551-903
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	Deloitte LLP, 1 New Street Square, London, EC4A 3HQ, United Kingdom
25	95 Washington Street Buffalo, New York, United States of America, 14203
26	Corporation Service Company 251 Little Falls Drive, Wilmington, Delaware, United States of America, 19808
27	Solidere - Rue Saad Zaghloul Immeuble - 170 Marfaa, P.O. Box 17 5476 Mar Michael, Beyrouth, Lebanon, 11042040
28	No 1, Bei Huan East Road Dazu County, Chongqing, China
29	No 107 Ping Du Avenue (E), Sanhe Town, Fengdu County, Chongqing, China
30	No. 3, 5, 7, Haitang Erzhi Road Changyuan, Rongchang, Chongqing, China, 402460
31	Bederstrasse 49, Zurich, Switzerland, CH-8002
32	First & Second Floor, No.3 Nanshan Road, Pulandian , Dalian, Liaoning, China
33	CT Corporation System 225 Hillsborough Street, Raleigh, North Carolina, United States Of America, 27603
34	38 avenue Kléber, Paris, France, 75116
35	MMG Tower, 23 floor Ave. Paseo del Mar Urbanizacion Costa del Este, Panama
36	No. 1 1211 Yanjiang Zhong Road, Yongan, Fujian, China
37	83 Des Voeux Road Central, Hong Kong

Registered offices

38	Königsallee 21/23, Düsseldorf, Germany, 40212
39	No.44 Xin Ping Road Central, Encheng, Enping, Guangdong, China, 529400
40	Room 1701-010 Heung Kong Building, 37 Jin Long Rd, Nansha District, Guangzhou, China
41	34/F and 36/F, Hang Seng Bank Tower 1000 Lujiazui Ring Road, Pilot Free Trade Zone, Shanghai, Shanghai, China, 200120
42	Claude Debussylaan 10 Office Suite 20, 1082MD, Amsterdam, Netherlands
43	Commerce House, Wickhams Cay 1, P.O. Box 3140, Road Town, Tortola, British Virgin Islands, VG1110
44	1 Queen's Road Central, Hong Kong
45	The Corporation Trust Company of Nevada 311 S. Division Street, Carson City, Nevada, United States of America, 89703
46	Corporation Service Company 2711 Centerville Road, Suite 400, Wilmington, Delaware, United States of America, 19808
47	HSBC House Esplanade, St. Helier, Jersey, JE4 8UB
48	10th Floor South Tower, Bangunan HSBC, No. 2, Leboh Ampang, Kuala Lumpur, Malaysia, 50100
49	13th Floor, South Tower 2 Leboh Ampang, Kuala Lumpur, Malaysia, 50100
50	10 Marina Boulevard #48-01 Marina Bay Financial Centre, Singapore, 018983
51	52/60 M G Road Fort, Mumbai, India, 400 001
52	16 Boulevard d'Avranches, Luxembourg, Luxembourg, L-1160
53	557 Bouchard Level 20, Ciudad de Buenos Aires, Capital federal, Argentina, C1106ABG
54	3rd Floor Merchantile Bank Chamber 16, Veer Nariman Road, Fort, Mumbai, India, 400001
55	Immeuble Cœur Défense 110 esplanade du Général de Gaulle, Courbevoie, France, 92400
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, 72201
60	2 Paveletskaya square building 2, Moscow, Russian Federation, 115054
61	13F-14F, 333 Keelung Road, Sec.1, Taipei, 110, Taiwan
62	25 de Mayo 471, Montevideo, Uruguay, 11000
63	The Metropolitan 235 Dong Khoi Street, District 1, Ho Chi Minh City, Viet Nam
64	Esentepe mah. Büyükdere Caddesi No.128, Istanbul, Turkey, 34394
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, P.O. Box 124, Maadi, Egypt, 11728
68	116 Archbishop Street, Valletta, Malta
69	Level 1, Building No. 8, Gate Village Dubai International Financial Centre, United Arab Emirates, P.O. Box 30444
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	66 Wellington Street West, Suite 5300, Toronto, Ontario, Canada, M5K 1E6

Registered offices

74	P.O. Box 1109, Strathvale House, Ground floor, 90 North Church Street, George Town, Grand Cayman, Cayman Islands, KY1-1102
75	HSBC House Esplanade, St. Helier, Jersey, JE1 1HS
76	c/o Rogers Capital St. Louis Business Centre, Cnr Desroches & St Louis Streets, Port Louis, Mauritius
77	49 avenue J.F. Kennedy, Luxembourg, Luxembourg, 1855
78	4-17/F, Office Tower 2 TaiKoo Hui, No. 381 Tian He Road, Tian He District, Guangzhou, Guangdong, China
79	Suite 1005, 10th Floor, Wisma Hamzah Kwong, Hing No. 1, Leboh Ampang, Kuala Lumpur, Malaysia, 50100
80	HSBC, Filinvest One Bldg Northgate Cyberzone, Filinvest Corporate City, Alabang, Muntinlupa City, Philippines, 1781
81	HSBC House Plot No.8 Survey No.64 (Part), Hightec City Layout Madhapur, Hyderabad, India, 500081
82	439, Sri Jayawardenapura Mawatha Welikada, Rajagiriya, Colombo, Sri Lanka
83	Smart Village 28th Km Cairo- Alexandria Desert Road Building, Cairo, Egypt
84	Suite 300 3381 Steeles Avenue East, Toronto, Ontario, Canada, M2H 3S7
85	Centre Ville 1341 Building - 4th Floor Patriarche Howayek Street (facing Beirut Souks), PO Box Riad El Solh, Lebanon, 9597
86	3rd Floor, HSBC Bank Middle East Limited Building, Al Souq Road, P.O Box 4604, Dubai, United Arab Emirates
87	World Trade Center Montevideo Avenida Luis Alberto de Herrera 1248, Torre 1, Piso 15, Oficina 1502, Montevideo, Uruguay, CP 11300
88	Room 655, Building A, No. 888, Huan Hu West Two Road, Lin Gang New Area of Shanghai (Pilot) Free Trade Zone, China, Shanghai, Shanghai, China
89	HSBC House Esplanade, St. Helier, Jersey, JE4 8WP
90	HSBC Building 11-1, Nihonbashi 3-chome, Chuo-ku, Tokyo, Japan, 103-0027
91	80 Mill Street, Qormi, Malta, QRM 3101
92	Herrengasse 1-3, Wien, Austria, 1010
93	26 Gartenstrasse, Zurich, Switzerland, 8002
94	24th Fl. 97-99, Sec.2, Tunhwa S. Rd., Taipei, Taiwan, R.O.C., Taiwan
95	452 Fifth Avenue, New York, United States of America,
96	Bouchard 557, Piso 18°, Cdad. Autónoma de Buenos Aires, Argentina, 1106
97	Mareva House 4 George Street, Nassau, Bahamas
98	70 York Street, Toronto, Ontario, Canada, M5J 1S9
99	Breite Str. 29/31, Düsseldorf, Germany, 40213
100	18th Floor, Tower 1, HSBC Centre 1 Sham Mong Road, Kowloon, Hong Kong
101	Level 32, HSBC Main Building 1 Queen's Road Central, Hong Kong SAR, Hong Kong
102	7/F HSBC Centre 3058 Fifth Ave West, Bonifacio Global City, Taguig City, Philippines
103	HSBC Building Minet El Hosn, Riad el Solh, Beirut 1107-2080, Lebanon, P.O. Box 11-1380
104	300 Delaware Avenue Suite 1401, Wilmington, Delaware, United States Of America, 19801
105	Woodbourne Hall, Road Town, Tortola, British Virgin Islands, P.O. Box 916
106	Craigmuir Chambers, PO Box 71, Road Town, Tortola, British Virgin Islands
107	9-11 Floors, NESCO IT Park Building No. 3 Western Express Highway, Goregaon (East), Mumbai, India, 400063
108	3, Aboul Feda Street Zamalek, Cairo, Egypt
109	300-885 West Georgia Street, Vancouver, British Columbia, Canada, V6C 3E9
110	21 Farncombe Road Worthing, United Kingdom, BN11 2BW

Registered offices

111	Plot No.312-878 Mezzanine Floor, Bldg. of Sheikh Hamdan Bin Rashid, Dubai Creek, Dubai, United Arab Emira
112	Level 1, Building No. 8, Gate Village Dubai International Financial Centre, PO Box 30444, United Arab Emirates
113	Unit 101 Level 1, Gate Village Building No. 8 Dubai International Financial Centre (DIFC), Dubai, United Arab Emirates, PO Box 506553
114	Office No.16 Owned by HSBC Bank Middle East Limited, Dubai Branch, Bur Dubai, Burj Khalifa, Dubai, United Arab Emirates
115	885 West Georgia Street Suite 300, Vancouver, British Columbia, Canada, V6C 3E9
116	HSBC Tower, Level 21, 188 Quay Street, Auckland, New Zealand, 1010
117	21-23 Yorckstraße, Düsseldorf, Nordrhein-Westfalen, Germany, 40476
118	The Corporation Trust Incorporated, 2405 York Road, Suite 201, Lutherville Timonium, Maryland, United Sta
119	HSBC House Esplanade, St. Helier, Jersey, JE1 1GT
120	Quai des Bergues 9-17, Geneva, Switzerland, 1201
121	1 Grand Canal Square, Grand Canal Harbour, Dublin 2, Ireland, D02 P820
122	Esentepe mah. Büyükdere Caddesi No.128, Istanbul, Turkey, 34394
123	Quai des Bergues 9-17, Geneva, Switzerland, 1201
124	HSBC House Esplanade, St Helier, Jersey, JE1 1GT
125	52/60 M G Road, Fort, Mumbai, India, 400 001
126	Block 27 A&B, Qianhai Enterprise Dream Park No. 63 Qianwan Yi Road, Shenzhen-Hong Kong Cooperation Zone, Shenzhen, China, 518052
127	Unit 1 GF The Commerical Complex Madrigal Avenue, Ayala Alabang Village, Muntinlupa City, Philippines, 17
128	1 Mutual Place 107 Rivonia Road, Sandton, Sandton, Gauteng, South Africa, 2196
129	13F 333 Keelung Road, Sec.1, Taipei, Taiwan, 110
130	Hansaallee 3, Düsseldorf, Germany, 40549
131	Kapelanka 42A, Krakow, Poland, 30-347
132	MB&H Corporate Services Ltd Mareva House, 4 George Street, Nassau, Bahamas
133	C T Corporation System 820 Bear Tavern Road, West Trenton, New Jersey, United States Of America, 08628
134	L22, Office Tower 2, Taikoo Hui, 381 Tianhe Road, Tianhe District, Guangzhou, Guangdong, China
135	HSBC Centre River Side, West Avenue, 25B Raheja woods, Kalyaninagar, Pune, India, 411006
136	Level 19, HSBC Building, Shanghai ifc 8 Century Avenue Pudong, Shanghai, China
137	Yorckstraße 21 - 23, Duesseldorf, Germany, 40476
138	P.O. Box 309 Ugland House, Grand Cayman, Cayman Islands, KY1-1104
139	No. 56 Yu Rong Street, Macheng, China, 438300
140	No. 205 Lie Shan Road Suizhou, Hubei, China
141	Building 3, Yin Zuo Di Jing Wan Tianmen New City, Tianmen, Hubei Province, China
142	RM101, 102 & 106 Sunshine Fairview, Sunshine Garden, Pedestrian Walkway, Pingjiang, China
143	Kings Meadow Chester Business Park, Chester, United Kingdom, CH99 9FB
144	World Trade Center 1, Floor 8-9 Jalan Jenderal Sudirman Kavling 29 - 31, Jakarta, Indonesia, 12920
145	5th Floor, World Trade Center 1, Jl. Jend. Sudirman Kav. 29-31, Jakarta, Indonesia, 12920
146	75 Park Lane, Croydon, Surrey, United Kingdom, CR9 1XS
147	Unit B02 20/F No. 168 Yin Cheng Zhong Road, Pilot Free Trade Zone, Shanghai, China, 200120
148	No.198-2 Chengshan Avenue (E), Rongcheng, China, 264300

Registered offices	
149	Room 1303-13062 Marine Center Main Tower, 59 Linhai Rd, Nanshan District, Shenzhen, China
150	Woodbourne Hall, Road Town, Tortola, British Virgin Islands, P.O. Box 3162
151	43 rue de Paris, Saint Denis, France, 97400
152	RM 2112, HSBC Building, Shanghai ifc No. 8 Century Road, Pudong, Shanghai, China, 200120
153	Esentepe mah. Büyükdere Caddesi No.128, Istanbul, Turkey, 34394
154	11 Dr. Roy's Drive PO Box 694GT, Grand Cayman, Cayman Islands, KY1-1107
155	Lot 6.05, Level 6, KPMG Tower 8 First Avenue, Bandar Utama, Petaling Jaya, Selangor Darul Ehsan, Malaysia
156	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
157	3 More London Riverside, London, United Kingdom, SE1 2AQ
158	MUFG Fund Services (Bermuda) Limited The Belvedere Building, 69 Pitts Bay Road, Pembroke, Bermuda, HM
159	c/o Hackwood Secretaries Limited One Silk Street, London, United Kingdom, EC2Y 8HQ
160	All Saints Triangle Caledonian road, London, United Kingdom, N19UT
161	No.188, Yin Cheng Zhong Road China (Shanghai), Pilot Free Trade Zone, Shanghai, China
162	49/F The Lee Gardens, 33 Hysan Avenue, Hong Kong
163	13-15 York Buildings, London, United Kingdom, WC2N 6JU
164	First Floor The Bower, 207 Old Street, England, United Kingdom, EC1V 9NR
165	Unit No. 208, 2nd Floor, Kanchenjunga Building 18, Barakhamba Road, New Delhi, India, 110001
166	65 Gresham Street 6th Floor, London, United Kingdom, EC2V 7NQ
167	PO 4978, Kigali, Rwanda
168	Plot LR No. 487 Dagoretti / Ruthimitu, P.O. Box 14362, Nairobi, Kenya, 00800
169	Plot No. 89-90 Mbezi Industrial Area Box 347, Dar es Salaam City, Tanzania, United Republic of Tanzania
170	3 avenue de l'Opera, Paris, France, 75001
171	37 avenue Henri Lafleur, Nouméa, New Caledonia, BP K3 98849
172	Room 1303, 106 Feng Ze Dong Road, Nansha District, Guangzhou, Guangdong, China
173	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
174	17F, HSBC Building, Shanghai ifc 8 Century Avenue, Pudong, Shanghai, China
175	HSBC Building 7267 Olaya - Al Murrooj, Riyadh, Saudi Arabia, 12283 - 2255
176	C T Corporation System 1200 South Pine Island Road Plantation, Florida, United States of America, 33324
177	c/o Trident Trust Company Trident Chambers, PO Box 146, Tortola, British Virgin Islands
178	Office 705, Level 8, Tower 2, Al Fattan Currency House, DIFC, P.O.Box 506553, Dubai, UAE
179	Jayla Place Wickhams Cay I, PO Box 3190, Road Town, British Virgin Islands
180	32 rue du Champ de Tir, Nantes, France, 44300
181	Ernst-Schneider-Platz 1, Duesseldorf, Germany, 40212
182	Al Amir Abdulaziz Ibn Mossaad Ibn Jalawi Street, Riyadh, Saudi Arabia
183	Office Block A, Bay Studios Business Park, Fabian Way, Swansea, Wales, United Kingdom, SA1 8QB
184	10 Earlsfort Terrace, Dublin, Ireland, D02 T380

Registered offices	
185	c/o Walkers Corporate Services Limited, Walker House, 87 Mary Street, George Town, Grand Cayman, KY1 – 90
186	Oak House Hirzel Street, St Peter Port, Guernsey, GY1 2NP
187	9/F Amtel Bldg, 148 des Voeux Rd Central, Central, Hong Kong
188	100 Town Square Place, Suite 201, Jersey City, NJ 07310, United States of America
189	1-2 Royal Exchange Buildings, Royal Exchange, London, United Kingdom, EC3V 3LF
190	25 W 25th St. New York, NY 10001, United States of America
191	50 Raffles Place, #32-01 Singapore Land Tower, 048623, Singapore
192	3 More London Riverside, London, United Kingdom, SE1 2AQ