STANDARD CHARTERED PLC

渣打集團有限公司

(Incorporated as a public limited company in England and Wales with limited liability)
(Registered Number: 966425)
(Stock Code: 02888)

Results for the Twelve Months Ended 31 December 2019 - Part 2

Standard Chartered PLC – Additional Financial information

Highlights

Standard Chartered PLC (the Group) today releases its results for the year ended 31 December 2019. The following pages provide additional information related to the announcement.

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Risk update

All risk types, both financial and non-financial, are managed and reported in accordance with the Group's Enterprise Risk Management Framework. 2019 saw sustained progress towards improving the resilience of the Group's portfolios as shown here by the key highlights from the past year.

Our portfolio quality

Despite a challenging macroeconomic environment, the Group has been able to maintain strong performance and solid risk fundamentals, a reflection of the work done over the previous few years to secure the foundations of our risk management approach. Several of our key markets have seen significant volatility, in particular due to the US-China trade tensions, social unrest in Hong Kong, and the evolving novel coronavirus (Covid-19) outbreak. The necessary steps have been taken to maintain stable operations. We are supporting impacted corporate clients and individual customers where appropriate. We continue to assess these situations on an ongoing basis, utilising our stress testing framework and portfolio reviews to analyse the potential impact and appropriate risk management actions. As a result, we performed a review of the economic situation in Hong Kong which, when added to the impact of revisions to other model inputs, contributed to the total increase in Hong Kong expected credit loss (ECL) of $46 million in the second half of the year. After the close of the 2019 accounts, the novel coronavirus outbreak in January 2020 has increased risk aversion and uncertainty. The outbreak will likely lead to a weaker outlook for at least the Group's Asian markets in 2020, which may impact the Group's ECL as well as other financial measures in the coming year.

The Group's proportions of stage 1 and stage 2 loans and advances to customers were broadly consistent with the prior period at 90 per cent and 8 per cent respectively. Credit quality remained broadly stable in 2019 with gross stage 3 loans reducing by a further 12 per cent to $7.4 billion (2018: $8.5 billion) carrying over positive momentum from 2018. Credit grade 12 balances have increased by $0.1 billion compared with the previous year, mainly due to sovereign rating downgrades in Zimbabwe, Zambia and Lebanon in the last quarter of 2019, which impacted the ratings of certain obligors in these countries. This does not represent any specific credit concerns related to these obligors, particularly as the balances consist primarily of short-dated financial institutions and sovereign-related exposures used for local balance sheet management. There was an increase in early alert exposure to $5.3 billion (2018: $4.8 billion) driven by a number of unrelated clients that were transferred in the last quarter of 2019. Net of risk mitigants early alert balances are flat year-on-year. The proportion of investment grade corporate exposures has remained broadly consistent year-on-year at 61 per cent, although this is an increase relative to June 2019, which had seen a drop due to a reduction in repurchase agreements. While collateralisation of sub-investment grade net exposures maturing in more than one year has reduced to 45 per cent (2018: 51 per cent), this is mainly due to a handful of downgrades during the year on account of the deteriorating macroeconomic situation. We continue to focus on the quality of origination and underwriting, within our Risk Appetite.

There was an increase in exposure to our top 20 corporate clients as a percentage of Tier 1 capital, up to 56 per cent from 55 per cent in 2018. This was primarily driven by an increase in exposure to investment grade clients. Overall the Group's portfolios remain predominantly short-tenor and continue to be diversified across industry sectors, products and geographies. We actively review our desired risk profile, and as an example, in 2019 have made the decision to only support clients who actively transition their business to generate less than 10 per cent of earnings from thermal coal by 2030, in line with our sustainability agenda.

Our Retail Banking and Private Banking portfolio represents 45 per cent of total customer loans and advances, a similar proportion to the end of 2018, with the Retail Banking segment continuing to have little exposure outside its core markets of Greater China & North Asia and ASEAN & South Asia. The overall loan-to-value of the Mortgage portfolio remains low at 45 per cent. The proportion of unsecured loans has remained broadly stable at 14 per cent of the Retail Banking and Private Banking portfolio.

The Group maintains a strong liquidity position with healthy buffers above its Risk Appetite and minimum regulatory requirements. The Group's liquidity coverage ratio decreased to 144 per cent from 154 per cent in 2018, as we looked to optimise our liquidity position. Both the liquidity buffer and cash outflows grew during the year in line with the overall balance sheet growth. The Group's advances-to-deposits ratio remained broadly unchanged from last year at 64.2 per cent (2018: 63.1 per cent). We remain a net provider of liquidity to the interbank markets and our customer deposit base is diversified by type and maturity. We have a substantial portfolio of marketable securities which can be realised in the event of a liquidity stress.

The Common Equity Tier 1 ratio decreased from 14.2 per cent to 13.8 per cent predominantly because of the impact of the share buy-back, other distributions to shareholders, including preference dividend and higher risk-weighted assets (RWA) partly offset by profit for the period.

Average Group value at risk in 2019 was $30.2 million, 47 per cent higher than in 2018, driven by the non-trading book, which has seen an increase in the bond inventory of high-quality assets in the Treasury Markets business. The average level of value at risk (VaR) in the trading book was $11 million, 12 per cent higher than in 2018 (2018: $9.8 million). Trading activities have remained relatively unchanged and client-driven. We have seen growth in Financial Markets income in 2019, but remain comfortable with the level of risk we are taking. We continue to actively monitor the portfolio and ensure that any growth is well controlled and in line with our Risk Appetite.

The results of the Bank of England's annual cyclical scenario stress test in 2019 show that the Group is more resilient to stress than a year ago. Despite an increase in the severity of the scenario, the maximum fall in the Group's Common Equity Tier 1 ratio reduced to 520 basis points (2018: 570 basis points), reflecting improved revenue momentum and overall risk profile together with the resolution of legacy conduct and control issues.

Stage 3 loans

Overall gross credit-impaired (stage 3) loans for the Group reduced by 12 per cent in 2019, from $8.5 billion to $7.4 billion, driven by continued reductions in Corporate & Institutional Banking and Commercial Banking.

Gross credit-impaired (stage 3) loans in Corporate & Institutional Banking were significantly lower (2019: $4.2 billion; 2018: $5.0 billion) mainly due to repayments, write-offs and upgrades. Total stage 3 inflows were 6 per cent lower than 2018, with new inflows mainly in ASEAN & South Asia.

In Commercial Banking, stage 3 inflows were also lower in the year by 24 per cent, but we remain cautious of the challenging macroeconomic environment and geopolitical risks. Stage 3 loans decreased from $2.3 billion to $2.0 billion, driven by write-offs and repayments.

Private Banking stage 3 loans increased marginally (2019: $0.4 billion, 2018: $0.3 billion) in the ASEAN & South Asia and Europe & Americas regions.

Stage 3 loans in the Retail Banking portfolio remained broadly stable at $0.8 billion.

The stage 3 cover ratio in the total customer loan book was higher at 68 per cent (2018: 66 per cent) due to new impairment charges, repayments and upgrades in Corporate & Institutional Banking. The cover ratio including collateral was flat at 85 per cent (2018: 85 per cent).

Credit impairment

With effect from 1 January 2019, the liquidation portfolio has been included in the ongoing portfolio as the actions to reduce exposures in the liquidation portfolio were substantially completed in 2018. 2018 has not been restated.

At Group level, total credit impairment including the restructuring portfolio is $0.9 billion (2018: $0.7 billion), representing a loan loss rate of 27 basis points (bps) of average customer loans and advances (2018: 21bps). The overall increase was driven by higher stage 1 and 2 charges in Corporate & Institutional Banking and Retail Banking, of which half of the change was due to worsening macroeconomic variables over the period, which included a downward revision of Hong Kong's GDP. This was partially offset by lower stage 3 impairment charges across most segments.

Credit impairment for Corporate & Institutional Banking is significantly higher, up 96 per cent on the levels seen last year (2019: $475 million, 2018: $242 million). This is mainly due to higher stage 1 and 2 impairments in 2019 as 2018 benefitted from upgrades within stage 2 as well as releases from improvements in macroeconomic forecasts. Stage 3 provisions also increased, with a $141 million charge booked in the fourth quarter relating to a single client exposure in ASEAN & South Asia.

Commercial Banking credit impairment declined by 50 per cent (2019: $121 million, 2018: $244 million) compared with 2018, primarily in stage 3 as 2018 included significant provisions across a few clients in Africa & Middle East and Greater China & North Asia that did not repeat.

Retail Banking credit impairment increased by 26 per cent (2019: $336 million, 2018: $267 million) mainly due to non-recurring impairment releases in Korea and Indonesia in 2018. Excluding this, impairments were flat year-on-year. The impact of the macroeconomic downgrades for Hong Kong increased stage 1 and 2 provisions. Individual impairment charge has improved year-on-year mainly driven by recoveries in Korea, Singapore and the UAE.

Private Banking impairment reduced by $31 million due to a net provision release of $29 million driven primarily by a single stage 3 client.

Credit impairment in the restructuring portfolio was a $2 million charge (2018: $87 million release), related to a small number of legacy positions in Principal Finance.

Credit impairment

	2019[1] $million (IFRS 9)	2018 $million (IFRS 9)	2017 $million (IAS 39[1])
Corporate & Institutional Banking	475	242	657
Retail Banking	336	267	374
Commercial Banking	121	244	168
Private Banking	(31)	–	1
Central & other items	5	(13)	–
Ongoing credit impairment charge	906	740	1,200
Restructuring charge/(credit)	2	(87)	162

1 In 2019, the liquidation portfolio has been included in ongoing business. Prior periods have not been restated

Key highlights 2019

- Asset quality broadly stable despite challenging macroeconomic environment
- Credit impairment up year-on-year, but remains below elevated levels seen in previous years
- Our capital and liquidity positions continue to be above current requirements

Key indicators

	2019	2018	01.01.18	2017 (IAS 39)
Group total business[1]				
Stage 1 loans ($ billion)	246.1	237.1	228.5	
Stage 2 loans ($ billion)	20.8	17.4	20.6	
Stage 3 loans, credit-impaired ($ billion)[2]	7.4	8.5	10.7	10.6
Stage 3 cover ratio[2]	68%	66%	67%	67%[3]
Stage 3 cover ratio (including collateral)[2]	85%	85%	84%	84%
Corporate & Institutional Banking and Commercial Banking[5]				
Investment grade corporate net exposures as a percentage of total corporate net exposures	61%	62%		57%
Loans and advances maturing in one year or less as a percentage of total loans and advances to customers	62%	61%		70%[4]
Early alert portfolio net exposures ($ billion)	5.3	4.8		8.7
Credit grade 12 net exposures ($ billion)	1.6	1.5		1.5
Aggregate top 20 corporate net exposures as a percentage of Tier 1 capital	56%	55%		50%
Collateralisation of sub-investment grade net exposures maturing in more than one year	45%	51%		55%
Retail Banking[5]				
Loan-to-value ratio of retail mortgages	45%	45%		47%

1 These numbers represent total loans and advances to customers
2 Balances for 2019 and 2018 reflect interest due but unpaid together with equivalent credit impairment charges. 2018 and 2017 stage 3 balances, provision and cover ratios have been restated
3 2017 total business cover ratios rebased to exclude portfolio impairment provisions to align to IFRS 9 (IAS 39: 65 per cent on 31 December 2017)
4 Includes fair value through profit or loss
5 These metrics are not impacted by the adoption of IFRS 9, hence data as at 1 January 2018 is not needed for comparative purposes

Enterprise Risk Management Framework

Effective risk management is essential in delivering consistent and sustainable performance for all of our stakeholders and is therefore a central part of the financial and operational management of the Group. The Group adds value to clients and the communities in which they operate by taking and managing appropriate levels of risk, which in turn generates returns for shareholders.

The Enterprise Risk Management Framework (ERMF) enables the Group to manage enterprise-wide risks, with the objective of maximising risk-adjusted returns while remaining within our Risk Appetite.

The ERMF has been designed with the explicit goal of improving the Group's risk management, and since its launch in January 2018, it has been embedded across the Group and rolled out to its branches and subsidiaries.

In 2019, we completed a comprehensive review of the ERMF and the following changes were approved by the Board:

- Model Risk was elevated to a Principal Risk Type (effective in 2020) with enhancements to the Group's approach to Model Risk management
- Climate Risk was introduced as a material cross-cutting risk that, while not a Principal Risk Type in itself, manifests through other relevant Principal Risk Types
- A process of self-assessments performed by the branches and subsidiaries to assess the overall adoption and effectiveness of the ERMF locally was formalised
- Our existing Principal Risk Types were updated as follows:
  - Country Risk coverage was expanded from Country Cross-Border Risk to Gross Country Risk
  - Principles related to environment and social risks, defence and dual use goods were incorporated under Reputational Risk
  - Fraud Risk was reclassified as a risk sub-type from Operational Risk to Financial Crime

The revised ERMF was approved on 12 December 2019 and became effective in January 2020.

Risk culture

The Group's risk culture provides guiding principles for the behaviours expected from our people when managing risk. The Board has approved a risk culture statement that encourages the following behaviours and outcomes:

- An enterprise-level ability to identify and assess current and future risks, openly discuss these and take prompt actions
- The highest level of integrity by being transparent and proactive in disclosing and managing all types of risks
- A constructive and collaborative approach in providing oversight and challenge, and taking decisions in a timely manner
- Everyone to be accountable for their decisions and feel safe in using their judgement to make these considered decisions

We acknowledge that banking inherently involves risk-taking and undesired outcomes will occur from time to time; however, we shall take the opportunity to learn from our experience and formalise what we can do to improve. We expect managers to demonstrate a high awareness of risk and control by self-identifying issues and managing them in a manner that will deliver lasting change.

Strategic risk management

The Group approaches strategic risk management as follows:

- As part of the strategy review process, conducting an impact analysis on the risk profile from growth plans, strategic initiatives and business model vulnerabilities with the aim of proactively identifying and managing new risks or existing risks that need to be reprioritised
- As part of the strategy review process, confirming that growth plans and strategic initiatives can be delivered within the approved Risk Appetite and/or proposing additional Risk Appetite for Board consideration
- Validating the Corporate Plan against the approved or proposed Risk Appetite Statement to the Board. The Board approves the strategy review and the five-year Corporate Plan with a confirmation from the Group Chief Risk Officer that it is aligned with the ERMF and the Group Risk Appetite Statement where projections allow

Roles and responsibilities

Senior Managers Regime

Roles and responsibilities under the ERMF are aligned to the objectives of the Senior Managers Regime. The Group Chief Risk Officer is responsible for the overall development and maintenance of the Group's ERMF and for identifying material risk types to which the Group may be potentially exposed. The Group Chief Risk Officer delegates effective implementation of the Risk Type Frameworks to Risk Framework Owners who provide second line of defence oversight for the Principal Risk Types. In addition, the Group Chief Risk Officer has been formally identified as the relevant Senior Manager responsible for Climate Risk management as it relates to financial and non-financial risks to the Group arising from climate change. This does not include elements of corporate social responsibility, the Group's contribution to climate change and/or Sustainable Finance strategy in supporting a low-carbon transition, which are the responsibility of other relevant Senior Managers.

The Risk function

The Risk function is responsible for the sustainability of our business through good management of risk across the Group by providing oversight and challenge, thereby ensuring that business is conducted in line with regulatory expectations.

The Group Chief Risk Officer directly manages the Risk function, which is separate and independent from the origination, trading and sales functions of the businesses. The Risk function is responsible for:

- Maintaining the ERMF, ensuring that it remains relevant and appropriate to the Group's business activities, and is effectively communicated and implemented across the Group, and administering related governance and reporting processes
- Upholding the overall integrity of the Group's risk and return decisions to ensure that risks are properly assessed, that these decisions are made transparently on the basis of this proper assessment and that risks are controlled in accordance with the Group's standards and Risk Appetite
- Overseeing and challenging the management of Principal Risk Types under the ERMF

The independence of the Risk function ensures that the necessary balance in making risk and return decisions is not compromised by short-term pressures to generate revenues.

In addition, the Risk function is a centre of excellence that provides specialist capabilities of relevance to risk management processes in the broader organisation.

The Risk function supports the Group's commitment to be Here for good by building a sustainable framework that places regulatory and compliance standards and a culture of appropriate conduct at the forefront of the Group's agenda, in a manner proportionate to the nature, scale and complexity of the Group's business.

In January 2019, we integrated Conduct, Financial Crime and Compliance (CFCC) risks under a single function under the Management Team leadership of the Group Head, Corporate Affairs, Brand & Marketing and CFCC. CFCC works alongside the Risk function within the framework of the ERMF to deliver a unified second line of defence.

Three lines of defence model

Roles and responsibilities for risk management are defined under a three lines of defence model. Each line of defence has a specific set of responsibilities for risk management and control as shown in the table below.

Lines of defence	Definition	Key responsibilities include
1st	The businesses and functions engaged in or supporting revenue-generating activities that own and manage the risks	• Propose the risks required to undertake revenue-generating activities • Identify, assess, monitor and escalate risks and issues to the second line and senior management[1] and promote a healthy risk culture and good conduct • Manage risks within Risk Appetite, set and execute remediation plans and ensure laws and regulations are being complied with • Ensure systems meet risk data aggregation, risk reporting and data quality requirements set by the second line
2nd	The control functions independent of the first line that provide oversight and challenge of risk management to provide confidence to the Group Chief Risk Officer, senior management and the Board	• Identify, monitor and escalate risks and issues to the Group Chief Risk Officer, senior management and the Board and promote a healthy risk culture and good conduct • Oversee and challenge first line risk-taking activities and review first line risk proposals • Propose Risk Appetite to the Board, monitor and report adherence to Risk Appetite and intervene to curtail business if it is not in line with existing or adjusted Risk Appetite, there is material non-compliance with policy requirements or when operational controls do not effectively manage risk • Set risk data aggregation, risk reporting and data quality requirements • Ensure that there are appropriate controls to comply with applicable laws and regulations, and escalate significant non-compliance matters to senior management and the appropriate committees
3rd	The Internal Audit function provides independent assurance on the effectiveness of controls that support first line's risk management of business activities, and the processes maintained by the second line	• Independently assess whether management has identified the key risks in the businesses and whether these are reported and governed in line with the established risk management processes • Independently assess the adequacy of the design of controls and their operating effectiveness

1 Individuals designated as senior management functions under the FCA and PRA Senior Managers Regime

Risk appetite and profile

We recognise the following constraints which determine the risks that we are willing to take in pursuit of our strategy and the development of a sustainable business:

- Risk capacity is the maximum level of risk the Group can assume, given its current capabilities and resources, before breaching constraints determined by capital and liquidity requirements and internal operational capability (including but not limited to technical infrastructure, risk management capabilities, expertise), or otherwise failing to meet the expectations of regulators and law enforcement agencies
- Risk appetite is defined by the Group and approved by the Board. It is the maximum amount and type of risk the Group is willing to assume in pursuit of its strategy. Risk Appetite cannot exceed risk capacity

The Board has approved a Risk Appetite Statement which is underpinned by a set of financial and operational control parameters known as Risk Appetite metrics and their associated thresholds. These directly constrain the aggregate risk exposures that can be taken across the Group. The Group Risk Appetite is reviewed at least on an annual basis to ensure that it is fit for purpose and aligned with strategy, and focus is given to emerging or new risks. The Risk Appetite Statement is supplemented by an overarching statement outlining the Group's Risk Appetite principles.

Risk appetite principles

The Group Risk Appetite is defined in accordance with risk management principles that inform our overall approach to risk management and our risk culture. We follow the highest ethical standards and ensure a fair outcome for our clients, as well as facilitating the effective operation of financial markets, while at the same time meeting expectations of regulators and law enforcement agencies. We set our Risk Appetite to enable us to grow sustainably and to avoid shocks to earnings or our general financial health, as well as manage our Reputational Risk in a way that does not materially undermine the confidence of our investors and all internal and external stakeholders.

Risk Appetite Statement

The Group will not compromise adherence to its Risk Appetite in order to pursue revenue growth or higher returns.

The Group Risk Appetite is supplemented by risk control tools such as granular level limits, policies, standards and other operational control parameters that are used to keep the Group's risk profile within Risk Appetite. The Group's risk profile is its overall exposure to risk at a given point in time, covering all applicable risk types. Status against Risk Appetite is reported to the Board, Board Risk Committee and the Group Risk Committee, including the status of breaches and remediation plans where applicable. To keep the Group's risk profile within Risk Appetite (and therefore also risk capacity), we have cascaded critical Group Risk Appetite metrics across our Principal Risk Types to our footprint markets with significant business operations. Country Risk Appetite is managed at a country or local level with Group and regional oversight. In addition to Risk Appetite Statements for the Principal Risk Types, the Group also has a Risk Appetite Statement for Climate Risk which is a material cross-cutting risk that can manifest through other risk types. The Group aims to measure and manage financial and non-financial risks from climate change, and reduce emissions related to our own activities and those related to the financing of clients in alignment with the Paris Agreement.

The Group Risk Committee, the Group Financial Crime Risk Committee, the Group Non-Financial Risk Committee and the Group Asset and Liability Committee are responsible for ensuring that our risk profile is managed in compliance with the Risk Appetite set by the Board. The Board Risk Committee and the Board Financial Crime Risk Committee (for Financial Crime Compliance) advise the Board on the Risk Appetite Statement and monitor the Group's compliance with it.

The individual Principal Risk Types' Risk Appetite Statements approved by the Board are set out in the Principal risks section.

Risk identification and assessment

Identification and assessment of potentially adverse risk events is an essential first step in managing the risks of any business or activity. To ensure consistency in communication we use Principal Risk Types to classify our risk exposures. Nevertheless, we also recognise the need to maintain an overall perspective since a single transaction or activity may give rise to multiple types of risk exposure, risk concentrations may arise from multiple exposures that are closely correlated, and a given risk exposure may change its form from one risk type to another. There are also sources of risk that arise beyond our own operations such as the Group's dependency on suppliers for the provision of services and technology. As the Group remains accountable for risks arising from the actions of such third parties, failure to adequately monitor and manage these relationships could materially impact the Group's ability to operate and could have an impact on our ability to continue to provide services that are material to the Group.

To facilitate risk identification and assessment, the Group maintains a dynamic risk-scanning process with inputs from the internal and external risk environment, as well as potential threats and opportunities from the business and client perspectives. The Group maintains an inventory of the Principal Risk Types and risk sub-types that are inherent to the strategy and business model; and emerging risks that include near-term as well as longer-term uncertainties. Near-term risks are those that are on the horizon and can be measured and mitigated to some extent, while uncertainties are longer-term matters that should be on the radar but are not yet fully measurable.

The Group Chief Risk Officer and the Group Risk Committee review regular reports on the risk profile for the Principal Risk Types, adherence to the approved Risk Appetite and the Group risk inventory including emerging risks. They use this information to escalate material developments in each risk event and make recommendations to the Board on any potential changes to our Corporate Plan.

Stress testing

The objective of stress testing is to support the Group in assessing that it:

- Does not have a portfolio with excessive risk concentration that could produce unacceptably high losses under severe but plausible scenarios
- Has sufficient financial resources to withstand severe but plausible scenarios
- Has the financial flexibility to respond to extreme but plausible scenarios
- Understands the key business model risks and considers what kind of event might crystallise those risks – even if extreme with a low likelihood of occurring – and identifies as required, actions to mitigate the likelihood or impact as required

Enterprise stress tests include Capital and Liquidity Adequacy Stress Tests, including in the context of recovery and resolution, and stress tests that assess scenarios where our business model becomes unviable, such as reverse stress tests.

Stress tests are performed at Group, country, business and portfolio level. Bespoke scenarios are applied to our traded and liquidity positions as described in the sections on Traded Risk, and Capital and Liquidity Risk. In addition to these, our stress tests also focus on the potential impact of macroeconomic, geopolitical and physical events on relevant regions, client segments and risk types.

The Board delegates approval of stress test submissions to the Bank of England to the Board Risk Committee, who review the recommendations from the Stress Testing Committee. The Stress Testing Committee is appointed by the Group Risk Committee to review and challenge the stress test scenarios, assumptions and results.

Based on the stress test results, the Group Chief Risk Officer and Group Chief Financial Officer can recommend strategic actions to the Board to ensure that the Group strategy remains within the Board-approved Risk Appetite.

Principal Risk Types

Principal Risk Types are risks that are inherent in our strategy and business model and have been formally defined in the Group's ERMF. These risks are managed through distinct Risk Type Frameworks (RTFs) which are approved by the Group Chief Risk Officer. The Principal Risk Types and associated Risk Appetite Statements are approved by the Board.

In 2019, we performed a review of our Principal Risk Types and elevated Model Risk to a Principal Risk Type (effective in 2020) and implemented enhancements undertaken to the Group's approach to Model Risk management. In addition to Principal Risk Types, the Group may be exposed to material cross-cutting risks that manifest through other Principal Risk Types. The Group Chief Risk Officer can direct risk management frameworks and appoint Risk Framework Owners to perform second line of defence activities for such cross-cutting risks. The Group currently recognises Climate Risk as a material cross-cutting risk. Climate Risk is defined as the potential for financial loss and non-financial detriments arising from climate change and society's response to it.

In the coming years we will consider if existing Principal Risk Types or incremental risks should be treated as cross-cutting risks. The table below shows the Group's current Principal Risk Types.

Principal Risks Types	**Definition**
Credit Risk	• Potential for loss due to the failure of a counterparty to meet its agreed obligations to pay the Group
Traded Risk	• Potential for loss resulting from activities undertaken by the Group in financial markets
Capital and Liquidity Risk	• Capital: Potential for insufficient levels, composition or distribution of capital to support our normal activities • Liquidity: Risk that we may not have sufficient stable or diverse sources of funding to meet our obligations as they fall due
Country Risk	• Potential for losses due to political or economic events in a country
Reputational Risk	• Potential for damage to the franchise, resulting in loss of earnings or adverse impact on market capitalisation because of stakeholders taking a negative view of the organisation, its actions or inactions – leading stakeholders to change their behaviour
Operational Risk	• Potential for loss resulting from inadequate or failed internal processes and systems, human error, or from the impact of external events (including legal risks)
Compliance Risk	• Potential for penalties or loss to the Group, or for an adverse impact to our clients, stakeholders or to the integrity of the markets in which we operate through a failure on our part to comply with laws or regulations
Conduct Risk	• Risk of detriment to the Group's clients, investors, shareholders, market integrity, competition and counterparties or risk of detriment from the inappropriate supply of financial services, including instances of willful or negligent misconduct
Financial Crime Risk	• Potential for legal or regulatory penalties, material financial loss or reputational damage resulting from the failure to comply with applicable laws and regulations relating to international sanctions, anti-money laundering, anti-bribery and corruption, and fraud
Information and Cyber Security Risk	• Potential for loss from a breach of confidentiality, integrity and availability of the Group's information systems and assets through cyber attack, insider activity, error or control failure
Model Risk*	• Potential loss that may occur as a consequence of decisions or the risk of mis-estimation that could be principally based on the output of models, due to errors in the development, implementation or use of such models

* Effective from January 2020

Further details of our principal risks and how these are being managed are set out in the Principal risks section .

ERMF effectiveness reviews

The Group Chief Risk Officer is responsible for annually affirming the effectiveness of the ERMF to the Board Risk Committee. To facilitate this, an ERMF effectiveness review was established in 2018, which follows the principle of evidence-based self-assessments for all the Risk Type Frameworks and relevant policies.

The annual ERMF effectiveness review, first introduced in 2018, was conducted in 2019 and enables measurement of progress against the 2018 baseline. The 2019 effectiveness review has shown that:

- Since the launch of the ERMF in 2018, the focus in 2019 has been on effective embedding of the framework across the organisation and we have made progress on overall effectiveness
- We have an established risk taxonomy through the Principal Risk Types and risk sub-types which provides a common risk language across the three lines of defence and ultimate risk oversight by senior management and the Board. There is also stronger first line ownership of risks
- In 2019, risk management for both financial and non-financial risks improved year-on-year. Financial risks continue to be managed more effectively on a relative basis as compared with the non-financial risks. This reflects the maturity of these Risk Type Frameworks and the underlying risk management practices
- Self-assessments performed in our footprint markets reflect the use of the ERMF and Principal Risk Types, with reinforced first line ownership of risks. Country and regional risk committees are playing a more active role in managing and overseeing material issues arising in countries. Automation opportunities for manual risk oversight processes will continue to be explored in 2020

Ongoing structured ERMF effectiveness reviews enable us to identify improvement opportunities and proactively build plans to address them. Over the course of 2020, the Group aims to further strengthen its risk management practices and target improvements in the management of non-financial risk types.

Executive and Board risk oversight

Overview

The Board has ultimate responsibility for risk management and is supported by the six Board-level committees. The Board approves the ERMF based on the recommendation from the Board Risk Committee, which also recommends the Group Risk Appetite Statement for all Principal Risk Types other than Financial Crime Risk. Financial Crime Risk Appetite is reviewed and recommended to the Board by the Board Financial Crime Risk Committee.

In addition, the Brand Values and Conduct Committee oversees the brand, valued behaviours, reputation and conduct of the Group. The Committee reviews the effectiveness of the Group's Conduct Risk Type Framework and manages Reputational Risk in line with the Reputational Risk Type Framework.

Group Risk Committee

The Group Risk Committee, which derives its authority from the Group Chief Risk Officer, is responsible for ensuring the effective management of risk throughout the Group in support of the Group's strategy. The Group Chief Risk Officer chairs the Group Risk Committee, whose members are drawn from the Group's Management Team. The Committee determines the ERMF and oversees its effective implementation across the Group, including the delegation of any part of its authorities to appropriate individuals or properly constituted sub-committees.

Group Risk Committee sub-committees

The Group Non-Financial Risk Committee, chaired by the Global Head of Risk, Functions and Operational Risk, governs the non-financial Principal Risk Types across clients, businesses, products and functions. The non-financial Principal Risk Types in scope are Operational Risk, Compliance Risk, Conduct Risk, Information and Cyber Security Risk and Reputational Risk that is consequential in nature arising from potential failures of Principal Risk Types. The Committee also reviews the adequacy of the internal control systems across all Principal Risk Types.

The Group Financial Crime Risk Committee, chaired by the Group Head, Corporate Affairs, Brand & Marketing and CFCC, as the Compliance and Money Laundering Reporting Officer, governs the Financial Crime Risk Type Framework across the Group. The committee ensures that the Financial Crime risk profile is managed within approved Risk Appetite and policies. The Committee is also responsible for recommending the Financial Crime Risk Appetite Statement and Risk Appetite metrics to the Board Financial Crime Risk Committee.

The Group Reputational Risk Committee, chaired by the Group Head, Corporate Affairs, Brand & Marketing and CFCC, ensures the effective management of Reputational Risk across the Group. This includes providing oversight of matters arising from clients, products, transactions and strategic coverage- related decisions (i.e. primary Reputational Risk sources) and matters escalated by the respective Risk Framework Owners (i.e. secondary Reputational Risk sources).

The Stress Testing Committee, chaired by the Global Head, Enterprise Risk Management, ensures the effective management of enterprise stress testing in line with the Group's enterprise stress testing policy and applicable regulatory requirements. In addition, the Committee reviews, challenges and approves scenarios for stress tests and stress test results prior to management actions.

The IFRS 9 Impairment Committee, chaired by the Global Head, Enterprise Risk Management, ensures the effective management of expected credit loss computations as well as stage allocation of financial assets for quarterly financial reporting within the authorities set by the Group Risk Committee.

The Model Risk Committee, chaired by the Global Head, Enterprise Risk Management, ensures the effective measurement and management of Model Risk in line with internal policies and Model Risk Appetite.

The Corporate, Commercial and Institutional Banking Risk Committee, chaired by the Chief Risk Officer, Business, ensures the effective management of risk throughout Corporate & Institutional Banking and Commercial Banking, in support of the Group's strategy. The Committee also provides governance oversight over key matters in Europe and Americas.

The Private Banking Process Governance and Risk Committee ensures the effective management of risk throughout Private Banking with Group Risk Appetite. The committee is chaired jointly by the Chief Risk Officer, Commercial Banking and Private Banking and the Global Head, Private Banking and Wealth Management.

The two regional risk committees are chaired by the Chief Risk Officer for the respective region. These ensure the effective management of risk in the regions in support of the Group's strategy.

The Investment Committee for Transportation Assets, chaired by the Chief Risk Officer, Business, ensures the optimisation of the Group's investment in aviation and shipping operating lease assets, with the aim of delivering better returns through the cycle.

The Investment Committee ensures the optimised wind-down of the Group's existing direct investment activities in equities, quasi-equities (excluding mezzanine), funds and other alternative investments (excluding debt/debt-like instruments). The Committee is chaired by a representative of the Risk function (which includes the Group Chief Risk Officer, Global Head, Enterprise Risk Management and Chief Risk Officer, Business).

Group Asset and Liability committee

The Group Asset and Liability Committee is chaired by the Group Chief Financial Officer. Its members are drawn principally from the Management Team. The Committee is responsible for determining the Group's approach to balance sheet strategy and recovery planning. The Committee is also responsible for ensuring that, in executing the Group's strategy, the Group operates within internally approved Risk Appetite and external requirements relating to capital, loss-absorbing capacity, liquidity, leverage, Interest Rate Risk in the Banking Book, Banking Book Basis Risk and Structural Foreign Exchange Risk, and meets internal and external recovery planning requirements.

Principal risks

We manage and control our Principal Risk Types through distinct Risk Type Frameworks, policies and Board-approved Risk Appetite.

Credit Risk

The Group defines Credit Risk as the potential for loss due to the failure of a counterparty to meet its agreed obligations to pay the Group

Risk Appetite Statement

The Group manages its credit exposures following the principle of diversification across products, geographies, client segments and industry sectors

Roles and responsibilities

The Credit Risk Type Frameworks for the Group are set and owned by the Chief Risk Officers for the business segments. The Credit Risk function is the second line control function responsible for independent challenge, monitoring and oversight of the Credit Risk management practices of the business and functions engaged in or supporting revenue-generating activities which constitute the first line of defence. In addition, they ensure that Credit Risks are properly assessed and transparent; and that credit decisions are controlled in accordance with the Group's Risk Appetite, credit policies and standards. For the Retail Banking segment, the Retail Risk function is also responsible for specific activities such as collections.

Mitigation

Segment-specific policies are in place for the management of Credit Risk.

The Credit Policy for Corporate & Institutional Banking and Commercial Banking sets the principles that must be followed for the end-to-end credit process including credit initiation, credit grading, credit assessment, structuring of product, Credit Risk mitigation, monitoring and control, and documentation.

The Retail Credit Risk Management Policy sets the principles for the management of retail and business banking lending, account and portfolio monitoring, collections management and forbearance programmes. In addition, there are other Group-wide policies integral to Credit Risk management such as those relating to Risk Appetite, Model Risk, stress testing, and impairment provisioning.

The Group also set out standards for the eligibility, enforceability and effectiveness of Credit Risk mitigation arrangements. Potential credit losses from a given account, client or portfolio are mitigated using a range of tools i.e. collateral, netting agreements, credit insurance, credit derivatives and guarantees.

Risk mitigants are also carefully assessed for their market value, legal enforceability, correlation and counterparty risk of the protection provider.

Collateral must be valued prior to drawdown and regularly thereafter as required to reflect current market conditions, the probability of recovery and the period of time to realise the collateral in the event of liquidation. The Group also seeks to diversify its collateral holdings across asset classes and markets.

Where guarantees, credit insurance, standby letters of credit or credit derivatives are used as Credit Risk mitigation, the creditworthiness of the protection provider is assessed and monitored using the same credit approval process applied to the obligor.

Governance committee oversight

At the Board level, the Board Risk Committee oversees the effective management of Credit Risk.

At the executive level, the Group Risk Committee appoints sub-committees for the management of Credit Risk – in particular the Corporate, Commercial and Institutional Banking Risk Committee (CCIBRC), the Private Banking Process Governance and Risk Committee, and the regional risk committees for ASEAN & South Asia and Africa & Middle East. These committees are responsible for overseeing the Credit Risk profile of the Group within the respective business areas and regions. Meetings are held regularly, and the committees monitor all material Credit Risk exposures, as well as key internal developments and external trends, and ensure that appropriate action is taken.

Decision-making authorities and delegation

The Credit Risk Type Frameworks are the formal mechanism which delegate Credit Risk authorities cascading from the Group Chief Risk Officer, as the Senior Manager of the Credit Risk Type, to individuals such as the business segments' Chief Risk Officers. Named individuals further delegate credit authorities to individual credit officers by applying delegated credit authority matrices, which determine the maximum limits based on risk-adjusted scales by customer type or portfolio.

Credit Risk authorities are reviewed at least annually to ensure that they remain appropriate. In Corporate & Institutional Banking, Commercial Banking and Private Banking, the individuals delegating the Credit Risk authorities perform oversight by reviewing a sample of the limit applications approved by the delegated credit officers on a monthly basis. In Retail Banking, credit decision systems and tools (e.g., application scorecards) are used for credit decisioning. Where manual credit decisions are applied, these are subject to periodic quality control assessment and assurance checks.

Monitoring

We regularly monitor credit exposures, portfolio performance, and external trends that may impact risk management outcomes. Internal risk management reports that are presented to risk committees contain information on key political and economic trends across major portfolios and countries; portfolio delinquency and loan impairment performance.

In 2019, the Group introduced an Industry Portfolio Mandate (IPM), developed jointly by the Corporate & Institutional Banking and Commercial Banking Business and Risk function to provide a forward-looking assessment of risk and simplification of processes while increasing focus on clients. The IPM is a single platform from which business strategy, risk considerations and client planning are performed with one consensus view which comprises external industry outlook, portfolio overviews, Risk Appetite, underwriting principles and stress test insights.

In Corporate & Institutional Banking and Commercial Banking, clients and portfolios are subjected to additional review when they display signs of actual or potential weakness; for example, where there is a decline in the client's position within the industry, financial deterioration, a breach of covenants, or non-performance of an obligation within the stipulated period. Such accounts are subjected to a dedicated process overseen by the Credit Issues Committees in the relevant countries where client account strategies and credit grades are re-evaluated. In addition, remedial actions including exposure reduction, security enhancement, or exiting the account could be undertaken, and certain accounts could also be transferred into the control of Group Special Assets Management (GSAM), which is our specialist recovery unit for Corporate & Institutional Banking and Commercial Banking, and Private Banking that operates independently from our main business.

For Retail Banking exposures, portfolio delinquency trends are monitored on an ongoing basis. Account monitoring is based on behaviour scores and bureau performance (where available). Accounts that are past due (or perceived as high risk and not yet past due) are subject to a collections or recovery process managed by a specialist function independent from the origination function. In some countries, aspects of collections and recovery activities are outsourced.

Credit rating and measurement

All credit proposals are subject to a robust Credit Risk assessment. It includes a comprehensive evaluation of the client's credit quality, including willingness, ability and capacity to repay. The primary lending consideration is based on the client's credit quality and the repayment capacity from operating cashflows for counterparties; and personal income or wealth for individual borrowers. The risk assessment gives due consideration to the client's liquidity and leverage position. Where applicable, the assessment includes a detailed analysis of the Credit Risk mitigation arrangements to determine the level of reliance on such arrangements as the secondary source of repayment in the event of a significant deterioration in a client's credit quality leading to default.

Risk measurement plays a central role, along with judgement and experience, in informing risk-taking and portfolio management decisions. Since 1 January 2008, we have used the advanced internal ratings-based approach under the Basel regulatory framework to calculate Credit Risk capital requirements. The Group has also established a global programme to undertake a comprehensive assessment of capital requirements necessary to be implemented to meet the latest revised Basel III finalisation (Basel IV) regulations.

A standard alphanumeric Credit Risk grade system is used for Corporate & Institutional Banking and Commercial Banking. The numeric grades run from 1 to 14 and some of the grades are further sub-classified. Lower numeric credit grades are indicative of a lower likelihood of default. Credit grades 1 to 12 are assigned to performing customers, while credit grades 13 and 14 are assigned to non-performing or defaulted customers.

Retail Banking internal ratings-based portfolios use application and behavioural credit scores that are calibrated to generate a probability of default and then mapped to the standard alphanumeric Credit Risk grade system. We refer to external ratings from credit bureaus (where these are available); however, we do not rely solely on these to determine Retail Banking credit grades.

Advanced internal ratings-based models cover a substantial majority of our exposures and are used in assessing risks at a customer and portfolio level, setting strategy and optimising our risk-return decisions. Material internal ratings-based risk measurement models are approved by the Model Risk Committee. Prior to review and approval, all internal ratings-based models are validated in detail by a model validation team which is separate from the teams that develop and maintain the models. Models undergo annual validation by the model validation team. Reviews are also triggered if the performance of a model deteriorates materially against predetermined thresholds during the ongoing model performance monitoring process which takes place between the annual validations.

Credit Concentration Risk

Credit Concentration Risk may arise from a single large exposure to a counterparty or a group of connected counterparties, or from multiple exposures across the portfolio that are closely correlated. Large exposure Concentration Risk is managed through concentration limits set for a counterparty or a group of connected counterparties based on control and economic dependence criteria. Risk Appetite metrics are set at portfolio level and monitored to control concentrations, where appropriate, by industry, specific products, tenor, collateralisation level, top 20 concentration and exposure to holding companies. Single name credit concentration thresholds are set by client group depending on credit grade, and by customer segment. For concentrations that are material at a Group level, breaches and potential breaches are monitored by the respective governance committees and reported to the Group Risk and Board Risk Committees.

Credit impairment

Expected credit losses are determined for all financial assets that are classified as amortised cost or fair value through other comprehensive income. Expected credit losses are computed as an unbiased, probability-weighted amount determined by evaluating a range of plausible outcomes, the time value of money, and considering all reasonable and supportable information including that which is forward looking. When determining forward looking expected credit losses, the Group also considers a set of critical global or country-specific macroeconomic variables that influence Credit Risk. For more detailed information on macroeconomic data feeding into IFRS 9 expected credit losses calculations, please see the Annual Report.

At the time of origination or purchase of a non-credit-impaired financial asset (stage 1), expected credit losses represent cash shortfalls arising from possible default events up to 12 months into the future from the balance sheet date. Expected credit losses continue to be determined on this basis until there is a significant increase in the Credit Risk of the asset (stage 2), in which case an expected credit loss provision is recognised for default events that may occur over the lifetime of the asset. If there is observed objective evidence of credit impairment or default (stage 3), expected credit losses continue to be measured on a lifetime basis.

In 2019, the Board approved a new Risk Appetite metric to monitor the stage 1 and stage 2 expected credit losses from assets originated in the last 12 months. The Risk Appetite metric provided the Board with oversight of the quality of assets being originated and to ensure that they are aligned to the Group’s strategy.

The Group’s definition of default is aligned with the regulatory definition of default as set out in European Capital Requirements Regulation (CRR178) and related guidelines, where the obligor is at least 90 days past due in respect of principal and/or interest. A loan is considered past due (or delinquent), when the customer has failed to make a principal or interest payment in accordance with the loan contract. Financial assets are also considered to be credit-impaired where the obligors are unlikely to pay on the occurrence of one or more observable events that have a detrimental impact on the estimated future cashflows of the financial asset.

In Corporate & Institutional Banking, Commercial Banking and Private Banking, a loan is considered credit-impaired where analysis and review indicate that full payment of either interest or principal, including the timeliness of such payment, is questionable, or as soon as payment of interest or principal is 90 days overdue. These credit-impaired accounts are managed by our specialist recovery unit (GSAM). Where appropriate, the non-material credit impaired accounts are co-managed with the business under the supervision of GSAM.

In Retail Banking, a loan is considered credit-impaired as soon as payment of interest or principal is 90 days overdue or meets other objective evidence of impairment such as bankruptcy, debt restructuring, fraud or death. Financial assets are written off when there is no realistic prospect of recovery and the amount of loss has been determined. For Retail Banking assets, a financial asset is written off when it meets certain threshold conditions which are set at the point where empirical evidence suggests that the client is unlikely to meet their contractual obligations, or a loss of principal is expected.

Estimating the amount and timing of future recoveries involves significant judgement and considers the assessment of matters such as future economic conditions and the value of collateral, for which there may not be a readily accessible market. The total amount of the Group's impairment provision is inherently uncertain, being sensitive to changes in economic and credit conditions across the regions in which the Group operates. For further details on sensitivity analysis of expected credit losses under IFRS 9, please see the Annual Report.

Stress testing

Stress testing is a forward-looking risk management tool that constitutes a key input into the identification, monitoring and mitigation of Credit Risk, as well as contributing to Risk Appetite calibration. Periodic stress tests are performed on the credit portfolio/segment to anticipate vulnerabilities from stressed conditions and initiate timely right-sizing and mitigation plans. Additionally, multiple enterprise-wide and country-level stress tests are mandated by regulators to assess the ability of the Group and its subsidiaries to continue to meet their capital requirements during a plausible, adverse shock to the business. These regulatory stress tests are conducted in line with the principles stated in the Enterprise Stress Testing Policy. The Group's enterprise stress testing programme adopted IFRS 9 in full in 2018 and all enterprise stress tests conducted during 2019 were performed on an IFRS 9 basis. Stress tests for key portfolios are reviewed by the Credit Risk Type Framework Owners (or delegates) as part of portfolio oversight; and matters considered material to the Group are escalated to the Group Chief Risk Officer and respective regional risk committees.

Traded Risk

The Group defines Traded Risk as the potential for loss resulting from activities undertaken by the Group in financial markets.

Risk Appetite Statement

The Group should control its trading portfolio and activities to ensure that Traded Risk losses (financial or reputational) do not cause material damage to the Group's franchise.

The Traded Risk Type Framework (TRTF) brings together all risk types exhibiting risk features common to Traded Risk. These risk sub-types include Market Risk, Counterparty Credit Risk, Issuer Risk, XVA, Algorithmic Trading and Pension Risk. Traded Risk Management (TRM) is the core risk management function supporting market- facing businesses, specifically Financial Markets and Treasury Markets.

Roles and responsibilities

The TRTF, which sets the roles and responsibilities in respect of Traded Risk for the Group, is owned by the Global Head, Traded Risk Management. The front office, acting as first line of defence, is responsible for the effective management of risks within the scope of its direct organisational responsibilities set by the Board. The TRM function is the second line control function that performs independent challenge, monitoring and oversight of the Traded Risk management practices of the first line of defence. The first and second lines of defence are supported by the organisation structure, job descriptions and authorities delegated by Traded Risk control owners.

Mitigation

The Group controls its trading portfolio and activities within Risk Appetite by assessing the various Traded Risk factors. These are captured and analysed using proprietary and custom-built analytical tools, in addition to risk managers' specialist market and product knowledge.

TRM has a framework, policies and standards in place ensuring that appropriate Traded Risk limits are implemented. The Group's Traded Risk exposure is aligned with its appetite for Traded Risk, and assessment of potential losses that might be incurred by the Group as a consequence of extreme but plausible events.

Traded Risk limits are applied as required by the TRTF and related standards.

All businesses incurring Traded Risk must do so in compliance with the TRTF. The TRTF requires that Traded Risk limits are defined at a level appropriate to ensure that the Group remains within Traded Risk Appetite. All exposures throughout the Group that the TRM function is responsible for aggregate up to TRM's Group-level reporting. This aggregation approach ensures that the limits structure across the Group is consistent with the Group's Risk Appetite.

The TRTF and Enterprise Stress Testing Policy ensure that adherence to stress-related Risk Appetite metrics is achieved. Stress testing aims at supplementing other risk metrics used within the Group by providing a forward-looking view of positions and an assessment of their resilience to stressed market conditions. Stress testing is performed on all Group businesses with Traded Risk exposures, either where the risk is actively traded or where material risk remains. This additional information is used to inform the management of the Traded Risks taken within the Group. The outcome of stress tests is discussed across the various business lines and management levels so that existing and potential risks can be reviewed, and related management actions can be decided upon where appropriate.

Policies are reviewed and approved by the Global Head, TRM annually to ensure their ongoing effectiveness and sustainability.

Governance committee oversight

At the Board level, the Board Risk Committee oversees the effective management of Traded Risk. At the executive level, the Group Risk Committee delegates responsibilities to the CCIBRC to act as the primary risk governance body for Traded Risk, and to the Stress Testing Committee for stress testing and the Model Risk Committee for Model Risk. Where Traded Risk limits are set at a country level, committee governance is:

- Subsidiary authority for setting Traded Risk limits, where applicable, is delegated from the local Board to the local risk committee, Country Chief Risk Officer and Traded Risk managers
- Branch authority for setting Traded Risk limits remains with TRM which retains responsibility for monitoring and reporting excesses
- Joint ventures (JV), e.g. Permata, are formally managed independently from the Group. However, if Standard Chartered exerts significant management influence in practice, such as through senior functional appointments, then the Group regulator (UK PRA) may require the risks to be fully consolidated, just as though it was a subsidiary

Decision-making authorities and delegation

The Group's Risk Appetite Statement, along with the key associated Risk Appetite metrics, is approved by the Board with responsibility for Traded Risk limits, then tiered accordingly.

Subject to the Group's Risk Appetite for Traded Risk, the Group Risk Committee sets Group-level Traded Risk limits, via delegation to the Group Chief Risk Officer. The Group Chief Risk Officer delegates authority for the major business limits and for all other Traded Risk limits to the TRTF Owner (Global Head, TRM) who in turn delegates approval authorities to individual Traded Risk managers.

Additional limits are placed on specific instruments, positions, and portfolio concentrations where appropriate. Authorities are reviewed at least annually to ensure that they remain appropriate and to assess the quality of decisions taken by the authorised person. Key risk-taking decisions are made only by certain individuals with the skills, judgement and perspective to ensure that the Group's control standards and risk-return objectives are met. Authority delegators are responsible for monitoring the quality of the risk decisions taken by their delegates and the ongoing suitability of their authorities.

Market Risk – value at risk

The Group applies VaR as a measure of the risk of losses arising from future potential adverse movements in market rates, prices and volatilities. VaR is a quantitative measure of Market Risk that applies recent historical market conditions to estimate the potential future loss in market value that will not be exceeded in a set time period at a set statistical confidence level. VaR provides a consistent measure that can be applied across trading businesses and products over time and can be set against actual daily trading profit and loss outcomes.

VaR is calculated for expected movements over a minimum of one business day and to a confidence level of 97.5 per cent.

VaR is calculated on our exposure as at the close of business, generally UK time. Intra-day risk levels may vary from those reported at the end of the day.

The Group applies two VaR methodologies:

- Historical simulation: this involves the revaluation of all existing positions to reflect the effect of historically observed changes in Market Risk factors on the valuation of the current portfolio. This approach is applied for general Market Risk factors and the majority of specific (credit spread) risk VaRs
- Monte Carlo simulation: this methodology is similar to historical simulation but with considerably more input risk factor observations. These are generated by random sampling techniques, but the results retain the essential variability and correlations of historically observed risk factor changes. This approach is applied for some of the specific (credit spread) risk VaR in relation to idiosyncratic exposures in credit markets

In both methods, a historical observation period of one year is chosen and applied.

A small proportion of Market Risk generated by trading positions is not included in VaR or cannot be appropriately captured by VaR. This is recognised through a Risks-not-in-VaR Framework, which estimates these risks and applies capital add-ons.

To assess their ongoing performance, VaR models are backtested against actual results.

An analysis of VaR and backtesting results in 2019 is available in the Risk profile section.

Counterparty Credit Risk

Credit Risk from traded products derives from the positive mark-to market value of the underlying instruments, and an additional component to cater for potential future market movements. This Counterparty Credit Risk is managed within the Group's overall Traded Risk Appetite for corporate and financial institutions. In addition to analysing potential future movements, the Group uses various single factor or multi-risk factor stress test scenarios to identify and manage Counterparty Credit Risk across derivatives and securities financing transactions.

Underwriting

The underwriting of securities and loans is in scope of the Risk Appetite set by the Group for Traded Risk. Additional limits approved by the Group Chief Risk Officer are set on the underwriting portfolio stress loss, and the maximum holding period. The Underwriting Committee, under the authority of the Group Chief Risk Officer, approves individual proposals to underwrite new security issues and loans for our clients.

Day-to-day Credit Risk management activities for traded securities are carried out by a specialist team within TRM whose activities include oversight and approval within the levels delegated by the Underwriting Committee. Issuer Credit Risk, including Settlement and Pre-Settlement Risk, and price risks are controlled by TRM. Where an underwritten security is held for a period longer than the target sell-down period, the final decision on whether to sell the position rests with TRM.

Monitoring

TRM monitors the overall portfolio risk and ensures that it is within specified limits and therefore Risk Appetite. The annual and mid-year limit review processes provide opportunities for the business and TRM to review risk in light of performance. Monitoring and breach escalation procedures for Traded Risk are aligned with the processes set by the Enterprise Risk Management Risk Appetite unit.

Traded Risk exposures are monitored daily against approved limits. Traded Risk limits apply at end-of-day and at all other times, unless separate intra-day limits have been set. Limit excess approval decisions are informed by factors such as an assessment of the returns that will result from an incremental increase to the business risk exposure. Limits and excesses can only be approved by a Traded Risk manager with the appropriate delegated authority. Financial Markets traders may adjust their Traded Risk exposures within approved limits and assess risk and reward trade-offs according to market conditions.

TRM reports and monitors limits applied to stressed exposures. Stress scenario analysis is performed on all Traded Risk exposures in Financial Markets and in portfolios outside Financial Markets such as syndicated loans and principal finance. Stress loss excesses are discussed with the business and approved where appropriate, based on delegated authority levels.

Stress testing

The VaR measurement is complemented by weekly stress testing of Market Risk exposures to highlight the potential risk that may arise from extreme market events that are deemed rare but plausible.

Stress testing is an integral part of the Traded Risk management framework and considers both historical market events and forward- looking scenarios. A consistent stress testing methodology is applied to trading and non-trading books. The stress testing methodology assumes that scope for management action would be limited during a stress event, reflecting the decrease in market liquidity that often occurs.

Stress scenarios are regularly updated to reflect changes in risk profile and economic events. The TRM function reviews stress testing results and, where necessary, enforces reductions in overall Market Risk exposure. The Group Risk Committee considers the results of stress tests as part of its supervision of Risk Appetite.

Regular stress test scenarios are applied to interest rates, credit spreads, exchange rates, commodity prices and equity prices. This covers all asset classes in the Financial Markets banking and trading books, including XVA (CVA and FVA). Ad hoc scenarios are also prepared, reflecting specific market conditions and for particular concentrations of risk that arise within the business.

Where required by local statute or regulation, TRM's Group and business-wide stress and scenario testing will be supplemented by entity stress testing at a country level. This stress testing is coordinated at the country level and subject to the relevant local governance.

Capital and Liquidity Risk

The Group defines Capital Risk as the potential for insufficient level, composition or distribution of capital to support our normal activities, and Liquidity Risk as the risk that we may not have sufficient stable or diverse sources of funding to meet our obligations as they fall due.

Risk Appetite Statement

The Group should maintain a strong capital position including the maintenance of management buffers sufficient to support its strategic aims and hold an adequate buffer of high-quality liquid assets to survive extreme but plausible liquidity stress scenarios for at least 60 days without recourse to extraordinary central bank support.

Roles and responsibilities

The Treasurer is responsible for developing a Risk Type Framework for Capital and Liquidity Risk and for complying with regulatory requirements at a Group level. The Treasury and Finance functions, as the second line of defence, provide independent challenge and oversight of the first line risk management activities relating to Capital and Liquidity Risk. In country, the Treasurer is supported by Treasury and Finance in implementing the Capital and Liquidity Risk Type Framework.

Mitigation

The Group develops policies to address material Capital and Liquidity risks and aims to maintain its risk profile within Risk Appetite. In order to do this, metrics are set against Capital Risk, Liquidity and Funding Risk and Interest Rate Risk in the Banking Book. Risk Appetite metrics are also cascaded down to regions and countries in the form of limits and management action triggers.

The Group also maintains a Recovery Plan which is a live document to be used by management in a liquidity or solvency stress. The Recovery Plan includes a set of Recovery Indicators, an escalation framework and a set of management actions capable of being implemented in a stress. A Recovery Plan is also maintained within each major country.

Capital Risk

In order to manage Capital Risk, strategic business and capital plans are drawn up covering a five-year horizon and are approved by the Board annually. The capital plan ensures that adequate levels of capital, including loss- absorbing capacity, and an efficient mix of the different components of capital are maintained to support our strategy and business plans. Treasury is responsible for the ongoing assessment of the demand for capital and the updating of the Group's capital plan.

Capital planning takes the following into account:

- Current regulatory capital requirements and our assessment of future standards and how these might change
- Demand for capital due to the business and loan impairment outlook and potential market shocks or stresses
- Available supply of capital and capital raising options, including ongoing capital accretion from the business

Additionally, Risk Appetite metrics including leverage ratios and Tier 1 ratios (in both regular and stressed conditions) and metrics relating to structural FX positions, minimum requirement for own funds and eligible liability (MREL) are being assessed within the Corporate Plan to ensure that our business plan can be achieved within risk tolerances.

Structural FX Risk

The Group's structural position results from the Group's non-US dollar investment in the share capital and reserves of subsidiaries and branches. The FX translation gains or losses are recorded in the Group's Translation Reserves with a direct impact on the Group's Common Equity Tier 1 ratio.

The Group contracts hedges to manage its structural FX position in accordance with the Board-approved Risk Appetite, and as a result the Group has taken net investment hedges to partially cover its exposure to the Korean won, Chinese renminbi, Taiwanese dollar and Indian rupee to mitigate the FX impact of such positions on its capital ratios.

Liquidity Risk

At Group and country level we implement various business-as-usual and stress risk metrics and monitor these against limits and management action triggers. This ensures that the Group maintains an adequate and well-diversified liquidity buffer as well as a stable funding base, and that it meets its liquidity and funding regulatory requirements. The approach to managing risks and the Board Risk Appetite are assessed annually through the Internal Liquidity Adequacy Assessment Process. A funding plan is also developed for efficient liquidity projections to ensure that the Group is adequately funded in the required currencies, to meet its obligations and client funding needs.

Interest Rate Risk in the Banking Book

The Group defines Interest Rate Risk in the Banking Book (IRRBB) as the potential for a reduction in future earnings or economic value due to changes in interest rates. This risk arises from differences in the repricing profile, interest rate basis, and optionality of banking book assets, liabilities and off-balance sheet items. IRRBB represents an economic and commercial risk to the Group and its capital adequacy. The Group monitors IRRBB against a Board-approved Risk Appetite.

Governance committee oversight

At the Board level, the Board Risk Committee oversees the effective management of Capital and Liquidity Risk. At the executive level, the Group Asset and Liability Committee ensures the effective management of risk throughout the Group in support of the Group's strategy, guides the Group's strategy on balance sheet optimisation and ensures that the Group operates within the internally approved Risk Appetite and other internal and external capital and liquidity requirements.

The Group Asset and Liability Committee delegates part of this responsibility to the Operational Balance Sheet Committee to ensure alignment with business objectives.

Country oversight under the capital and liquidity framework resides with country Asset and Liability Committees. Countries must ensure that they remain in compliance with Group capital and liquidity policies and practices, as well as local regulatory requirements.

The Stress Testing Committee ensures the effective management of capital and liquidity-related enterprise stress testing in line with the Group's Enterprise Stress Testing Policy and applicable regulatory requirements. The Stress Testing Committee reviews, challenges and approves stress scenarios, results and management actions for all enterprise stress tests. Insights gained from the stress tests are used to inform underwriting decisions, risk management, capital and liquidity planning and strategy.

Decision-making authorities and delegation

The Group Chief Financial Officer has responsibility for capital, funding and liquidity under the Senior Managers Regime. The Group Chief Risk Officer has delegated the Risk Framework Owner responsibilities associated with Capital and Liquidity Risk to the Treasurer. The Treasurer delegates second line oversight and challenge responsibilities to relevant and suitably qualified Treasury and Finance individuals.

Monitoring

On a day-to-day basis, the management of Capital and Liquidity Risk at the country level is performed by the Country Chief Executive Officer and Treasury Markets respectively. The Group regularly reports and monitors Capital and Liquidity Risk inherent in its business activities and those that arise from internal and external events. The management of capital and liquidity is monitored by Treasury and Finance with appropriate escalation processes in place.

Internal risk management reports covering the balance sheet and the capital and liquidity position of the Group are presented to the Operational Balance Sheet Committee and the Group Asset and Liability Committee. The reports contain key information on balance sheet trends, exposures against Risk Appetite and supporting risk measures which enable members to make informed decisions around the overall management of the Group's balance sheet. Oversight at a country level is provided by the country Asset and Liability Committee, with a focus on the local capital and liquidity risks, local prudential requirements and risks that arise from local internal and external events.

Stress testing

Stress testing and scenario analysis are an integral part of the capital and liquidity framework and are used to ensure that the Group's internal assessment of capital and liquidity considers the impact of extreme but plausible scenarios on its risk profile. A number of stress scenarios, some designed internally, some required by regulators, are run periodically. They provide an insight into the potential impact of significant adverse events on the Group's capital and liquidity position and how this could be mitigated through appropriate management actions to ensure that the Group remains within the approved Risk Appetite and regulatory limits. Daily liquidity stress scenarios are also run to ensure the Group holds sufficient high-quality liquid assets to withstand extreme liquidity events.

Country Risk

The Group defines Country Risk as the potential for losses due to political or economic events in a country

Risk Appetite Statement

The Group manages its Country Risk exposures following the principle of diversification across geographies and controls business activities in line with the level of jurisdiction risk

Roles and responsibilities

The Country Risk Type Framework provides clear accountability and roles for managing risk through the three lines of defence model. The Global Head, Enterprise Risk Management is responsible for the management and control of Country Risk across the Group and is supported by the regional and country Chief Risk Officers who provide second line oversight and challenge to the first line Country Risk management activities. The first line ownership of Country Risk resides with the regional and country Chief Executive Officers who are responsible for the application of the framework; identification of Country Risk sub-types; and contributing to the limit setting approach by providing insight into the country business strategy. The first line also has responsibilities for ensuring that exposures remain within approved limits and in the event of any breaches, for putting in place appropriate remediation plans in a timely manner.

Mitigation

Standards are developed and deployed to implement requirements and controls that all countries must follow to ensure effective management of Country Risk. The standards outline the process for Country Risk limit setting, monitoring and reporting exposures. In response to growing concerns over the Country Risk outlook for a particular country, sovereign ratings may be downgraded, and country limits may also be reduced.

Governance committee oversight

At the Board level, the Board Risk Committee oversees the effective management of Country Risk. At the executive level, the Group Risk Committee is responsible for approving policies and control risk parameters, monitoring material risk exposures and directing appropriate action in response to material risk issues or themes that come to the Committee's attention that relate to Country Risk. At a country level, the Country Risk Committee (or Executive Risk Committee for subsidiaries) is responsible for monitoring all risk issues for the respective country, including Country Risk.

Decision-making authorities and delegation

The Country Risk Type Framework is the formal mechanism through which the delegation of Country Risk authorities is made. Approval authorities for Country Risk limits have been set based on the size of the proposed limit and the sovereign rating. The key principle is that large nominal limits, as well as higher risk jurisdictions, will require escalation for approval based on set levels per the delegated authorities approval matrix.

Monitoring

In 2019, risk coverage of Country Risk was expanded from Country Cross-Border Risk to Gross Country Risk which is an aggregate of Transfer and Convertibility Risk and Local Currency Risk . This is to provide a more holistic and enhanced approach to Country Risk.

Monitoring and reporting of Country Risk is included in the standards and covers the monitoring of exposures relative to Risk Appetite thresholds and limits, as well as the reporting of material exposures to internal committees and externally where appropriate. Risk Appetite focusses on monitoring Gross Country Risk exposure to a single country as a percentage of aggregated Gross Country Risk exposure across all countries. The Group Risk Committee monitors Risk Appetite thresholds on a traffic-light indicator basis, and these provide an early warning signal of stress and concentration risk. An escalation process to the Board Risk Committee is in place based on the traffic-light indicators monitoring system.

Enhanced capabilities have been established with the Country Risk Dashboard to monitor and manage Country Risk exposures for the expanded scope of Country Risk.

Stress testing

The Group Country Risk team produces stressed sovereign ratings which are used by the relevant Credit and Traded Risk teams in calculating risk-weighted assets during described extreme but plausible stress scenarios.

Reputational Risk

The Group defines Reputational Risk as the potential for damage to the franchise, resulting in loss of earnings or adverse impact on market capitalisation because of stakeholders taking a negative view of the organisation, its actions or inactions – leading stakeholders to change their behaviour.

Risk Appetite Statement

The Group aims to protect the franchise from material damage to its reputation by ensuring that any business activity is satisfactorily assessed and managed by the appropriate level of management and governance oversight.

Roles and responsibilities

The Global Head, Enterprise Risk Management is the Risk Framework Owner for Reputational Risk under the Group’s Enterprise Risk Management Framework. For primary risks, the responsibility of Reputational Risk management at country level is delegated to Country Chief Risk Officers. Both the Global Head, Enterprise Risk Management and Country Chief Risk Officers constitute the second line of defence, overseeing and challenging the first line which resides with the Chief Executive Officers, Business Heads and Product Heads in respect of risk management activities of reputational-related risks. The Group recognises that there is also the potential for consequential Reputational Risk should it fail to control other principal risks. Such secondary Reputational Risks are managed by the Risk Framework Owners of each principal risk who are responsible for enhancing existing risk management frameworks to incorporate Reputational Risk management approaches.

Mitigation

The Group’s Reputational Risk policy sets out the principal sources of Reputational Risk and the responsibilities and procedures for identifying, assessing and escalating primary and secondary Reputational Risks. The policy also defines the control and oversight standards to effectively manage Reputational Risk. The Group takes a structured approach to the assessment of risks associated with how individual client, transaction, product and strategic coverage decisions may affect perceptions of the organisation and its activities, including, but not limited to, explicit principles related to environment and social risks and defence and dual use goods. Wherever a potential for stakeholder concerns is identified, issues are subject to prior approval by a management authority commensurate with the materiality of matters being considered. Such authorities may accept or decline the risk or impose conditions upon proposals, to protect the Group’s reputation. Secondary Reputational Risk mitigation derives from the effective management of other principal risks.

Governance committee oversight

The Brand, Values and Conduct Committee retains Board-level oversight responsibility for Reputational Risk. Oversight from an operational perspective falls under the remit of the Group Risk Committee and the Board Risk Committee. The Group Reputational Risk Committee ensures the effective management of primary Reputational Risk across the Group.

The Group Reputational Risk Committee's remit is to:

- Challenge, constrain and, if required, stop business activities where risks are not aligned with the Group's Risk Appetite
- Make decisions on Reputational Risk matters assessed as high or very high based on the Group's primary Reputational Risk materiality assessment matrix, and matters escalated from the regions or client businesses
- Provide oversight of material Reputational Risk and/or thematic issues arising from the potential failure of other risk types

The Group Non-Financial Risk Committee has oversight of the effective management of secondary Reputational Risk.

Decision-making authorities and delegation

The Group Risk Committee provides Group-wide oversight on Reputational Risk, approves policy and monitors material risks. The Group Reputational Risk Committee is authorised to approve or decline Reputational Risk aspects of any business transaction, counterparty, client, product, line of business and market within the boundaries of the Group's Risk Appetite, and any limits and policies set by authorised bodies of the Group.

Monitoring

Reputational Risk policies and standards are applicable to all Group entities. However, local regulators in some markets may impose additional requirements on how banks manage and track Reputational Risk. In such cases, these are complied with in addition to Group policies and standards. Exposure to Reputational Risk is monitored through:

- A requirement that process owners establish triggers to prompt consideration of Reputational Risk and escalation where necessary
- The tracking of risk acceptance decisions
- The tracking of thematic trends in secondary risk arising from other principal risks
- The analysis of prevailing stakeholder concerns and industries with greater exposure to environmental, social and governance issues

In 2019, enhanced capabilities have been established to integrate risk identification and assessment into the client on-boarding and review process, and transaction reviews. In addition, web-scraping technology has been combined with internal data to provide detailed risk monitoring, analytics and drill down capabilities.

Stress testing

Although Reputational Risk is not an explicit separate regulatory factor in enterprise stress tests, it is incorporated into the Group's stress testing scenarios. For example, the Group may consider what impact a hypothetical event leading to loss of confidence among liquidity providers in a particular market might have, or what the implications might be for supporting part of the organisation in order to protect the brand.

Operational Risk

The Group defines Operational Risk as the potential for loss resulting from inadequate or failed internal processes and systems, human error or from the impact of external events (including legal risks).

Risk Appetite Statement

The Group aims to control operational risks to ensure that operational losses (financial or reputational), including any related to conduct of business matters, do not cause material damage to the Group's franchise.

Roles and responsibilities

The Operational Risk Type Framework (ORTF) is set by the Global Head of Risk, Functions and Operational Risk and is applicable enterprise-wide. This Framework defines and collectively groups operational risks which have not been classified as principal risks into non-Principal Risk Types (non-PRTs) and sets standards for the identification, control, monitoring and treatment of risks. These standards are applicable across all PRTs and non-PRTs. The non-PRTs relate to execution capability, governance, reporting and obligations, legal enforceability, and operational resilience (including client service, third party vendor services, change management, safety and security and system availability).

The ORTF reinforces clear accountability for managing risk throughout the Group and delegates second line of defence responsibilities to identified subject matter experts. For each non-PRT, the expert sets policies for the organisation to comply with, and provides guidance, oversight and challenge over the activities of the Group. They ensure that key risk decisions are only taken by individuals with the requisite skills, judgement, and perspective to ensure that the Group's risk-return objectives are met.

Mitigation

The ORTF sets out the Group's overall approach to the management of Operational Risk in line with the Group's Operational Risk Appetite. This is supported by Control Assessment Standards (CAS) which define roles and responsibilities for the identification, control and monitoring of risks (applicable to all non-PRTs and PRTs).

The CAS are used to determine the design strength and reliability of each process, and require:

- The recording of processes run by client segments, products, and functions into a process universe
- The identification of potential breakdowns to these processes and the related risks of such breakdowns
- An assessment of the impact of the identified risks based on a consistent scale
- The design and monitoring of controls to mitigate prioritised risks
- Assessments of residual risk and timely actions for elevated risks

Risks that exceed the Group's Operational Risk Appetite require treatment plans to address underlying causes.

Governance committee oversight

At the Board level, the Board Risk Committee oversees the effective management of Operational Risk. At the executive level, the Group Risk Committee delegates authority primarily to the Group Non-Financial Risk Committee (GNFRC) to monitor the Group's Operational Risk Appetite and to oversee the Group's Operational Risk profile. The GNFRC has the authority to challenge, constrain and, if required, stop business activities where risks are not aligned with the Group's Operational Risk Appetite.

Regional, business-segments and functional committees also provide enterprise oversight of their respective processes and related operational risks. In addition, Country Non-Financial Risk Committees (CNFRCs) oversee the management of Operational Risks at the country (or entity) level. In smaller countries, the responsibilities of the CNFRC may be exercised directly by the Country Risk Committee (for branches) or Executive Risk Committee (for subsidiaries).

Monitoring

To deliver services to clients and to participate in the financial services sector, the Group runs processes which are exposed to operational risks. The Group prioritises and manages risks which are significant to clients and to the financial services sectors. Control indicators are regularly monitored to determine the residual risk the Group is exposed to. The residual risk assessments and reporting of events form the Group's Operational Risk profile. The completeness of the Operational Risk profile ensures appropriate prioritisation and timeliness of risk decisions, including risk acceptances with treatment plans for risks that exceed acceptable thresholds.

The Board is informed on adherence to Operational Risk Appetite through metrics reported for selected risks. These metrics are monitored, and escalation thresholds are devised based on the materiality and significance of the risk. These Operational Risk Appetite metrics are consolidated on a regular basis and reported at relevant Group committees. This provides senior management with the relevant information to inform their risk decisions.

Stress testing

Stress testing and scenario analysis are used to assess capital requirements for operational risks. This approach considers the impact of extreme but plausible scenarios on the Group's Operational Risk profile. A number of scenarios have been identified to test the robustness of the Group's processes, and assess the potential impact on the Group. These scenarios include anti-money laundering, sanctions, as well as information and cyber security.

Compliance Risk

The Group defines Compliance Risk as the potential for penalties or loss to the Group, or for an adverse impact to our clients, stakeholders or to the integrity of the markets in which we operate through a failure on our part to comply with laws or regulations

Risk Appetite Statement

The Group has no appetite for breaches in laws and regulations; whilst recognising that regulatory non-compliance cannot be entirely avoided, the Group strives to reduce this to an absolute minimum.

Roles and responsibilities

The Group Head, Corporate Affairs, Brand & Marketing and Conduct, Financial Crime and Compliance (Group Head, CABM & CFCC) as Risk Framework Owner for Compliance Risk provides support to senior management on regulatory and compliance matters by:

- Providing interpretation and advice on regulatory requirements and their impact on the Group
- Setting enterprise-wide standards for compliance, through the establishment and maintenance of a risk-based compliance framework, the Compliance Risk Type Framework (Compliance RTF)
- Setting a programme for monitoring Compliance Risk

The Compliance RTF sets out the Group's overall approach to the management of Compliance Risk and the roles and responsibilities in respect of Compliance Risk for the Group. All activities that the Group engages in must be designed to comply with the applicable laws and regulations in the countries in which we operate. The CFCC function is the second line that provides oversight and challenge of the first line risk management activities that relate to Compliance Risk.

The Compliance RTF defines Compliance Risk sub-types. Where Compliance Risk arises, or could arise, from failure to manage another principal risk or risk sub-type, the oversight and management processes for that specific principal risk or risk sub-type must be followed and the responsibility rests with the other Risk Framework Owner or control function to ensure that effective oversight and challenge of the first line can be provided by the appropriate second line function.

Each of the assigned second line functions has responsibilities including monitoring relevant regulatory developments from

Non-Financial Services regulators at both Group and country levels, policy development, implementation, and validation as well as oversight and challenge of first line processes and controls.

In addition, the CFCC leadership team was strengthened in 2019 by bringing in new skills and breadth of experience. Notably, there is a new Group Regulatory and Public Affairs team to monitor regulatory reforms in key markets and establish a protocol of horizon scanning for emerging Compliance Risk. This protocol helps to ensure that regulatory reforms with the potential to affect the Group in multiple markets are identified and steps taken in good time to help ensure compliance.

Mitigation

The CFCC function develops and deploys relevant policies and standards setting out requirements and controls for adherence by the Group to ensure continued compliance with applicable laws and regulations. Through a combination of risk assessment, control standard setting, control monitoring and compliance assurance activities, the Compliance Risk Framework Owner seeks to ensure that all policies are operating as expected to mitigate the risk that they cover. The installation of appropriate processes and controls is the primary tool for the mitigation of Compliance Risk. In this, the requirements of the Operational Risk Type Framework are followed to ensure a consistent approach to the management of processes and controls. Several material technological solutions were deployed in 2019 to improve efficiencies and simplify processes. These include implementation of an enhanced systems to better track matters raised by our regulators and breaches of regulations, and digital portals and chatbots providing improved access to compliance advice.

Governance committee oversight

Compliance Risk and the risk of non-compliance with laws and regulations resulting from failed processes and controls are overseen by Business, Product and Function Non-Financial Risk Committees. The Conduct and Compliance Non-Financial Risk Committee has a consolidated view of these risks and helps to ensure that appropriate governance is in place for these. In addition, the Committee helps to ensure that elevated levels of Compliance Risk are reported to the Group Non-Financial Risk Committee, Group Risk Committee and Board Audit Committee. Within each country, oversight of Compliance Risk is delegated through the Country Non-Financial Risk Committee.

Decision-making authorities and delegation

Decision-making and approval authorities follow the Enterprise Risk Management Framework approach and risk thresholds. The Group Head, CABM & CFCC has the authority to delegate second line responsibilities within the CFCC function to relevant and suitably qualified individuals.

Monitoring

The monitoring of controls designed to mitigate the risk of regulatory non-compliance in processes are governed in line with the Operational Risk Type Framework. The Group has a monitoring and reporting process in place for Compliance Risk, which includes escalation and reporting to Conduct and Compliance Non-Financial Risk Committee, Group Risk Committee and Board Audit Committee as appropriate. In 2019, monitoring of Compliance Risk was further enhanced with the introduction of new Risk Appetite metrics.

Stress testing

Stress testing and scenario analysis are used to assess capital requirements for Compliance Risk and form part of the overall scenario analysis portfolio managed under the Operational Risk Type Framework. Specific scenarios are developed annually with collaboration between the business, which owns and manages the risk, and the CFCC function, which is second line to incorporate significant Compliance Risk tail events. This approach considers the impact of extreme but plausible scenarios on the Group's Compliance Risk profile.

Conduct Risk

The Group defines Conduct Risk as the risk of detriment to the Group's clients, investors, shareholders, market integrity, competition and counterparties, or risk of detriment from the inappropriate supply of financial services, including instances of wilful or negligent misconduct.

Risk Appetite Statement

The Group has no appetite for negative Conduct Risk outcomes arising from negligent or wilful actions by the Group or individuals, recognising that whilst incidents are unwanted, they cannot be entirely avoided.

In addition to the Group's external stakeholders, Conduct Risk may also arise in respect to our behaviour towards each other as colleagues. The Group believes that all employees are entitled to a fair and safe working environment that is free from discrimination, exploitation, bullying, harassment or inappropriate language.

Roles and responsibilities

Conduct Risk management and abiding by the Group Code of Conduct is the responsibility of all employees in the Group.

The first line of defence is required to ensure that potential Conduct Risks arising in the business, functions and countries are identified, assessed and managed appropriately. Senior management in the first line of defence are accountable for embedding the right culture relating to Conduct Risk. The CFCC function is the second line for Conduct Risk, and is responsible for providing independent guidance, oversight, and challenge to the first line as well as setting the risk management standards that the first line must adhere to. The Group Head of Corporate Affairs, Brand & Marketing (CABM) and CFCC is the Risk Framework owner for Conduct Risk. As Conduct Risk may be derived from the other principal risks and their risk sub-types, no specific Conduct Risk sub-types have been defined. Where Conduct Risk is derived through the crystallisation of risks under the other principal risks, the potential Conduct Risk is evaluated and considered through the other principal risks. Any materialised or forward-looking risks defined in the various principal risks which do not meet the Group's Conduct standards are included in the Conduct Plans.

Conduct Plans

The Conduct Plans are used for the end-to-end process of risk identification and assessment of Conduct Risk against the Conduct Outcomes, and remediation actions. Action plans to mitigate Conduct Risks are identified and documented in the Conduct Plan. It is a live and dynamic document and must be kept regularly updated, including as and when there are potential or materialised conduct risks identified through other principal risks. Identified conduct risks and the corresponding mitigation should be monitored by relevant governance forums to ensure effective and timely resolution. The Conduct Plans should meet minimum standards as follows:

- Conduct Plans are owned by the management of each country, region, business and function within the Group. As the first line of defence, management is responsible to ensure that the Conduct Plans are regularly reviewed and updated. The CFCC function as the second line of defence and Risk Framework Owner is responsible for challenging management on the quality and completeness of the plan, as well as the effectiveness and timeliness of the remediation strategy
- Conduct Plans highlight the key conduct risks that are inherent in the processes and activities performed or impacted within a country, region, business or function
- The Group Conduct Management Principles, which highlight various conduct outcomes, should be used as a guide to help with the process of identifying relevant conduct risks
- For each of the risks identified, appropriate remediation action, enhancements to the control environment, responsible action owners and timeframes for resolution must be clearly recorded within the Conduct Plan
- Regular engagement should take place between owners of the Group and geographic Conduct Plans to ensure appropriate escalation and communications related to conduct risks and the mitigation strategy applied
- Conduct Plans should also reflect Conduct Risks based on one-off projects, adverse trends from conduct management information, internal conduct incidents, deficiencies identified through internal assurance activities across the three lines of defence, emerging risks/trends and external developments

Governance committee oversight

The Board Risk Committee, Brand Values and Conduct Committee, Group Risk Committee, Group Non-Financial Risk Committee and the Conduct and Compliance Non-Financial Risk Committee are responsible for ensuring that the Group effectively manages its Conduct Risk. As Risk Framework Owner for Conduct Risk, the Group Head, CABM & CFCC sets reporting thresholds for escalation of Conduct Risk to the Conduct and Compliance Non-Financial Risk Committee, Group Non-Financial Risk Committee and Group Risk Committee. The Board Risk Committee and the Brand Values and Conduct Committee receive periodic reports that provide updates relating to the Group's approach to managing Conduct Risk across our countries, regions, businesses and functions.

Decision-making authorities and delegation

Conduct Risk challenge and acceptance authority is exercised by the Group Head, CABM & CFCC, and delegated within the CFCC function as second line.

Monitoring and mitigation

Conduct Risk monitoring is done by the businesses, functions, regions and countries based on identified conduct metrics and other principal risk assessment activities. Following the end of each quarter, all businesses, functions, regions and countries are required to self-assess and report their progress against the agreed actions as set out in Conduct Plans to their respective CFCC second line delegate to validate. This responsibility rests with the respective business head, function head or Chief Executive Officer.

To provide a view of the key Conduct Risks facing the Group, three revised Group-level Risk Appetite metrics will be used. These relate to the Group's main Conduct Risk outcomes: Fair Outcomes for Clients; Employee Welfare and Relations; and Effective Markets and Stakeholder Confidence (e.g. regulators and investors). The Group Risk Assessment Matrix (GRAM) will be used to rate the key drivers for each of the three categories. The use of the GRAM will help to ensure that a consistent approach is followed when assessing the impact and likelihood of potential Conduct Risk outcomes.

Stress testing

The assessment of Conduct Risk vulnerabilities under stressed conditions or extreme events with a low likelihood of occurring are carried out through enterprise stress testing. This is currently covered primarily through Operational Risk driven stress scenarios.

Financial Crime Risk

The Group defines Financial Crime Risk as the potential for legal or regulatory penalties, material financial loss or reputational damage resulting from the failure to comply with applicable laws and regulations relating to international sanctions, anti-money laundering, anti-bribery and corruption, and fraud.

Risk Appetite Statement

The Group has no appetite for breaches in laws and regulations related to financial crime, recognising that while incidents are unwanted, they cannot be entirely avoided.

Roles and responsibilities

The Group Head, CABM & CFCC has overall responsibility for Financial Crime Risk and is responsible for the establishment and maintenance of effective systems and controls to meet legal and regulatory obligations in respect of Financial Crime Risk. The Group Head, CABM & CFCC is the Group's Compliance and Money-Laundering Reporting Officer and performs the Financial Conduct Authority (FCA) controlled function and senior management function in accordance with the requirements set out by the FCA, including those set out in their handbook on systems and controls. As the first line, the business unit process owners have responsibility for the application of policy controls and the identification and measurement of risks relating to financial crime. Business units must communicate risks and any policy non-compliance to the second line for review and approval following the model for delegation of authority.

In 2019, Fraud Risk, previously a risk sub-type under Operational Risk Type Framework (ORTF), was transferred to Financial Crime Risk. Second line of defence activities for Fraud Risk lie with the Global Head, Fraud.

Mitigation

There are four Group policies in support of the Financial Crime Risk Type Framework:

- Anti-bribery and corruption as set out in the Group Anti-Bribery and Corruption Policy
- Anti-money laundering and countering terrorists financing as set out in the Group Anti-Money Laundering and Counter Terrorist Financing Policy
- Sanctions as set out in the Group Sanctions Policy
- Fraud as set out in the Group Fraud Risk Management Policy

The Group operates risk-based assessments and controls in support of its Financial Crime Risk programme, including (but not limited to):

- Group Risk Assessment - a Group-wide Financial Crime Risk assessment that is undertaken annually to assess the inherent Financial Crime Risk exposures and the effectiveness of the implemented controls by which these exposures are mitigated, so that the Group can direct and allocate appropriate mitigating resources
- Country Risk Assessment (Geographic Risk Rating) – an assessment and measurement of the inherent Financial Crime Risk within specific countries or jurisdictions based on political, economic and criminal factors
- Product Risk Assessment – an assessment of the inherent Financial Crime Risks within the products offered by the Group
- Client Risk Assessment – a model, calibrated and monitored using Group Model Validation standards, designed to dynamically measure the inherent Financial Crime Risks posed by a client relationship
- Financial Crime Surveillance – risk-based systems and processes to prevent and detect financial crime

The strength of controls is tested and assessed through the Group's ORTF, in addition to oversight by CFCC Assurance and Group Internal Audit.

Governance committee oversight

Financial Crime Risk within the Group is governed by the Group Financial Crime Risk Committee; and the Group Non-Financial Risk Committee for Fraud Risk which is appointed by and reports into the Group Risk Committee. Both committees are responsible for ensuring the effective management of Operational Risk relating to Financial Crime Risk and Fraud Risk compliance throughout the Group. The Board appoints the Board Financial Crime Risk Committee to provide oversight on anti-bribery and corruption, anti-money laundering (and terrorist financing) and sanctions; and the Board Risk Committee for oversight on Fraud Risk.

The Committees provide oversight of the effectiveness of the Group's policies, procedures, systems, controls and assurance mechanisms designed to identify, assess, manage, monitor, detect or prevent money laundering, non-compliance with sanctions, bribery, corruption, internal/external fraud and tax crime by third parties.

Decision-making authorities and delegation

The Group Head, CABM & CFCC is the Risk Framework Owner for Financial Crime Risk under the Group's Enterprise Risk Management Framework and has delegated authorities to effectively implement the Financial Crime Risk Type Framework, to the Co-Heads, Financial Crime Compliance. Certain aspects of Financial Crime Compliance, second line oversight and challenge, are further delegated within the CFCC function. Approval frameworks are in place to allow for risk-based decisions on client on-boarding, potential breaches of sanctions regulation or policy, and situations of potential money laundering (and terrorist financing), bribery and corruption or internal and external fraud.

Monitoring

The Group monitors Financial Crime Risk compliance against a set of Risk Appetite metrics that are approved by the Board. These metrics are reviewed periodically and reported regularly to the Group Financial Crime Risk Committee, Group Non-Financial Risk Committee, Board Risk Committee and Board Financial Crime Risk Committee.

In 2019, new metrics were being introduced, including for internal and external fraud losses, and these Group Risk Appetite metrices are being cascaded to countries for local adoption and close monitoring.

Stress testing

The assessment of Financial Crime vulnerabilities under stressed conditions or extreme events with a low likelihood of occurring is carried out through enterprise stress testing.

Information and Cyber Security Risk

The Group defines Information and Cyber Security Risk as the potential for loss from a breach of confidentiality, integrity or availability of the Group's information systems and assets through cyber attack, insider activity, error or control failure

Risk Appetite Statement

The Group seeks to avoid risk and uncertainty for our critical information assets and systems and has a low appetite for material incidents affecting these or the wider operations and reputation of the Group.

Roles and responsibilities

In 2019, the Group consolidated its information and cyber security (ICS) efforts to withstand cyber threats, eliminate duplication and improve clarity of roles. The Group Chief Operating Officer has been given overall first line of defence responsibility for ICS Risk and holds full accountability for the Group's end-to-end ICS strategy. In order to create a more business and client-aligned ICS support team, the role of the Chief Information Security Officer (CISO) position moved to the first line and the second line role has been re-framed as the Chief Information Security Risk Officer (CISRO).

The Group CISRO continues to operate as the second line of defence, having overall responsibility for governance, oversight and challenge of ICS Risk and providing insight to senior management and the Board on the Group's ICS Risk management.

The ICS Risk Type Framework (RTF) emphasises business ownership and individual accountability for managing ICS Risk. It defines the first line roles of Information Asset Owners, Information System Owners and Information Custodians as named individuals within each business, and the accountability for classifying and managing risks to the information assets and systems. The Heads of ICS, within Group CISO, provide Information Asset and System Owners a centralised first line point of contact to ensure controls are embedded effectively and consistently across the Group.

Mitigation

ICS Risk is managed through a structured ICS policy framework comprising a risk assessment methodology and supporting policies and standards which are aligned to industry best practice models.

The CISRO function monitors compliance to the ICS policy framework through an assessment of each key control domain as defined by the ICS RTF through the ICS Risk profile report. Within the ICS Risk profile, appropriate mitigating activity for each key control domain is identified, undertaken and reported against by the business.

In 2019, the Board approved a refreshed ICS strategy supporting the overall Group strategy and delivery of the ICS RTF risk management principles. A key part is investing in digitisation and partnerships to better serve our clients.

Governance committee oversight

ICS Risk within the Group is currently governed via the Board Risk Committee which has responsibility for approving the definition of ICS Risk and the Group Risk Appetite. In addition, the Group Risk Committee (GRC) has delegated authority to the Group Non-Financial Risk Committee (GNFRC) to ensure effective implementation of the ICS RTF. The GRC and GNFRC retain responsibility for oversight of ICS Risk control domains rated very high and high respectively. Sub-committees of the GNFRC have oversight of ICS Risk management arising from business, country and functional areas.

These governance committees have responsibility for providing oversight of ICS Risk against Risk Appetite and measuring performance of ICS Risk management activities across the first line. Chairs of governance committees ensure adequate representation for all business units and countries across the Group who are responsible for managing ICS Risk. Escalation of ICS risks which fall outside the defined appetite for the Group are overseen by these committees to ensure effective mitigation.

At a management level, the Group has also created the Cyber Security Advisory Forum, chaired by the Group Chief Executive, as a way of ensuring the Management Team, the Chairman and several non-executive directors are well informed on ICS Risk, and to increase business understanding and awareness so that business priorities drive the security and cyber resilience agenda.

Decision-making authorities and delegation

The ICS RTF is the formal mechanism through which the delegation of ICS Risk authorities is made. The Group Chief Risk Officer has delegated the ICS Risk Framework Owner authority to the CISRO. The CISRO has, where appropriate, delegated second line authority to Information Security Risk Officers to assume the responsibilities for approval for business, functions, and countries.

Approval of ICS Risk ratings follow an approval matrix defined by the ICS RTF where the Group Chief Risk Officer and Group CISRO sign off very high and high risks respectively.

Information Asset Owners, Information System Owners and Information Custodians are responsible for the identification, creation and implementation of processes as required to comply with the ICS policy framework.

Monitoring

Monitoring and reporting on the ICS Risk Appetite profile ensures that performance which falls outside the approved Risk Appetite is highlighted and reviewed at the appropriate governance committee or authority levels and ensures that adequate remediation actions are in place where necessary.

Identification of ICS risks are performed through the following processes:

- Dynamic ICS Risk scanning is carried out through industry and specialist activities; inputs from legal, regulatory and mandatory bodies; changes to information and technology use in society, opportunities or incidents; and identifying emerging threats to the Group's information assets and systems
- An ICS Risk profile assessment exercise is performed to identify and ascertain severity ratings of risks to information assets and systems. Risks identified within the key control domains are documented within ICS Risk profiles and reviewed monthly as part of risk governance to ensure effective mitigation against the approved appetite. During these reviews, the status of each risk is assessed to identify any changes to materiality and likelihood, which in turn affect the overall risk score and rating. Risks which exceed defined thresholds are escalated to appropriate governance bodies. Group CISRO performs a consolidation of completed ICS Risk profiles for the Group and produces a holistic aggregated risk position with appropriate key control and risk indicators, which are used to govern the overall ICS Risk

Stress testing

Group CISRO determines ICS Risk controls to be subjected to scenario-based resiliency stress testing and sensitivity analysis, which is aimed to either ensure robustness of control or ability to respond should a control fail. The Group's stress testing approach entails:

- Group CISRO oversees all ICS risk-related stress testing the Group carries out to meet regulatory requirements
- Incident scenarios affecting information assets and systems are periodically tested to assess the incident management capability in the Group
- Penetration testing and vulnerability scanning are performed against the Group's internet-facing services and critical information assets/systems

Emerging Risks

In addition to our Principal Risk Types that we manage through Risk Type Frameworks, policies and Risk Appetite, we also maintain an inventory of emerging risks. Emerging risks refer to unpredictable and uncontrollable outcomes from events which may have the potential to materially impact our business. These include near-term risks that are on the horizon and can be measured or mitigated to some extent, as well as longer-term uncertainties that are on the radar but not yet fully measurable.

In 2019, we undertook a thorough review of our Emerging Risks, using the approach described in the Enterprise Risk Management Framework section. The key results of the review are detailed below.

Populism is on the rise globally. Policies such as income redistribution, public spending increases, a rise in trade barriers and tariffs, tax cuts, restrictions on immigration, and pro-nationalist or anti-global rhetoric pose a risk to long-term economic progression and overlay the majority of our Emerging Risks.

Key changes to our Emerging Risks:

The following items have been removed as emerging risks:

- 'Emerging Markets (EM) – upcoming elections, interest rate rises, and FX risks' – Due to the successful completion of elections this year in key markets such as Indonesia, India, Malaysia, Brazil and Sri Lanka and the significant reduction in the likelihood of interest rate rises this risk has decreased and is no longer considered an Emerging Risk. However, we continue monitoring at regional and country level to detect horizon risks and analyse potential adverse developments.

The following items have been amended or added as new emerging risks:

- 'China slowdown and impact on regional economies with close ties to China' – The novel coronavirus (Covid-19) outbreak has raised concerns over growth prospects in China and the risk this poses to the broader Asian and global outlook
- 'Hong Kong social unrest' – The ongoing social unrest since the Fugitive Offenders and Mutual Legal Assistance in Criminal Matters Legislation Bill ('Extradition Bill') was proposed in February 2019 have resulted in increased concern and elevated risk
- 'Interbank Offered Rate (IBOR) discontinuation and transition' – There are concerns regarding the impact of the discontinuation of the IBOR benchmarks and the transition to risk-free rates (RFRs)
- 'Japan Korea diplomatic dispute' – The disagreement over wartime labour compensation has escalated and may affect the trade of critical raw materials

Our list of emerging risks, based on our current knowledge and assumptions, is set out below, with our subjective assessment of their impact, likelihood and velocity of change. This reflects the latest internal assessment of material risks that the Group faces as identified by senior management. This list is not designed to be exhaustive and there may be additional risks which could materialise or have an adverse effect on the Group.

Our mitigation approach for these risks may not be successful in completely eliminating them, but rather shows the Group's attempt to reduce or manage the risk. As certain risks develop and materialise over time, management will take appropriate incremental steps based on the materiality of the impact of the risk to the operations of the Group:

Geopolitical considerations (Risk ranked according to severity)

Emerging Risk	Risk trend since 2018	Context	How these are mitigated/next steps
US China trade tensions driven by geopolitics and trade imbalance Potential impact: **High** Likelihood: **High** Velocity of change: **Moderate**	⇔	• Trade tensions between the US and China continue driven by trade imbalance and geopolitical tensions • In 2018 the US imposed trade tariffs on $550 billion of imports from China; China retaliated with tariffs on $185 billion of US goods. In March 2019, talks began to end the trade war. The talks were fraught with complications and the relationship between the two countries initially deteriorated • The countries have however recently announced a 'phase one' deal • Whilst the prospect of an all-out trade war has receded slightly, the situation remains fragile, particularly given the backdrop of the 2020 Presidential election and China's protest over the US Senate's passing of the HK Human Rights and Democracy Act which threatens Hong Kong's special trade status • As opposed to merely slowing global growth, the risks are that the US-China dispute persists, expands to other regions such as Europe, and ultimately develops into a full-blown global trade war • The Group has a significant revenue stream from supporting cross-border trade	• A sharp slowdown in US-China and, more broadly, world trade and global growth is a feature of the Group stress scenarios including the Internal Capital Adequacy Assessment Process (ICAAP) and the annual Bank of England (BoE) stress testing exercise. This included a sharp slowdown in China scenario which was assessed in September 2019. These stress tests provide visibility to key vulnerabilities so that management can implement timely interventions
Hong Kong social unrest Potential impact: **High** Likelihood: **High** Velocity of change: **Fast**	⇧	• In February 2019, the Hong Kong government proposed the Fugitive Offenders and Mutual Legal Assistance in Criminal Matters Legislation (Amendment) Bill (the 'Extradition Bill'), triggering significant public reaction from June onwards • Continual large-scale social unrest initially demanded the withdrawal of the proposed Extradition Bill but later expanded to cover other issues including transparency, justice and democracy. There is evidence of de-escalation since December 2019 although the situation remains fluid • Key economic indicators suggest a notable slowdown in Hong Kong's economy • The unrest has not had a significant effect on operations and the portfolio to date • Hong Kong remains the largest profit contributor to the Group	• The Group has formed a 'command centre' managed by Standard Chartered Bank Hong Kong, which assesses emerging risks and directs the Group's response • The Group's ongoing stress tests provide insight to develop strategies to mitigate these. Exposures that may result in material credit impairment and increased risk-weighted assets are closely monitored and actively managed • Detailed portfolio reviews are conducted on an ongoing basis, most recently in the fourth quarter of 2019
Middle East geopolitical tensions Potential impact: **High** Likelihood: **Medium** Velocity of change: **Moderate**	⇧	• The past 12 months have seen an increase in volatility across the Middle East. Conflicts continue in Syria, Yemen, Lebanon and Iraq • Following Major General Qasem Soleimani's death in a US drone strike, Iran took retaliatory action against US bases in Iraq and Ukrainian International Airlines flight PS752 was downed by an Iranian missile when departing Tehran • Following the decision by the US to withdraw its troops from Northern Syria, Turkey commenced a military operation to create a buffer zone on its border with Syria. In response, Syrian and Kurdish forces agreed to align against the Turkish army • There were attacks on Saudi oil installations claimed by Houthi rebels fighting against Saudi Arabian and UAE forces in Yemen. The attacks temporarily closed down 5 per cent of global oil production and led to new US sanctions on Iran. The US authorised the deployment of additional forces to the region. Iran further reduced its compliance with the Joint Comprehensive Plan of Action and is expanding its stock of low-enriched uranium • Attacks on oil tankers took place in the Strait of Hormuz off the coast of UAE and Oman. The US attributed the attacks to Iran; an accusation Iran denied • The boycott of Qatar by the Arab quartet (Saudi Arabia, UAE, Bahrain and Egypt) continues and has contributed to the downward pressures on economic growth in the region. There is little incentive for the parties to alter their positions in the absence of any strong external pressure to do so • Qatar's internal outlook is more positive given the country's response to the blockade, improved self-reliance and high foreign currency reserves • The Group has a material presence across the region	• The Group has continued monitoring at regional and country level to detect horizon risks and analyse potential adverse developments • The direct impact on our Middle East portfolio to date has been limited, though the developments inevitably impact confidence and economic prospects for the region • Qatar's Risk Appetite and underwriting standards have been adjusted to reflect current conditions

Brexit implications Potential impact: **Low** Likelihood: **High** Velocity of change: **Steady**	⇩	• The UK general election result has reduced the immediate risk surrounding the exit of the UK from the European Union (Brexit) and transition is currently due to continue until December 2020 • Brexit could have implications on the economic outlook for the Eurozone and the UK, which might in turn have global implications because of changes in policy direction. The uncertainties linked to Brexit negotiations could delay corporate investment decisions until there is more clarity	• We continue to assess and manage Brexit risk and the practical implications through the Brexit Executive Committee, which is chaired by a member of the Management Team. We have also evaluated the potential implications from a transition and will continue monitoring the progress of the political negotiations • The Brexit Programme has been extended into 2020 to ensure continued focus on Brexit deliverables • The Group has set up a new EU subsidiary and optimised our EU structure to mitigate any potential impact to our clients, staff or the Group because of Brexit, including loss of EU passporting rights
Japan-Korea diplomatic dispute Potential impact: **Medium** Likelihood: **High** Velocity of change: **Steady**	⇧	• As the Japan-Korea dispute over wartime labour compensation escalated, Japan imposed export restrictions on South Korea along with other key Asian countries such as China and Singapore, regarding important raw materials for semiconductors and organic light emitting diode (OLED) displays, with effect from 4 July 2019 • South Korean chip manufacturers rely on these imports • This supply shortage is expected to have minimal immediate impact because the use of these raw materials is limited to high-end products. However, adoption of these advanced technologies is critical for retaining technological leadership and is expected to accelerate in the medium term • These are important markets for the Group	• We anticipate very limited impact on the Group and no portfolio-level actions have been taken. The Group performed a portfolio review and will continue to monitor exposure • There is continuous monitoring at a country, regional and Group level to identify emerging risks and evaluate their management

Macroeconomic considerations

Emerging Risk	Risk trend since 2018	Context	How these are mitigated/next steps
Novel coronavirus outbreak, China slowdown and impact on regional economies with close ties to China Potential impact: **High** Likelihood: **High** Velocity of change: **Fast**	⇧	• Asia remains the main driver of global growth supported by internal drivers, led by China • Chinese authorities have confirmed a new coronavirus 'Covid-19', which is a family of viruses that cause respiratory infections such as severe acute respiratory syndrome (SARS) and middle east respiratory syndrome (MERS) • By 31 January 2020, the World Health Organisation declared a global health emergency as the outbreak spread well beyond China with the majority of cases in mainland China • Governments around the world have taken measures to contain the spread of the virus including travel restrictions. Some companies have scaled back their operations in China • The rapid spread of the novel coronavirus outbreak presents risks to regional economic growth • The outbreak has raised comparisons with SARS in 2003, which infected over 8,000 people and led to approximately 700 deaths. SARS caused widespread economic disruption as fear of infection resulted in a reduction in retail activity as well as a downturn in hospitality and tourism. There are risks the effect will be greater due to China's increased global economic importance • The economic impact of the novel coronavirus outbreak will depend on how the virus spreads and the response of the authorities. Prior to the outbreak, China GDP growth slowed to 6.0 per cent in Q3 and 6.1 per cent in Q4 2019, the weakest pace in almost 30 years • Highly trade-oriented economies such as Hong Kong and Singapore with close ties to China would weaken in the event of an economic slowdown. Regional supply chain economies such as Korea, Taiwan and Malaysia would also be impacted from a fall in economic activity • Greater China, North Asia and South East Asian economies remain key strategic regions for the Group and Hong Kong remains the largest profit contributor	• In response to the novel coronavirus outbreak the Group's priority is to ensure the health and safety of our clients and employees and continue normal operations by leveraging our robust Business Continuity Plans • As part of our stress tests, a severe stress in the global economy associated with a sharp slowdown in China was assessed in September 2019 in addition to the ICAAP and BoE 2019 stress tests • Exposures that result in material credit impairment charges and risk-weighted assets inflation under stress tests are regularly reviewed and actively managed • A global downturn with shocks concentrated on China and countries with close trade links with China is one of the regularly run market and Traded Risk stress tests • We continue to monitor data from Greater China, North Asia and South East Asia regions

Environmental and social considerations

Emerging Risk	Risk trend since 2018	Context	How these are mitigated/next steps
Climate-related transition and physical risks[1] Potential impact: **High** Likelihood: **High** Velocity of change: **Moderate**	⇧	• National governments have, through the United Nations Framework Convention on Climate Change process and Paris Agreement, made commitments to enact policies which support the transition to a lower-carbon economy, limiting global warming to "well below 2°C" and therefore mitigating the most severe physical effects of climate change • The PRA published its formal Supervisory Statement SS 3/19 with regards to climate-related risks in April 2019. The Supervisory Statement requires significant measures to be taken by banks in identification, assessment, management, reporting, governance and disclosure of the financial and non-financial risks arising from climate change. The expectation is that regulatory guidance and expectation will increase • Such policies may have significant impacts, for example on energy infrastructure developed in our markets, and thus present 'transition' risks for our clients. The Group, for example, could be impacted by climate change from a credit or reputational perspective due to the impact on our clients' operations or their underlying business model • Conversely, if governments fail to enact policies which limit global warming, the Group's markets are particularly susceptible to 'physical' risks of climate change such as droughts, floods, sea level change and average temperature change	• The Group recognises the distinction and linkages between managing its contribution to climate change (through direct and financed emissions) and managing the financial and non-financial risks arising from climate change. The Group is committed to respond responsibly and with urgency on both • The 2019 Taskforce for Climate-related Financial Disclosures (TCFD)-aligned disclosures provide details on the Group's progress. The TCFD report includes current emissions intensities for the Group's automotive and cement manufacturing portfolios, as measured through the pilot methodology developed by 2 Degrees Investing Initiative • The Group announced that it will only support clients who actively transition their business to generate less than 10 per cent of earnings from thermal coal by 2030. The Group recognises, however, that transitioning to clean technology will require significant changes across our markets, and because of that has chosen to implement this decision on a phased basis, using set milestones, beginning 1 January 2021. The Group's environmental and social requirements are documented in our Position Statements and our Prohibited Activities include aspects of oil and gas and mining and metals sectors • The Group has a public target to fund and facilitate $35 billion towards renewable energy from 2020 to the end of 2024 • A Climate Risk Management Forum has been established internally to provide oversight on the development and implementation of the Climate Risk framework • The Group is a member of the Risk Management Working Group under the BoE's Climate Financial Risk Forum and led the Framework and Governance section of the handbook • The Group is actively collaborating with clients, regulators, investors, peer banks, external experts and coalition platforms (such as United Nations Environment Programme Finance Initiative (UNEP-FI) to solve the collective challenges in the approach to managing climate-related risks

1 Physical risk refers to the risk of increased extreme weather events while transition risk refers to the risk of changes to market dynamics due to governments' responses to climate change

Legal considerations (Risk ranked according to severity)

Emerging Risk	Risk trend since 2018	Context	How these are mitigated/next steps
Interbank Offered Rate ('IBOR') discontinuation and transition Potential impact: **High** Likelihood: **High** Velocity of change: **Moderate**	⇧	• With the significant decrease in liquidity and volume of transactions upon which the London Interbank Offered Rate (LIBOR) benchmark submissions are made, regulators have expressed concern over the robustness and sustainability of the IBOR benchmarks. In 2014, the Financial Stability Board published a report on reforming major interest rate benchmarks, seeking alternative risk free rates (RFRs) for the IBOR currencies (US dollar, pound sterling, euro, Swiss franc and Japanese yen) • In 2017, the UK Financial Conduct Authority (FCA) announced that it had reached an agreement with LIBOR panel banks to contribute to LIBOR until the end of 2021. It is likely that several panel banks will cease contributing to LIBOR by the end of 2021, leading to LIBOR's cessation. Given this, the FCA called for the industry to start preparing for LIBOR cessation, by transitioning from IBORs to RFRs • Transition from LIBOR to RFRs presents several risks: (i) there are fundamental differences between LIBOR and RFRs and value transfer may arise in transitioning contracts from one to the other; (ii) the market may transition at different paces in different regions and across different products, presenting various sources of basis risk and posing major challenges on hedging strategies; (iii) clients may not be treated fairly through-out the transition or may not be aware of the options available to them and the implications of decisions taken, which may result in unfair financial detriment, (iv) changes in processes, systems and vendor arrangements associated with the transition may not be within appropriate tolerance levels, (v) Legal risk in relation to the fall-back risks associated with the transition and (vi) Accounting and Financial Reporting risk in that the changes in underlying rates, such as on cashflows and valuations, may not be incorporated correctly • The lack of liquidity in some of the RFR markets may present challenges to the transition until resolved, as will the likely different transition timelines for the five LIBOR currencies. The efficiency of our contract digitisation and remediation work is heavily reliant on the release of standardised fall-back language, including the outcomes of the Tough Legacy Task Force, established under the Sterling Risk-Free Reference Rates Working Group. Complexity in managing the IBOR transition is also increasing as a result of growing interest from a number of our local regulators, given our footprint, and the work required where there are local IBORs requiring transition as well • As LIBOR is the most widely used benchmark, its cessation and transition to RFRs will have profound impact on all participants in the financial markets • Whilst the Group does not submit to LIBOR, LIBOR is heavily relied upon by the Group as a reference rate for many financial instruments	• The Group has set up a global IBOR Transition Programme to consider all aspects of the transition and how risks from the transition can be mitigated. A Management. Team member is the Senior Manager for the IBOR Transition Programme • Efforts to raise awareness of the transition, both internally and with clients, have started, with internal training sessions and client seminars held in Thailand, Hong Kong and Singapore as of December 2019 • From an industry and regulatory perspective, the Group is actively participating in and contributing to different RFR Working Groups, industry associations and business forums focusing on different aspects of the LIBOR (or IBOR, as applicable) to RFR transition • The Group monitors the developments at these IBOR-related forums and reflects and aligns significant industry decisions into the Group's transition plans, as required

Regulatory changes Potential impact: **Medium** Likelihood: **High** Velocity of change: **Steady**	⇔	• Rules have been defined in many key areas of regulation that could impact our business model and how we manage our capital and liquidity positions • Prudential treatment of software: The Capital Requirements Regulation (CRR) II introduces a new prudential treatment for software intangibles: it excludes “prudently valued” software assets from the scope of those assets which must be deducted from Common Equity Tier 1. According to CRR II, the value of “prudently valued” software assets is not materially affected by resolution, insolvency or liquidation • Crypto assets: There is currently considerable uncertainty around the regulatory treatment of crypto assets. In May 2019, the Financial Stability Board published a report that referred to the ongoing work by the Basel Committee. While the current Basel framework does not set out an explicit treatment of banks’ exposures to crypto assets, it does set out minimum requirements for the capital and liquidity treatment of “other assets”. The BCBS is now considering whether to formally clarify the prudential treatment of crypto-assets across the set of risk categories (credit risk, counterparty credit risk, market risk, liquidity risk, etc.) • Other: These include the upcoming Basel III changes to capital calculation methodology for credit and operational risk, revised framework for Credit Valuation Adjustment risk, Fundamental Review of the Trading Book and implementation of Margin Reforms • Ongoing regulatory scrutiny and emphasis on local responsibilities for remotely booked business. The degree of reliance on global controls is reducing, and the focus is on local controls and governance	• We actively monitor regulatory initiatives across our footprint to identify any potential impact and change to our business model • With respect to the finalisation of Basel III: – The Group has mobilised a Risk & Finance sponsored Programme to undertake a comprehensive assessment of the Capital and Operational impacts of the Basel III Finalisation regulations. Capital optimisation efforts and business strategies are being reviewed considering these requirements – We continuously review a menu of prospective capital accretive actions, along with their impact on the Group strategy and financial performance • Relevant product areas have implemented project management or programme oversight to review and improve the end-to-end process, including oversight and accountability, policies and standards, transparency and management information, permission and controls, legal-entity level limits and training
Regulatory reviews and investigations, legal proceedings Potential impact: **High** Likelihood: **Medium** Velocity of change: **Moderate**	⇔	• The Group has been, and will continue to be, subject to regulatory actions, reviews, requests for information (including subpoenas and requests for documents) and investigations across our markets, the outcomes of which are generally difficult to predict and could be material to the Group • In recent years, authorities have exercised their discretion to impose severe penalties on financial institutions in connection with violations of laws and regulations, and there can be no assurance that future penalties will not be of similar or increased severity • The Group is also party to legal proceedings from time to time, which may give rise to financial losses or adversely impact our reputation in the eyes of our customers, investors and other stakeholders	• We continue to invest in enhancing systems and controls, and implementing remediation programmes where relevant • The Group cooperates with regulatory reviews, requests for information and investigations and actively manages legal proceedings • We continue to train and educate our people on relevant issues including conduct, conflicts of interest, information security and financial crime compliance in order to reduce our exposure to legal and regulatory proceedings

Technological considerations (Risk ranked according to severity)

Emerging Risk	Risk trend since 2018	Context	How these are mitigated/next steps
New technologies and digitisation (including business disruption risk, responsible use of Artificial Intelligence and Obsolescence Risk) Potential impact: **High** Likelihood: **High** Velocity of change: **Fast**	⇔	• Innovation in the financial services industry is happening at a relentless pace. Artificial intelligence (AI) and blockchain technology have continued to gather speed with a growing number of use cases that address evolving customer expectations to which the Group must adapt its operating model or risk competitive disadvantage • In Retail Banking, the Group continues to observe significant shifts in customer value propositions as markets deepen. Fintechs are delivering digital-only banking offerings with a differentiated user experience, value propositions and product pricing. There is growing usage of AI and machine learning (ML) to deliver highly personalised services, e.g. virtual chatbots to provide digital financial advice and predictive analytics to cross-sell products. The Group may be unable to compete effectively if it fails to appropriately invest in innovation and disruptive technologies • In the Corporate Banking sector, we continue to observe an increasing focus on process digitisation to streamline processes and provide scalable and personalised solutions for corporate clients. There are growing use cases for blockchain technologies, e.g. streamline cross-border payments and automate key documentation. AI and ML have also been increasingly used in predictive risk modelling, e.g. loan default forecasting. Failure to expediently adapt and harness such technologies would place the Group at a competitive disadvantage • There is an increasing usage of partnerships and alliances by banks to respond to a rapidly changing banking landscape and disruption from existing players and new entrants. This is making partnerships and alliances an integral part of banks' emerging business model and value proposition to the clients • As these new technologies grow in sophistication and become further embedded across the banking and financial services industry, banks may become more susceptible to technology-related risks. For example, the growing usage of big data and cloud computing solutions has heightened cyber security risks in banks. Banks may also face increased risks of business model disruption as new products and technologies continue to emerge • Regulators are increasing emphasis on the importance of resilient technology infrastructure in terms of elimination of cyber risk and improving reliability. The challenge is in renewing our technology and infrastructure to reduce the risks presented by obsolescence when the demands of delivering ongoing technology investment into this estate and its required performance levels continue to rise significantly	• The Group continues to undertake a rigorous approach in monitoring emerging trends and new developments, opportunities and risks in the technology space which may have implications on the banking sector. The Group manages the risks at two levels: firstly, staying relevant to clients and markets and; secondly understanding and managing new types of risk • In 2017, the Group set up the SC Ventures unit to spearhead Group-wide digital advancement. The unit is gaining momentum to promote innovation, invest in disruptive technologies and deliver client digital solutions. SC Ventures recently launched its eXellerator innovation lab in China, adding to the Group's other eXellerator labs in Singapore, Hong Kong, London, San Francisco and Kenya. The labs are designed to drive innovation, invest in promising fintech and implement new business models in banking • The Group has continued to make headway in harnessing new technologies to develop innovative solutions. This has included deploying blockchain technology solutions to digitise cross-border trade documents and optimise supply chain financing. The Group is also co-creating new solutions and establishing new partnerships to improve the client experience. For example, the Group recently announced a strategic partnership with SAP Ariba to make SCB's financial supply chain solutions accessible to businesses in the Asia Pacific region through Ariba Network. This is the world's largest digital business network • The Group has an integrated strategy to leverage technology to manage cyber risk and combat cyber-enabled financial crime. Rapid adoption of new technologies requires that we also determine how the Group's security standards, capabilities and processes need to be applied. In some cases, this includes adapting new security aspects considering new technology. The Group is also implementing a framework to ensure Fairness, Ethics, Accountability and Transparency in the Group's usage of data analytics and AI • The Group maintains its vigilant watch on legal and regulatory trends in relation to the usage of new technologies and related data risks. The Group is also developing a crypto asset risk framework to better manage these risks • The Group is actively targeting the reduction of obsolescent/end of support technology following a Technology & Innovation led programme under the oversight of the Risk function and the Group's senior executives. The target is to address the Group's obsolescence risk by evergreening and use of new technologies such as the Cloud. We also continue to focus on clients by delivering on outage reductions, enhanced protection by raising cyber defences and efficiency by improvements to technology deployment

Increased data privacy and security risks from strategic and wider use of data Potential impact: **High** Likelihood: **High** Velocity of change: **Moderate**	⇔	• As digital technologies grow in sophistication and become further embedded across the banking and financial services industry, the potential impact profile with regards to data risk is changing. Banks may become more susceptible to technology-related data security risks as well as customer privacy issues. The growing use of big data for analysis purposes and cloud computing solutions are examples of this • In addition, these risks represent an emerging and topical theme both from a regulatory and compliance perspective (i.e. the EU General Data Protection Regulation (GDPR) raises the profile of data protection compliance) • As the Group moves towards cloud computing solutions and an increasing use of big data for analysis purposes, this leads to increased susceptibility to data security and customer privacy risks	• We have existing governance and control frameworks for the deployment of new technologies and services and are developing a Data Management risk sub-type • To manage the risks posed by rapidly evolving security threats and technology adoption, we have designed a Transformation and Remediation Portfolio (TRP). This is a multi-year initiative with a focus on security improvements and providing assurance to regulators that we are building a sustainable Information and Cyber Security programme that will secure its information and technology assets for the long-term. The programme is progressing with capability being built out in multiple areas including governance, investment prioritisation and execution risk management • We maintain a vigilant watch on legal and regulatory developments in relation to data protection and customer privacy to identify any potential impact to the business and to implement appropriate mechanisms to control this risk • For the Group, GDPR principally impacts Group locations and client segments in the EU, functions such as Human Resources and downstream suppliers such as hubs and external vendors that process personal data caught by the GDPR ('EU personal data'). A GDPR programme has been established to review and remediate vendor contracts and intra-group agreements that involve the processing of EU personal data

Risk profile

Our risk profile in 2019

Our Enterprise Risk Management Framework (ERMF) and well-established risk governance structure enable us to closely manage enterprise-wide risks with the objective of maximising risk-adjusted returns while remaining within our Risk Appetite. We manage emerging risks through a dynamic risk scanning and risk identification process with inputs on the internal and external risk environment, as well as potential threats and opportunities from a business, function and client lens, enabling us to proactively manage our portfolio.

We continue to take action to reposition our corporate portfolio, exiting weaker credit or lower-returning clients and adding new clients selectively. We continue to remain alert to macroeconomic challenges that may impact our markets. Our corporate portfolios exhibit a strong and sustainable risk profile that is diversified across industries, geographies and products.

The table below highlights the Group's overall risk profile associated with our business strategy.

Our risk profile in 2019

Strengthened risk management approach from an enhanced ERMF

- We have elevated Model Risk to a Principal Risk Type (PRT), effective in 2020
- We recognised Climate Risk as a material cross-cutting risk that manifests through other relevant PRTs
- Existing PRTs were enhanced – changes include the expansion in Country Risk coverage, reclassification of the Fraud Risk sub-type from Operational Risk to Financial Crime Risk, and embedding of principles relating to environment and social risks, defence and dual use goods in Reputational Risk
- A self-assessment process was formalised for our branches and subsidiaries to assess the adoption and effectiveness of the ERMF locally
- The 2019 ERMF effectiveness review showed that risk management for both financial and non-financial risks improved year-on-year

Further details on the ERMF can be found in the Risk management approach

Strong and sustainable asset growth

- The Group's proportions of stage 1 and stage 2 loans and advances to customers were broadly consistent with the prior period at 90 per cent and 8 per cent respectively
- Asset quality has remained broadly stable, with investment grade corporate net exposures broadly consistent at 61 per cent
- Total gross stage 3 loans are lower at $7.4 billion as compared with $8.5 billion in 2018, with the stage 3 cover ratio up 2 per cent at 68 per cent
- Although credit impairment for the overall ongoing business increased by 22 per cent, it remains below the elevated levels seen previously
- Our corporate portfolios remain well diversified across industry sectors, products and geographies, and are predominantly short-dated
- Within the Retail Banking portfolio, 85 per cent of our book continues to be fully secured. The average loan-to-value ratio of retail mortgages continues to be low at 45 per cent

Our capital and liquidity positions continue to be at healthy levels

- Our capital and liquidity positions remain well above current requirements
- Our liquidity buffer and cash outflows both grew in 2019 in line with the overall balance sheet growth
- The advances-to-deposits ratio continues to be strong and stable
- We remain a net provider of liquidity to interbank markets and our customer deposit base is diversified by type and maturity

Credit Risk

Basis of preparation

Unless otherwise stated the balance sheet and income statement information presented within this section is based on the Group's management view. This is principally the location from which a client relationship is managed, which may differ from where it is financially booked and may be shared between businesses and/or regions. This view reflects how the client segments and regions are managed internally.

Loans and advances to customers and banks held at amortised cost in this Risk profile section include reverse repurchase agreement balances held at amortised cost, per Note 16 Reverse repurchase and repurchase agreements including other similar secured lending and borrowing.

Credit risk overview

Credit Risk is the potential for loss due to the failure of a counterparty to meet its obligations to pay the Group. Credit exposures arise from both the banking and trading books.

Impairment model

IFRS 9 requires an impairment model that requires the recognition of expected credit losses (ECL) on all financial debt instruments held at amortised cost, fair value through other comprehensive income (FVOCI), undrawn loan commitments and financial guarantees.

Staging of financial instruments

Financial instruments that are not already credit-impaired are originated into stage 1 and a 12-month expected credit loss provision is recognised.

Instruments will remain in stage 1 until they are repaid, unless they experience significant credit deterioration (stage 2) or they become credit-impaired (stage 3).

Instruments will transfer to stage 2 and a lifetime expected credit loss provision recognised when there has been a significant change in the Credit risk compared with what was expected at origination.

The framework used to determine a significant increase in credit risk is set out below.

Stage 1

- 12-month ECL
- Performing

Stage 2

- Lifetime expected credit loss
- Performing but has exhibited significant increase in Credit risk (SICR)

Stage 3

- Credit-impaired
- Non-performing

IFRS 9 principles and approaches

The main methodology principles and approach adopted by the Group are set out in the following table.

Title	Description	Supplementary Information
Approach to determining expected credit losses	For material loan portfolios, the Group has adopted a statistical modelling approach for determining expected credit losses that makes extensive use of credit modelling. While these models leveraged existing advanced Internal Ratings Based (IRB) models, for determining regulatory expected losses where these were available, there are significant differences between the two approaches.	Credit risk methodology Determining lifetime expected credit loss for revolving products
Incorporation of forward-looking information	The determination of expected credit loss includes various assumptions and judgements in respect of forward-looking macroeconomic information. Refer to the Annual Report for incorporation of forward-looking information, forecast of key macroeconomic variables underlying the expected credit loss calculation and the impact on non-linearity and sensitivity of expected credit loss calculation to macroeconomic variables.	Incorporation of forward-looking information and impact of non-linearity Forecast of key macroeconomic variables underlying the expected credit loss calculation

Significant increase in credit risk (SICR)	Expected credit loss for financial assets will transfer from a 12-month basis (stage 1) to a lifetime basis (stage 2) when there is a significant increase in Credit risk (SICR) relative to that which was expected at the time of origination, or when the asset becomes credit-impaired. On transfer to a lifetime basis, the expected credit loss for those assets will reflect the impact of a default event expected to occur over the remaining lifetime of the instrument rather than just over the 12 months from the reporting date. SICR is assessed by comparing the risk of default of an exposure at the reporting date with the risk of default at origination (after considering the passage of time). 'Significant' does not mean statistically significant nor is it reflective of the extent of the impact on the Group's financial statements. Whether a change in the risk of default is significant or not is assessed using quantitative and qualitative criteria, the weight of which will depend on the type of product and counterparty.	Quantitative criteria Significant increase in Credit risk thresholds Specific qualitative and quantitative criteria per segment: Corporate & Institutional and Commercial Banking clients Retail Banking clients Private Banking clients Debt securities
Assessment of credit-impaired financial assets	Credit-impaired (stage 3) financial assets comprise those assets that have experienced an observed credit event and are in default. Default represents those assets that are at least 90 days past due in respect of principal and interest payments and/or where the assets are otherwise considered unlikely to pay. This definition is consistent with internal Credit risk management and the regulatory definition of default. Unlikely to pay factors include objective conditions such as bankruptcy, debt restructuring, fraud or death. It also includes credit-related modifications of contractual cash flows due to significant financial difficulty (forbearance) where the Group has granted concessions that it would not ordinarily consider. Following a clarification issued by IFRIC in March 2019, if there are any recoveries on stage 3 loans, any contractual interest earned while the asset was in stage 3 is recognised in the credit impairment line. Although this differs from the Group's previous approach of recognising a residual amount of this within interest income, there is no material impact on the classification of amounts reported in the income statement in the current or prior period and accordingly no adjustments have been made to comparative information. Further, the gross asset balances for stage 3 financial instruments have been increased to reflect contractual interest due but not paid with a corresponding increase in credit impairment provisions. These changes have been disclosed within the credit risk section. There has been no net impact on the balance sheet or on shareholders' equity.	Retail Banking clients Corporate & Institutional Banking clients Commercial Banking and Private Banking clients
Transfers between stages	Assets will transfer from stage 3 to stage 2 when they are no longer considered to be credit-impaired. Assets will not be considered credit-impaired only if the customer makes payments such that they are paid to current in line with the original contractual terms. Assets may transfer to stage 1 if they are no longer considered to have experienced a significant increase in Credit risk. This will be immediate when the original PD based transfer criteria are no longer met (and as long as none of the other transfer criteria apply). Where assets were transferred using other measures, the assets will only transfer back to stage 1 when the condition that caused the significant increase in Credit risk no longer applies (and as long as none of the other transfer criteria apply).	Movement in loan exposures and expected credit losses
Modified financial assets	Where the contractual terms of a financial instrument have been modified, and this does not result in the instrument being derecognised, a modification gain or loss is recognised in the income statement representing the difference between the original cashflows and the modified cash flows, discounted at the effective interest rate. The modification gain/loss is directly applied to the gross carrying amount of the instrument. If the modification is credit related, such as forbearance or where the Group has granted concessions that it would not ordinarily consider, then it will be considered credit-impaired. Modifications that are not credit related will be subject to an assessment of whether the asset's Credit risk has increased significantly since origination by comparing the remaining lifetime probability of default (PD) based on the modified terms to the remaining lifetime PD based on the original contractual terms.	Forbearance and other modified loans
Governance and application of expert credit judgement in respect of expected credit losses	The models used in determining ECL are reviewed and approved by the Group Credit Model Assessment Committee and have been validated by Group Model Validation, which is independent of the business. A quarterly model monitoring process is in place that uses recent data to compare the differences between model predictions and actual outcomes against approved thresholds. Where a model's performance breaches the monitoring thresholds then an assessment of whether an ECL adjustment is required to correct for the identified model issue is completed. The determination of expected credit losses requires a significant degree of management judgement which had an impact on governance processes, with the output of the expected credit models assessed by the IFRS 9 Impairment Committee.	Group Credit Model Assessment Committee IFRS 9 Impairment Committee

Maximum exposure to Credit risk

The table below presents the Group's maximum exposure to Credit risk for its on-balance sheet and off-balance sheet financial instruments as at 31 December 2019, before and after taking into account any collateral held or other Credit risk mitigation.

The Group's on-balance sheet maximum exposure to Credit risk increased by $27 billion to $694 billion (31 December 2018: $667 billion).

This was largely driven by an $18 billion increase in investment securities as the Group increased holdings of corporate and government securities and a $12 billion increase in loans and advances to customers, $6 billion of which was in Retail products. These were partially offset by a reduction in loans and advances to banks of $8 billion, and a decrease in cash at central bank of $5 billion.

Other assets increased by $3.5 billion mainly driven by unsettled trades due to normal settlement timing differences.

	2019				2018			
		Credit risk management				Credit risk management		
	Maximum exposure $million	Collateral $million	Master netting agreements $million	Net exposure $million	Maximum exposure $million	Collateral $million	Master netting agreements $million	Net exposure $million
On-balance sheet								
Cash and balances at central banks	52,728			52,728	57,511			57,511
Loans and advances to banks[1, 8]	53,549	1,341		52,208	61,414	3,815		57,599
of which – reverse repurchase agreements and other similar secured lending[7]	1,341	1,341		–	3,815	3,815		–
Loans and advances to customers[1, 8]	268,523	122,115		146,408	256,557	109,326		147,231
of which – reverse repurchase agreements and other similar secured lending[7]	1,469	1,469		–	3,151	3,151		–
Investment securities – Debt securities, alternative Tier 1 and other eligible bills[2]	143,440			143,440	125,638			125,638
Fair value through profit or loss[3, 7]	90,349	57,604	–	32,745	85,441	54,769		30,672
Loans and advances to banks	3,528			3,528	3,768			3,768
Loans and advances to customers	6,896			6,896	4,928			4,928
Reverse repurchase agreements and other similar lending[7]	57,604	57,604		–	54,769	54,769		–
Investment securities – Debt securities, alternative Tier 1 and other eligible bills[2]	22,321			22,321	21,976			21,976
Derivative financial instruments[4, 7]	47,212	7,824	28,659	10,729	45,621	9,259	32,283	4,079
Accrued income	2,358			2,358	2,228			2,228
Assets held for sale	90			90	23			23
Other assets[5]	36,161			36,161	32,678			32,678
Total balance sheet	694,410	188,884	28,659	476,867	667,111	177,169	32,283	457,659
Off-balance sheet								
Contingent liabilities[6]	42,432	–	–	42,432	41,952	–	–	41,952
Undrawn irrevocable standby facilities, credit lines and other commitments to lend[6]	141,194	–	–	141,194	147,728	–	–	147,728
Documentary credits and short-term trade-related transactions[6]	4,282	–	–	4,282	3,982	–	–	3,982
Total off-balance sheet	187,908	–	–	187,908	193,662	–	–	193,662
Total	882,318	188,884	28,659	664,775	860,773	177,169	32,283	651,321

1 An analysis of credit quality is set out in the credit quality analysis section. Further details of collateral held by client segment and stage are set out in the collateral analysis section
2 Excludes equity and other investments of $291 million (31 December 2018: $263 million). Further details are set out in Note 13 Financial Instruments
3 Excludes equity and other investments of $2,469 million (31 December 2018: $1,691 million). Further details are set out in Note 13 Financial Instruments
4 The Group enters into master netting agreements, which in the event of default result in a single amount owed by or to the counterparty through netting the sum of the positive and negative mark-to-market values of applicable derivative transactions
5 Other assets include Hong Kong certificates of indebtedness, cash collateral, and acceptances, in addition to unsettled trades and other financial assets
6 Excludes ECL allowances which are reported under Provisions for liabilities and charges
7 Collateral capped at maximum exposure (over-collateralised)
8 Adjusted for over-collateralisation, which has been determined with reference to the drawn and undrawn component as this best reflects the effect on the amount arising from expected credit losses

Analysis of financial instrument by stage

This table shows financial instruments and off-balance sheet commitments by stage, along with the total credit impairment loss provision against each class of financial instrument.

The proportion of financial instruments held within stage 1 increased marginally to 94 per cent (31 December 2018: 93 per cent). Stage 2 financial instruments decreased marginally to 5 per cent (31 December 2018: 6 per cent). Within this, the proportion of stage 2 debt securities declined to 3 per cent compared with 5 per cent at 31 December 2018, reflecting changes in the approach for stage allocations with a consequential reduction in the credit impairment provisions held. Stage 2 also includes the impact of downgrading $550 million of government securities, loans to banks and loans to financial institutions to 'Higher risk' following the sovereign downgrades in Zambia, Zimbabwe and Lebanon. The downgrades are specifically due to the change in sovereign ratings and do not represent any specific concerns related to our obligors.

Stage 3 financial instruments were stable at 1 per cent of the Group total. Stage 3 loans and advances to customers fell $1,056 million due to a combination of repayments, write-offs and upgrades to stage 2. The stage 3 cover ratio (excluding collateral) was higher at 68 per cent from 66 per cent on 31 December 2018.

	2019											
	Stage 1			Stage 2			Stage 3			Total		
	Gross balance[1] $million	Total credit impairment $million	Net carrying value $million	Gross balance[1] $million	Total credit impairment $million	Net carrying value $million	Gross balance[1] $million	Total credit impairment $million	Net carrying value $million	Gross balance[1] $million	Total credit impairment $million	Net carrying value $million
Cash and balances at central banks	52,728	–	52,728	–	–	–	–	–	–	52,728	–	52,728
Loans and advances to banks (amortised cost)	52,634	(5)	52,629	924	(4)	920	–	–	–	53,558	(9)	53,549
Loans and advances to customers (amortised cost)	246,149	(402)	245,747	20,759	(377)	20,382	7,398	(5,004)	2,394	274,306	(5,783)	268,523
Debt securities, alternative Tier 1 and other eligible bills	138,782	(50)		4,644	(23)		75	(45)		143,501	(118)	
Amortised cost	13,678	(10)	13,668	277	(6)	271	75	(45)	30	14,030	(61)	13,969
FVOCI[2]	125,104	(40)		4,367	(17)		–	–		129,471	(57)	
Accrued income (amortised cost)[4]	2,358	–	2,358	–	–	–	–	–	–	2,358	–	2,358
Assets held for sale[4]	90	–	90	–	–	–	–	–	–	90	–	90
Other assets	36,161	(3)	36,158	–	–	–	164	(161)	3	36,325	(164)	36,161
Undrawn commitments[3]	136,179	(43)		9,277	(38)		20	–		145,476	(81)	
Financial guarantees[3]	38,660	(14)		3,183	(16)		589	(206)		42,432	(236)	
Total	703,741	(517)		38,787	(458)		8,246	(5,416)		750,774	(6,391)	

1 Gross carrying amount for off-balance sheet refers to notional values
2 These instruments are held at fair value on the balance sheet. The ECL provision in respect of debt securities measured at FVOCI is held within the OCI reserve
3 These are off-balance sheet instruments. Only the ECL is recorded on-balance sheet as a financial liability and therefore there is no 'net carrying amount'. ECL allowances on off-balance sheet instruments are held as liability provisions to the extent that the drawn and undrawn components of loan exposures can be separately identified. Otherwise they will be reported against the drawn component
4 Stage 1 ECL is not material

	2018											
	Stage 1			Stage 2			Stage 3			Total		
	Gross balance[1] $million	Total credit impairment $million	Net carrying value $million	Gross balance[1] $million	Total credit impairment $million	Net carrying value $million	Gross balance[1] $million	Total credit impairment $million	Net carrying value $million	Gross balance[1] $million	Total credit impairment $million	Net carrying value $million
Cash and balances at central banks	57,511	–	57,511	–	–	–	–	–	–	57,511	–	57,511
Loans and advances to banks (amortised cost)	60,350	(5)	60,345	1,070	(1)	1,069	–	–	–	61,420	(6)	61,414
Loans and advances to customers (amortised cost)[2]	237,103	(426)	236,677	17,428	(416)	17,012	8,454	(5,586)	2,868	262,985	(6,428)	256,557
Debt securities, alternative Tier 1 and other eligible bills[2]	118,713	(27)		6,909	(31)		498	(472)		126,120	(530)	
Amortised cost	8,225	(7)	8,218	1,062	(3)	1,059	498	(472)	26	9,785	(482)	9,303
FVOCI[3]	110,488	(20)		5,847	(28)		–	–		116,335	(48)	
Accrued income (amortised cost)[5]	2,228	–	2,228	–	–	–	–	–	–	2,228	–	2,228
Assets held for sale[5]	23	–	23	–	–	–	–	–	–	23	–	23
Other assets[5]	32,678	–	32,678	–	–	–	155	(155)	–	32,833	(155)	32,678
Undrawn commitments[4]	137,783	(69)		13,864	(39)		63	–		151,710	(108)	
Financial guarantees[4]	38,532	(4)		3,053	(13)		367	(156)		41,952	(173)	
Total	684,921	(531)		42,324	(500)		9,537	(6,369)		736,782	(7,400)	

1 Gross carrying amount for off-balance sheet refers to notional values
2 Stage 3 balances have been restated to reflect interest due but unpaid together with equivalent credit impairment charges
3 These instruments are held at fair value on the balance sheet. The ECL provision in respect of debt securities measured at FVOCI is held within the OCI reserve
4 These are off-balance sheet instruments. Only the ECL is recorded on-balance sheet as a financial liability and therefore there is no 'net carrying amount'. ECL allowances on off-balance sheet instruments are held as liability provisions to the extent that the drawn and undrawn components of loan exposures can be separately identified. Otherwise they will be reported against the drawn component
5 Stage 1 ECL is not material

Credit quality analysis

Credit quality by client segment

For the Corporate & Institutional Banking and Commercial Banking portfolios, exposures are analysed by credit grade (CG), which plays a central role in the quality assessment and monitoring of risk. All loans are assigned a CG, which is reviewed periodically and amended in light of changes in the borrower's circumstances or behaviour. CGs 1 to 12 are assigned to stage 1 and stage 2 (performing) clients or accounts, while CGs 13 and 14 are assigned to stage 3 (defaulted) clients. The mapping of credit quality is as follows.

Mapping of credit quality

The Group uses the following internal risk mapping to determine the credit quality for loans.

	Corporate & Institutional Banking and Commercial Banking			Private Banking[1]	Retail Banking
Credit quality description	**Internal grade mapping**	**S&P external ratings equivalent**	**Regulatory PD range (%)**	**Internal ratings**	**Number of days past due**
Strong	1A to 5B	AAA to BB+	0 to 0.425	Class I and Class IV	Current loans (no past dues nor impaired)
Satisfactory	6A to 11C	BB to B-/CCC	0.426 to 15.75	Class II and Class III	Loans past due till 29 days
Higher risk	Grade 12	CCC/C	15.751 to 99.999	GSAM managed	Past due loans 30 days and over till 90 days

1 For Private Banking, classes of risk represent the type of collateral held. Class I represents facilities with liquid collateral, such as cash and marketable securities. Class II represents unsecured/partially secured facilities and those with illiquid collateral, such as equity in private enterprises. Class III represents facilities with residential or commercial real estate collateral. Class IV covers margin trading facilities

The table overleaf sets out the gross loans and advances held at amortised cost, expected credit loss provisions and expected credit loss coverage by business segment and stage. Expected credit loss coverage represents the expected credit loss reported for each segment and stage as a proportion of the gross loan balance for each segment and stage.

Stage 1

Stage 1 gross loans and advances to customers increased by $9.0 billion, or 4 per cent compared with 31 December 2018 and continued to represent 90 per cent of loans and advances to customers (31 December 2018: 90 per cent). Most of the growth was concentrated in the Greater China & North Asia region. The stage 1 coverage ratio remained at 0.2 per cent compared with 31 December 2018.

83 per cent (31 December 2018: 85 per cent) of loans in Corporate & Institutional Banking and Commercial Banking are held in stage 1, with those rated as strong increased marginally to 56 per cent (31 December 2018: 55 per cent) as the Group continues to focus on the origination of investment grade lending. Within Corporate & Institutional Banking and Commercial Banking, overall stage 1 loans grew by $2.7 billion, primarily in the transport and mining and quarrying sectors, reflecting the overall increase in the portfolio since 31 December 2018.

Retail Banking stage 1 loans remained stable at 96 per cent with the proportion rated as strong at 97 per cent. Stage 1 Secured wealth products increased by $2.8 billion, of which Private Banking deposits increased by $1.5 billion in Hong Kong and Singapore. Stage 1 Mortgages also increased by $2.4bn, mainly in Greater China & North Asia.

Stage 2

Stage 2 loans and advances to customers gross balances increased by $3.3 billion, compared with 31 December 2018, with the proportion of stage 2 loans increasing from 7 per cent to 8 per cent. This was largely due to a $4 billion increase in Corporate & Institutional Banking reflecting an increase in Trading companies and distributors sector and in non purely precautionary early alert accounts within the Manufacturing sector.

Commercial Banking stage 2 balances fell by $0.6 billion in line with the overall improvement in credit quality of the portfolio.

Retail Banking stage 2 loans saw an increase in coverage due to a higher level of coverage on more than 30 day past due exposures relating to credit cards and personal lending, which attracts higher levels of credit impairment provisions. This increase reflects in part the deteriorating macroeconomic environment and an increase in past dues in some payroll linked exposures in Africa & Middle East.

Stage 2 loans to banks classified as ‘Higher risk’ increased by $0.2 billion following the sovereign downgrades in Zambia, Zimbabwe and Lebanon.

Stage 3

Stage 3 loans and advances to customers fell by $1.1 billion, or 12 per cent, to $7.4 billion compared with 31 December 2018, with overall stage 3 provisions declining by $0.6 billion to $5.0 billion. The stage 3 cover ratio (excluding collateral) increased 2 per cent to 68 per cent, largely in Corporate & Institutional Banking from new impairment charges, repayments and transfers to stage 2.

In Corporate & Institutional Banking and Commercial Banking, gross stage 3 loans fell by $1.1 billion compared with 31 December 2018. Provisions also fell by $0.5 billion from $5.0 billion to $4.5 billion.

Inflows into stage 3 for Corporate & Institutional Banking and Commercial Banking in 2019 were 13 per cent lower compared with 2018, reflecting continued improvement in the portfolio with only the ASEAN & South Asia region showing an increase.

Retail stage 3 loans were broadly stable at $0.8 billion and Private Banking stage 3 loans increased slightly by $0.1 billion, although there was a net release in provisions relating to a single client.

Loans and advances by client segment

Amortised cost	Banks $million	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Customer Total $million	Undrawn commitments $million	Financial Guarantees $million
	2019	Customers							
Stage 1	52,634	96,638	103,362	21,808	14,249	10,092	246,149	136,179	38,660
– Strong	41,053	59,920	100,709	6,181	10,145	9,961	186,916	114,976	25,631
– Satisfactory	11,581	36,718	2,653	15,627	4,104	131	59,233	21,203	13,029
Stage 2	924	13,600	2,996	3,872	284	7	20,759	9,277	3,183
– Strong	225	2,714	2,198	238	280	–	5,430	4,005	1,025
– Satisfactory	476	9,793	462	3,352	4	–	13,611	4,902	1,951
– Higher risk	223	1,093	336	282	–	7	1,718	370	207
Of which (stage 2):									
– Less than 30 days past due	2	179	462	24	–	–	665		
– More than 30 days past due	23	176	336	85	4	–	601		
Stage 3, credit-impaired financial assets	–	4,173	846	2,013	366	–	7,398	20	589
Gross balance[1]	53,558	114,411	107,204	27,693	14,899	10,099	274,306	145,476	42,432
Stage 1	(5)	(80)	(289)	(22)	(10)	(1)	(402)	(43)	(14)
– Strong	–	(29)	(182)	(1)	(8)	–	(220)	(22)	(8)
– Satisfactory	(5)	(51)	(107)	(21)	(2)	(1)	(182)	(21)	(6)
Stage 2	(4)	(152)	(173)	(51)	(1)	–	(377)	(38)	(16)
– Strong	(2)	(33)	(88)	(5)	(1)	–	(127)	(7)	(3)
– Satisfactory	(2)	(60)	(45)	(31)	–	–	(136)	(14)	(8)
– Higher risk	–	(59)	(40)	(15)	–	–	(114)	(17)	(5)
Of which (stage 2):									
– Less than 30 days past due	–	(3)	(45)	(2)	–	–	(50)		
– More than 30 days past due	–	(4)	(40)	(5)	–	–	(49)		
Stage 3, credit-impaired financial assets	–	(2,980)	(374)	(1,503)	(147)	–	(5,004)	–	(206)
Total credit impairment	(9)	(3,212)	(836)	(1,576)	(158)	(1)	(5,783)	(81)	(236)
Net carrying value	53,549	111,227	106,368	26,117	14,741	10,098	268,551		
Stage 1	0.0%	0.1%	0.3%	0.1%	0.1%	0.0%	0.2%	0.0%	0.0%
– Strong	0.0%	0.0%	0.2%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%
– Satisfactory	0.0%	0.1%	4.0%	0.1%	0.0%	0.8%	0.3%	0.1%	0.0%
Stage 2	0.4%	1.1%	5.8%	1.3%	0.4%	0.0%	1.8%	0.4%	0.5%
– Strong	0.9%	1.2%	4.0%	2.1%	0.4%	0.0%	2.3%	0.2%	0.3%
– Satisfactory	0.4%	0.6%	9.7%	0.9%	0.0%	0.0%	1.0%	0.3%	0.4%
– Higher risk	0.0%	5.4%	11.9%	5.3%	0.0%	0.0%	6.6%	4.7%	2.4%
Of which (stage 2):									
– Less than 30 days past due	0.0%	1.7%	9.7%	8.3%	0.0%	0.0%	7.5%		
– More than 30 days past due	0.0%	2.3%	11.9%	5.9%	0.0%	0.0%	8.2%		
Stage 3, credit-impaired financial assets	0.0%	71.4%	44.2%	74.7%	40.2%	0.0%	67.6%	0.0%	35.0%
Cover ratio	0.0%	2.8%	0.8%	5.7%	1.1%	0.0%	2.1%	0.1%	0.6%
Fair value through profit or loss									
Performing	21,797	45,261	238	688	–	2	46,189	–	–
– Strong	19,217	26,641	236	123	–	1	27,001	–	–
– Satisfactory	2,580	18,611	1	565	–	1	19,178	–	–
– Higher risk	–	9	1	–	–	–	10	–	–
Defaulted (CG13-14)	–	34	–	8	–	–	42	–	–
Gross balance (FVTPL)[2]	21,797	45,295	238	696	–	2	46,231	–	–
Net carrying value (incl FVTPL)	75,346	156,494	106,606	26,813	14,741	10,100	314,754		

1 Loans and advances includes reverse repurchase agreements and other similar secured lending of $1,469 million under Customers and of $1,341 million under Banks, held at amortised cost

2 Loans and advances includes reverse repurchase agreements and other similar secured lending of $39,335 million under Customers and of $18,269 million under Banks, held at fair value through profit or loss

Amortised cost	Banks $million	Corporate& Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Customer Total $million	Undrawn commitments $million	Financial Guarantees $million
	2018								
		Customers							
Stage 1	60,350	93,848	98,393	21,913	12,705	10,244	237,103	137,783	38,532
– Strong	47,860	58,167	96,506	5,527	9,447	10,193	179,840	114,402	30,211
– Satisfactory	12,490	35,681	1,887	16,386	3,258	51	57,263	23,381	8,321
Stage 2	1,070	9,357	2,837	4,423	785	26	17,428	13,864	3,053
– Strong	403	1,430	1,956	270	713	–	4,369	6,996	682
– Satisfactory	665	6,827	500	3,732	–	26	11,085	5,485	1,948
– Higher risk	2	1,100	381	421	72	–	1,974	1,383	423
Of which (stage 2):									
– Less than 30 days past due	27	232	500	198	–	–	930		
– More than 30 days past due	–	190	381	99	3	–	673		
Stage 3, credit-impaired financial assets[3]	–	4,996	832	2,328	298	–	8,454	63	367
Gross balance[1]	61,420	108,201	102,062	28,664	13,788	10,270	262,985	151,710	41,952
Stage 1	(5)	(94)	(299)	(24)	(9)	–	(426)	(69)	(4)
– Strong	(2)	(32)	(149)	(1)	(9)	–	(191)	(35)	(2)
– Satisfactory	(3)	(62)	(150)	(23)	–	–	(235)	(34)	(2)
Stage 2	(1)	(192)	(132)	(92)	–	–	(416)	(39)	(13)
– Strong	–	(11)	(42)	(5)	–	–	(58)	3	–
– Satisfactory	(1)	(66)	(50)	(45)	–	–	(161)	(19)	(3)
– Higher risk	–	(115)	(40)	(42)	–	–	(197)	(23)	(10)
Of which (stage 2):									
– Less than 30 days past due	–	(34)	(50)	(9)	–	–	(93)		
– More than 30 days past due	–	(2)	(40)	(4)	–	–	(46)		
Stage 3, credit-impaired financial assets[3]	–	(3,238)	(396)	(1,789)	(163)	–	(5,586)	–	(156)
Total credit impairment	(6)	(3,524)	(827)	(1,905)	(172)	–	(6,428)	(108)	(173)
Net carrying value	61,414	104,677	101,235	26,759	13,616	10,270	256,557		
Stage 1	0.0%	0.1%	0.3%	0.1%	0.1%	0.0%	0.2%	0.1%	0.0%
– Strong	0.0%	0.1%	0.2%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%
– Satisfactory	0.0%	0.2%	7.9%	0.1%	0.0%	0.0%	0.4%	0.1%	0.0%
Stage 2	0.1%	2.1%	4.7%	2.1%	0.0%	0.0%	2.4%	0.3%	0.4%
– Strong	0.0%	0.8%	2.1%	1.9%	0.0%	–	1.3%	0.0%	0.0%
– Satisfactory	0.2%	1.0%	10.0%	1.2%	–	0.0%	1.5%	0.3%	0.2%
– Higher risk	0.0%	10.5%	10.5%	10.0%	0.0%	–	10.0%	1.7%	2.4%
Of which (stage 2):									
– Less than 30 days past due	0.0%	14.7%	10.0%	4.5%	–	–	10.0%		
– More than 30 days past due	–	1.1%	10.5%	4.0%	0.0%	–	6.8%		
Stage 3, credit-impaired financial assets[3]	–	64.8%	47.6%	76.8%	54.7%	0.0%	66.1%	–	42.5%
Cover ratio	0.0%	3.3%	0.8%	6.6%	1.2%	0.0%	2.4%	0.1%	0.4%
Fair value through profit or loss									
Performing	20,651	41,886	400	479	–	4	42,769	–	–
– Strong	19,515	33,178	395	247	–	3	33,823	–	–
– Satisfactory	1,136	8,700	4	232	–	1	8,937	–	–
– Higher risk	–	8	1	–	–	–	9	–	–
Defaulted (CG13-14)	–	12	–	33	–	–	45	–	–
Gross balance[2]	20,651	41,898	400	512	–	4	42,814	–	–
Net carrying value (incl FVTPL)	82,065	146,575	101,635	27,271	13,616	10,274	299,371		

1 Loans and advances includes reverse repurchase agreements and other similar secured lending of $3,151 million under Customers and of $3,815 million under Banks, held at amortised cost

2 Loans and advances includes reverse repurchase agreements and other similar secured lending of $37,886 million under Customers and of $16,883 million under Banks, held at fair value through profit and loss

3 Stage 3 balances have been restated to reflect interest due but unpaid together with equivalent credit impairment charges. The cover ratios have been restated as a result

Loans and advances by client segment credit quality analysis (unaudited)

			2019							
			Corporate & Institutional Banking							
			Gross				Credit impairment			
Credit grade	Regulatory 1 year PD range (%)	S&P external ratings equivalent	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Strong			59,920	2,714	–	62,634	(29)	(33)	–	(62)
1A-2B	0 – 0.045	AA– and above	6,887	80	–	6,967	(2)	–	–	(2)
3A-4A	0.046 – 0.110	A+ to A-	19,411	913	–	20,324	(4)	(7)	–	(11)
4B-5B	0.111 – 0.425	BBB+ to BBB-/BB+	33,622	1,721	–	35,343	(23)	(26)	–	(49)
Satisfactory			36,718	9,793	–	46,511	(51)	(60)	–	(111)
6A-7B	0.426 – 1.350	BB+/BB to BB-	24,259	5,883	–	30,142	(26)	(18)	–	(44)
8A-9B	1.351 – 4.000	BB-/B+ to B+/B	8,658	2,753	–	11,411	(16)	(23)	–	(39)
10A-11C	4.001 – 15.75	B to B-/CCC	3,801	1,157	–	4,958	(9)	(19)	–	(28)
Higher risk			–	1,093	–	1,093	–	(59)	–	(59)
12	15.751 – 99.999	CCC/C	–	1,093	–	1,093	–	(59)	–	(59)
Defaulted			–	–	4,173	4,173	–	–	(2,980)	(2,980)
13-14	100	Defaulted	–	–	4,173	4,173	–	–	(2,980)	(2,980)
Total			96,638	13,600	4,173	114,411	(80)	(152)	(2,980)	(3,212)

			Commercial Banking							
			Gross				Credit impairment			
Credit grade	Regulatory 1 year PD range (%)	S&P external ratings equivalent	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Strong			6,181	238	–	6,419	(1)	(5)	–	(6)
1A-2B	0 – 0.045	AA– and above	35	–	–	35	–	–	–	–
3A-4A	0.046 – 0.110	A+ to A-	1,749	10	–	1,759	–	–	–	–
4B-5B	0.111 – 0.425	BBB+ to BBB-/BB+	4,397	228	–	4,625	(1)	(5)	–	(6)
Satisfactory			15,627	3,352	–	18,979	(21)	(31)	–	(52)
6A-7B	0.426 – 1.350	BB+/BB to BB-	6,771	912	–	7,683	(5)	(1)	–	(6)
8A-9B	1.351 – 4.000	BB-/B+ to B+/B	6,374	1,235	–	7,609	(10)	(10)	–	(20)
10A-11C	4.001 – 15.75	B to B-/CCC	2,482	1,205	–	3,687	(6)	(20)	–	(26)
Higher risk			–	282	–	282	–	(15)	–	(15)
12	15.751 – 99.999	CCC/C	–	282	–	282	–	(15)	–	(15)
Defaulted			–	–	2,013	2,013	–	–	(1,503)	(1,503)
13-14	100	Defaulted	–	–	2,013	2,013	–	–	(1,503)	(1,503)
Total			21,808	3,872	2,013	27,693	(22)	(51)	(1,503)	(1,576)

Credit quality by geographic region (unaudited)

The following table sets out the credit quality for gross loans and advances to customers and banks, held at amortised cost, by geographic region and stage.

Loans and advances to customers

	2019				
Amortised cost	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Stage 1	126,438	71,045	23,906	24,760	246,149
Stage 2	7,547	6,461	5,541	1,210	20,759
Gross stage 1 & stage 2 balance	133,985	77,506	29,447	25,970	266,908
Stage 3, credit-impaired financial assets[2]	716	3,084	2,585	1,013	7,398
Gross loans[1]	134,701	80,590	32,032	26,983	274,306

	2018				
Amortised cost	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Stage 1	118,422	71,169	23,598	23,914	237,103
Stage 2	4,139	7,628	5,112	549	17,428
Gross stage 1 & stage 2 balance	122,561	78,797	28,710	24,463	254,531
Stage 3, credit-impaired financial assets[2, 3]	838	3,624	3,061	931	8,454
Gross loans[1]	123,399	82,421	31,771	25,394	262,985

1 Amounts gross of expected credit losses. Includes reverse repurchase agreements and other similar secured lending
2 Amounts do not include those purchased or originated credit-impaired financial assets
3 Balances have been restated to reflect interest due but unpaid together with equivalent credit impairment charges

Loans and advances to banks

Amortised cost	2019 Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Stage 1	19,181	15,458	5,039	12,956	52,634
Stage 2	136	300	312	176	924
Gross stage 1 & stage 2 balance	19,317	15,758	5,351	13,132	53,558
Stage 3, credit-impaired financial assets[2]	–	–	–	–	–
Gross loans[1]	19,317	15,758	5,351	13,132	53,558

Amortised cost	2018 Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Stage 1	27,801	11,095	5,374	16,080	60,350
Stage 2	59	582	199	230	1,070
Gross stage 1 & stage 2 balance	27,860	11,677	5,573	16,310	61,420
Stage 3, credit-impaired financial assets[2]	–	–	–	–	–
Gross loans[1]	27,860	11,677	5,573	16,310	61,420

1 Amounts gross of expected credit losses. Includes reverse repurchase agreements and other similar secured lending
2 Amounts do not include those purchased or originated credit-impaired financial assets

Movement in gross exposures and credit impairment for loans and advances, debt securities, undrawn commitments and financial guarantees

The tables overleaf set out the movement in gross exposures and credit impairment by stage in respect of amortised cost loans to banks and customers, undrawn committed facilities, undrawn cancellable facilities, debt securities classified at amortised cost and FVOCI and financial guarantees. The tables are presented for the Group, and the Corporate & Institutional Banking, Commercial Banking and Retail Banking segments.

Methodology

The movement lines within the tables are an aggregation of monthly movements over the year and will therefore reflect the accumulation of multiple trades during the year. The credit impairment charge in the income statement comprises the amounts within the boxes in the table below less recoveries of amounts previously written off. Discount unwind is reported in net interest income and related to stage 3 financial instruments only.

The approach for determining the key line items in the tables is set out below.

- Transfers – transfers between stages are deemed to occur at the beginning of a month based on prior month closing balances
- Net remeasurement from stage changes – the remeasurement of credit impairment provisions arising from a change in stage is reported within the stage that the assets are transferred to. For example, assets transferred into stage 2 are remeasured from a 12 month to a lifetime expected credit loss, with the effect of remeasurement reported in stage 2. For stage 3, this represents the initial remeasurement from specific provisions recognised on individual assets transferred into stage 3 in the year
- Net changes in exposures – new business written less repayments in the year. Within stage 1, new business written will attract up to 12 months of expected credit loss charges. Repayments of non-amortising loans (primarily within Corporate & Institutional Banking and Commercial Banking) will have low amounts of expected credit loss provisions attributed to them, due to the release of provisions over the term to maturity. In stages 2 and 3, the amounts principally reflect repayments although stage 2 may include new business written where clients are on non-purely precautionary early alert, are a credit grade 12, or when non-investment grade debt securities are acquired.
- Changes in risk parameters – for stages 1 and 2, this reflects changes in the probability of default (PD), loss given default (LGD) and exposure at default (EAD) of assets during the year, which includes the impact of releasing provisions over the term to maturity. It also includes the effect of changes in forecasts of macroeconomic variables during the year. In stage 3, this line represents additional specific provisions recognised on exposures held within stage 3
- Interest due but not paid – change in contractual amount of interest due in stage 3 financial instruments but not paid, being the net of accruals, repayments and write-offs, together with the corresponding change in credit impairment

Changes to ECL models, which incorporates changes to model approaches and methodologies, is not reported as a separate line item as it has an impact over a number of lines and stages.

Movements during the year

Stage 1 gross exposures increased by $19.9 billion, or 3 per cent, from 1 January 2019. This was largely due to higher holdings of debt securities (up $20.2 billion) as we increased holdings of corporate and government securities, which was partly offset by a reduction in Corporate & Institutional Banking, down $9.6 billion due to a net outflow to stage 2. 2018 benefitted from a number of upgrades out of stage 2 as non-purely precautionary early alert balances decreased whereas these balances were more stable in 2019. Retail Banking stage 1 gross exposures increased by $5.8 billion due to portfolio growth, with stage 1 transfers to stage 2 and transfers to stage 3 reduced compared with 2018 following the rundown of higher risk unsecured lending portfolios. Despite the increase in exposures, total stage 1 provisions fell $17 million, largely due to improvements in portfolio quality in Corporate & Institutional Banking.

Stage 2 gross exposures fell by $3.5 billion, or 8 per cent, primarily driven by debt securities which fell $2.3 billion, as securities transferred back to stage 1 (primarily due to the change in approach for stage allocations) or were repaid. In Corporate & Institutional Banking, stage 2 exposures increased by $3.5 billion, in part due to an increase in non-purely precautionary early alerts. This was largely offset by a $3.6 billion fall in Retail Banking exposures primarily due to repayments.

Consequently, stage 2 provisions were down $42 million compared with 2018, $8 million of which was due to the reduction in debt securities. Corporate & Institutional Banking provisions fell by $40 million as the impact of deteriorating macroeconomic forecasts was offset by transfers to stage 3. Changes in risk parameters within Corporate & Institutional Banking moved to a net charge in 2019 compared with a net release in 2018, as 2018 benefitted from a number of upgrades out of 'Higher risk', reductions in early alerts and improved macroeconomic forecasts. Retail Banking provisions increased by $47 million, primarily due to the impact of deteriorating macroeconomic forecasts which affected Hong Kong in particular. This was offset by lower Commercial Banking provisions, down $42 million as portfolio quality improved, with a 33 per cent reduction in 'Higher risk' balances.

Across both stage 1 and 2 for all segments, changes to macroeconomic forecasts increased provisions by $96 million. Macroeconomic forecasts in Hong Kong were downgraded in the second half of 2019 as the economy moved into recession, and this contributed to an increase in provisions in Hong Kong of approximately $46 million during the second half of the year.

Corporate & Institutional Banking was also impacted by lower forecasted growth in the Metals Composite Index.

Model changes in 2019 resulted in a reduction to the income statement charge of $13 million, primarily from changes relating to Hong Kong credit cards which was partly offset by enhancements to the Monte Carlo model.

Stage 3 exposures fell by $1.3 billion from $9.4 billion at 1 January 2019 to $8.1 billion at 31 December 2019, primarily due to a write-off in debt securities, repayments, write-offs and transfers to stage 2 within Corporate & Institutional Banking and Commercial Banking. This was also reflected in lower stage 3 provisions, which fell from $6.2 billion at 1 January 2019 to $5.3 billion at 31 December 2019.

All segments

Amortised cost and FVOCI	Stage 1 Gross balance $million	Stage 1 Total credit impairment $million	Stage 1 Net $million	Stage 2 Gross balance $million	Stage 2 Total credit impairment $million	Stage 2 Net $million	Stage 3 Gross balance $million	Stage 3 Total credit impairment $million	Stage 3 Net $million	Total Gross balance $million	Total Total credit impairment $million	Total Net $million
As at 1 January 2018[3]	565,815	(576)	565,239	52,387	(742)	51,645	11,332	(7,710)	3,622	629,534	(9,028)	620,506
Transfers to stage 1	59,776	(627)	59,149	(59,776)	627	(59,149)	–	–	–	–	–	–
Transfers to stage 2	(73,589)	136	(73,453)	73,809	(136)	73,673	(220)	–	(220)	–	–	–
Transfers to stage 3	(293)	7	(286)	(2,338)	264	(2,074)	2,631	(271)	2,360	–	–	–
Net change in exposures	50,249	(282)	49,967	(20,341)	94	(20,247)	(1,836)	527	(1,309)	28,072	339	28,411
Net remeasurement from stage changes	–	139	139	–	(136)	(136)	–	(529)	(529)	–	(526)	(526)
Changes in risk parameters	–	468	468	–	(275)	(275)	–	(971)	(971)	–	(778)	(778)
Write-offs	–	–	–	–	–	–	(2,075)	2,075	–	(2,075)	2,075	–
Interest due but unpaid[4]	–	–	–	–	–	–	(338)	338	–	(338)	338	–
Discount unwind	–	–	–	–	–	–	–	80	80	–	80	80
Exchange translation differences and other movements[1]	(9,477)	204	(9,273)	(1,417)	(196)	(1,613)	(112)	247	135	(11,006)	255	(10,751)
As at 31 December 2018[2]	592,481	(531)	591,950	42,324	(500)	41,824	9,382	(6,214)	3,168	644,187	(7,245)	636,942
Income statement ECL (charge)/release		325			(317)			(973)			(965)	
Recoveries of amounts previously written off								312			312	
Total credit impairment (charge)/release		325			(317)			(661)			(653)	
As at 1 January 2019	592,481	(531)	591,950	42,324	(500)	41,824	9,382	(6,214)	3,168	644,187	(7,245)	636,942
Transfers to stage 1	28,552	(582)	27,970	(28,552)	582	(27,970)	–	–	–	–	–	–
Transfers to stage 2	(67,790)	157	(67,633)	67,983	(171)	67,812	(193)	14	(179)	–	–	–
Transfers to stage 3	(121)	–	(121)	(2,179)	314	(1,865)	2,300	(314)	1,986	–	–	–
Net change in exposures	60,374	(256)	60,118	(40,499)	24	(40,475)	(1,434)	307	(1,127)	18,441	75	18,516
Net remeasurement from stage changes	–	196	196	–	(171)	(171)	–	(406)	(406)	–	(381)	(381)
Changes in risk parameters	–	434	434	–	(489)	(489)	–	(787)	(787)	–	(842)	(842)
Write-offs	–	–	–	–	–	–	(1,795)	1,795	–	(1,795)	1,795	–
Interest due but unpaid	–	–	–	–	–	–	(365)	365	–	(365)	365	–
Discount unwind	–	–	–	–	–	–	–	82	82	–	82	82
Exchange translation differences and other movements[1]	(1,092)	68	(1,024)	(290)	(47)	(337)	187	(97)	90	(1,195)	(76)	(1,271)
As at 31 December 2019[2]	612,404	(514)	611,890	38,787	(458)	38,329	8,082	(5,255)	2,827	659,273	(6,227)	653,046
Income statement ECL (charge)/release[5]		374			(636)			(886)			(1,148)	
Recoveries of amounts previously written off								248			248	
Total credit impairment (charge)/release		374			(636)			(638)			(900)	

1 Includes fair value adjustments and amortisation on debt securities
2 Excludes Cash and balances at central banks, Accrued income, Assets held for sale and Other assets
3 Stage 3 balances at 1 January 2018 have been restated to contractual interest due but unpaid together with equivalent credit impairment charges
4 Interest due but unpaid included in gross assets and credit impairment
5 Does not include $8 million provision relating to Other assets

Of which – movement of debt securities, alternative tier one and other eligible bills

Amortised cost and FVOCI	Stage 1 Gross balance $million	Stage 1 Total credit impairment $million	Stage 1 Net $million	Stage 2 Gross balance $million	Stage 2 Total credit impairment $million	Stage 2 Net $million	Stage 3 Gross balance $million	Stage 3 Total credit impairment $million	Stage 3 Net $million	Total Gross balance $million	Total Total credit impairment $million	Total Net $million
As at 1 January 2018[2]	107,308	(25)	107,283	8,305	(57)	8,248	455	(447)	8	116,068	(529)	115,539
Transfers to stage 1	561	(18)	543	(561)	18	(543)	–	–	–	–	–	–
Transfers to stage 2	(10,626)	1	(10,625)	10,626	(1)	10,625	–	–	–	–	–	–
Transfers to stage 3	–	–	–	(36)	–	(36)	36	–	36	–	–	–
Net change in exposures	23,232	(19)	23,213	(10,827)	(7)	(10,834)	(7)	7	–	12,398	(19)	12,379
Net remeasurement from stage changes	–	5	5	–	–	–	–	(20)	(20)	–	(15)	(15)
Changes in risk parameters	–	24	24	–	4	4	–	–	–	–	28	28
Write-offs	–	–	–	–	–	–	–	–	–	–	–	–
Interest due but unpaid[3]	–	–	–	–	–	–	32	(32)	–	32	(32)	–
Exchange translation differences and other movements[1]	(1,762)	5	(1,757)	(598)	12	(586)	(18)	20	2	(2,378)	37	(2,341)
As at 31 December 2018	118,713	(27)	118,686	6,909	(31)	6,878	498	(472)	26	126,120	(530)	125,590
Income statement ECL (charge)/release		10			(3)			(13)			(6)	
Recoveries of amounts previously written off												
Total credit impairment (charge)/release		10			(3)			(13)			(6)	
As at 1 January 2019	118,713	(27)	118,686	6,909	(31)	6,878	498	(472)	26	126,120	(530)	125,590
Transfers to stage 1	2,747	(38)	2,709	(2,747)	38	(2,709)	–	–	–	–	–	–
Transfers to stage 2	(2,359)	16	(2,343)	2,359	(16)	2,343	–	–	–	–	–	–
Transfers to stage 3	–	–	–	(1)	–	(1)	1	–	1	–	–	–
Net change in exposures	19,314	(52)	19,262	(1,237)	(9)	(1,246)	–	–	–	18,077	(61)	18,016
Net remeasurement from stage changes	–	27	27	–	(4)	(4)	–	–	–	–	23	23
Changes in risk parameters	–	27	27	–	(5)	(5)	–	7	7	–	29	29
Write-offs	–	–	–	–	–	–	(170)	170	–	(170)	170	–
Interest due but unpaid	–	–	–	–	–	–	(247)	247	–	(247)	247	–
Exchange translation differences and other movements[1]	367	(3)	364	(639)	4	(635)	(7)	3	(4)	(279)	4	(275)
As at 31 December 2019	138,782	(50)	138,732	4,644	(23)	4,621	75	(45)	30	143,501	(118)	143,383
Income statement ECL (charge)/release		2			(18)			7			(9)	
Recoveries of amounts previously written off												
Total credit impairment (charge)/release		2			(18)			7			(9)	

1 Includes fair value adjustments and amortisation on debt securities
2 Stage 3 balances at 1 January 2018 have been restated to reflect contractual interest due but unpaid together with equivalent credit impairment charges
3 Interest due but unpaid included in gross assets and credit impairment

Corporate & Institutional Banking

Amortised cost and FVOCI	Stage 1 Gross balance $million	Stage 1 Total credit impairment $million	Stage 1 Net $million	Stage 2 Gross balance $million	Stage 2 Total credit impairment $million	Stage 2 Net $million	Stage 3 Gross balance $million	Stage 3 Total credit impairment $million	Stage 3 Net $million	Total Gross balance $million	Total Total credit impairment $million	Total Net $million
As at 1 January 2018[1]	263,079	(114)	262,965	29,576	(409)	29,167	7,038	(4,591)	2,447	299,693	(5,114)	294,579
Transfers to stage 1	40,196	(156)	40,040	(40,196)	156	(40,040)	–	–	–	–	–	–
Transfers to stage 2	(39,490)	30	(39,460)	39,692	(30)	39,662	(202)	–	(202)	–	–	–
Transfers to stage 3	–	–	–	(1,129)	85	(1,044)	1,129	(85)	1,044	–	–	–
Net change in exposures	12,869	(183)	12,686	(8,639)	10	(8,629)	(1,064)	377	(687)	3,166	204	3,370
Net remeasurement from stage changes	–	46	46	–	(30)	(30)	–	(277)	(277)	–	(261)	(261)
Changes in risk parameters	–	101	101	–	140	140	–	(394)	(394)	–	(153)	(153)
Write-offs	–	–	–	–	–	–	(1,208)	1,208	–	(1,208)	1,208	–
Interest due but unpaid[2]	–	–	–	–	–	–	(175)	175	–	(175)	175	–
Discount unwind	–	–	–	–	–	–	–	39	39	–	39	39
Exchange translation differences and other movements	(3,418)	131	(3,287)	(252)	(157)	(409)	(133)	170	37	(3,803)	144	(3,659)
As at 31 December 2018	273,236	(145)	273,091	19,052	(235)	18,817	5,385	(3,378)	2,007	297,673	(3,758)	293,915
Income statement ECL (charge)/release		(36)			120			(294)			(210)	
Recoveries of amounts previously written off								77			77	
Total credit impairment (charge)/release		(36)			120			(217)			(133)	
As at 1 January 2019	273,236	(145)	273,091	19,052	(235)	18,817	5,385	(3,378)	2,007	297,673	(3,758)	293,915
Transfers to stage 1	16,555	(145)	16,410	(16,555)	145	(16,410)	–	–	–	–	–	–
Transfers to stage 2	(43,141)	39	(43,102)	43,326	(51)	43,275	(185)	12	(173)	–	–	–
Transfers to stage 3	–	–	–	(1,095)	122	(973)	1,095	(122)	973	–	–	–
Net change in exposures	18,368	(124)	18,244	(22,387)	25	(22,362)	(840)	205	(635)	(4,859)	106	(4,753)
Net remeasurement from stage changes	–	41	41	–	(70)	(70)	–	(219)	(219)	–	(248)	(248)
Changes in risk parameters	–	187	187	–	(145)	(145)	–	(368)	(368)	–	(326)	(326)
Write-offs	–	–	–	–	–	–	(658)	658	–	(658)	658	–
Interest due but unpaid	–	–	–	–	–	–	(48)	48	–	(48)	48	–
Discount unwind	–	–	–	–	–	–	–	38	38	–	38	38
Exchange translation differences and other movements	(1,369)	24	(1,345)	179	14	193	(16)	(45)	(61)	(1,206)	(7)	(1,213)
As at 31 December 2019	263,649	(123)	263,526	22,520	(195)	22,325	4,733	(3,171)	1,562	290,902	(3,489)	287,413
Income statement ECL (charge)/release[3]		104			(190)			(382)			(468)	
Recoveries of amounts previously written off												
Total credit impairment (charge)/release		104			(190)			(382)			(468)	

1 Stage 3 balances at 1 January 2018 have been restated to reflect contractual interest due but unpaid together with equivalent credit impairment charges
2 Interest due but unpaid included in gross assets and credit impairment
3 Does not include $6 million provision relating to Other assets

Retail Banking

	Stage 1			Stage 2			Stage 3			Total		
Amortised cost and FVOCI	Gross balance $million	Total credit impairment $million	Net $million	Gross balance $million	Total credit impairment $million	Net $million	Gross balance $million	Total credit impairment $million	Net $million	Gross balance $million	Total credit impairment $million	Net $million
As at 1 January 2018	131,280	(381)	130,899	7,964	(178)	7,786	818	(389)	429	140,062	(948)	139,114
Transfers to stage 1	5,570	(388)	5,182	(5,570)	388	(5,182)	–	–	–	–	–	–
Transfers to stage 2	(9,954)	74	(9,880)	9,954	(74)	9,880	–	–	–	–	–	–
Transfers to stage 3	(281)	8	(273)	(511)	164	(347)	792	(172)	620	–	–	–
Net change in exposures	9,858	(17)	9,841	(2,628)	78	(2,550)	(398)	–	(398)	6,832	61	6,893
Net remeasurement from stage changes	–	72	72	–	(90)	(90)	–	(12)	(12)	–	(30)	(30)
Changes in risk parameters	–	264	264	–	(373)	(373)	–	(402)	(402)	–	(511)	(511)
Write-offs	–	–	–	–	–	–	(575)	575	–	(575)	575	–
Interest due but unpaid	–	–	–	–	–	–	–	–	–	–	–	–
Discount unwind	–	–	–	–	–	–	–	20	20	–	20	–
Exchange translation differences and other movements	(2,989)	55	(2,934)	(322)	(47)	(369)	195	(14)	181	(3,116)	(6)	(3,102)
As at 31 December 2018	133,484	(313)	133,171	8,887	(132)	8,755	832	(394)	438	143,203	(839)	142,364
Income statement ECL (charge)/release		319			(385)			(414)			(480)	
Recoveries of amounts previously written off								214			214	
Total credit impairment (charge)/release		319			(385)			(200)			(266)	
As at 1 January 2019	133,484	(313)	133,171	8,887	(132)	8,755	832	(394)	438	143,203	(839)	142,364
Transfers to stage 1	5,301	(355)	4,946	(5,301)	355	(4,946)	–	–	–	–	–	–
Transfers to stage 2	(8,279)	82	(8,197)	8,279	(82)	8,197	–	–	–	–	–	–
Transfers to stage 3	(117)	1	(116)	(517)	165	(352)	634	(166)	468	–	–	–
Net change in exposures	9,303	(15)	9,288	(6,020)	49	(5,971)	(290)	–	(290)	2,993	34	3,027
Net remeasurement from stage changes	–	122	122	–	(86)	(86)	–	(81)	(81)	–	(45)	(45)
Changes in risk parameters	–	153	153	–	(398)	(398)	–	(327)	(327)	–	(572)	(572)
Write-offs	–	–	–	–	–	–	(586)	586	–	(586)	586	–
Interest due but unpaid	–	–	–	–	–	–	–	–	–	–	–	–
Discount unwind	–	–	–	–	–	–	–	28	28	–	28	28
Exchange translation differences and other movements	(433)	26	(407)	(37)	(50)	(87)	256	(20)	236	(214)	(44)	(258)
As at 31 December 2019	139,259	(299)	138,960	5,291	(179)	5,112	846	(374)	472	145,396	(852)	144,544
Income statement ECL (charge)/release		260			(435)			(408)			(583)	
Recoveries of amounts previously written off								247			247	
Total credit impairment (charge)/release		260			(435)			(161)			(336)	

Commercial Banking

Amortised cost and FVOCI	Stage 1 Gross balance $million	Stage 1 Total credit impairment $million	Stage 1 Net $million	Stage 2 Gross balance $million	Stage 2 Total credit impairment $million	Stage 2 Net $million	Stage 3 Gross balance $million	Stage 3 Total credit impairment $million	Stage 3 Net $million	Total Gross balance $million	Total Total credit impairment $million	Total Net $million
As at 1 January 2018[1]	28,792	(40)	28,752	5,382	(95)	5,287	2,749	(2,128)	621	36,923	(2,263)	34,660
Transfers to stage 1	12,675	(64)	12,611	(12,675)	64	(12,611)	–	–	–	–	–	–
Transfers to stage 2	(11,152)	26	(11,126)	11,171	(26)	11,145	(19)	–	(19)	–	–	–
Transfers to stage 3	(11)	–	(11)	(606)	14	(592)	617	(14)	603	–	–	–
Net change in exposures	2,163	(65)	2,098	3,660	9	3,669	(337)	138	(199)	5,486	82	5,568
Net remeasurement from stage changes	–	12	12	–	(13)	(13)	–	(217)	(217)	–	(218)	(218)
Changes in risk parameters	–	67	67	–	(33)	(33)	–	(162)	(162)	–	(128)	(128)
Write-offs	–	–	–	–	–	–	(293)	293	–	(293)	293	–
Interest due but unpaid[2]	–	–	–	–	–	–	(194)	194	–	(194)	194	–
Discount unwind	–	–	–	–	–	–	–	16	16	–	16	16
Exchange translation differences and other movements	(1,047)	29	(1,018)	(223)	(20)	(243)	(155)	77	(78)	(1,425)	86	(1,339)
As at 31 December 2018	31,420	(35)	31,385	6,709	(100)	6,609	2,368	(1,803)	565	40,497	(1,938)	38,559
Income statement ECL (charge)/release		14			(37)			(241)			(264)	
Recoveries of amounts previously written off								21			21	
Total credit impairment (charge)/release		14			(37)			(220)			(243)	
As at 1 January 2019	31,420	(35)	31,385	6,709	(100)	6,609	2,368	(1,803)	565	40,497	(1,938)	38,559
Transfers to stage 1	3,082	(42)	3,040	(3,082)	42	(3,040)	–	–	–	–	–	–
Transfers to stage 2	(11,878)	20	(11,858)	11,886	(22)	11,864	(8)	2	(6)	–	–	–
Transfers to stage 3	(4)	–	(4)	(465)	26	(439)	469	(26)	443	–	–	–
Net change in exposures	9,186	(70)	9,116	(8,864)	(38)	(8,902)	(263)	96	(167)	59	(12)	47
Net remeasurement from stage changes	–	5	5	–	(11)	(11)	–	(107)	(107)	–	(113)	(113)
Changes in risk parameters	–	69	69	–	58	58	–	(124)	(124)	–	3	3
Write-offs	–	–	–	–	–	–	(380)	380	–	(380)	380	–
Interest due but unpaid	–	–	–	–	–	–	(87)	87	–	(87)	87	–
Discount unwind	–	–	–	–	–	–	–	13	13	–	13	13
Exchange translation differences and other movements	465	18	483	(146)	(13)	(159)	(37)	(35)	(72)	282	(30)	252
As at 31 December 2019	32,271	(35)	32,236	6,038	(58)	5,980	2,062	(1,517)	545	40,371	(1,610)	38,761
Income statement ECL (charge)/release		4			9			(135)			(122)	
Recoveries of amounts previously written off								1			1	
Total credit impairment (charge)/release		4			9			(134)			(121)	

1 Stage 3 balances at 1 January have been restated to reflect contractual interest due but unpaid together with equivalent credit impairment charges
2 Interest due but unpaid included in gross assets and credit impairment

Analysis of stage 2 balances (unaudited)

The table below analyses stage 2 gross exposures and associated expected credit provisions by the key driver that caused the exposures to be classified as stage 2 as at 31 December 2019. This may not be the same driver that caused the initial transfer into stage 2. Where multiple drivers apply, the exposure is allocated based on the table order. For example, a loan may have breached the PD thresholds and could also be on non-purely precautionary early alert; in this instance, the exposure is reported under 'increase in PD'.

	31.12.2019											
	Corporate & Institutional Banking		Retail Banking		Commercial Banking		Private Banking		Central & Other		Total	
	Gross %	ECL %	Gross %	ECL %	Gross %	ECL %	Gross %	ECL %	Gross %	ECL %	Gross %	ECL %
Increase in PD	49%	52%	94%	76%	67%	57%	–	–	43%	31%	60%	62%
Non-purely precautionary early alert	22%	12%	–	–	9%	8%	–	–	–	–	14%	6%
Higher risk (CG12)	6%	28%	–	–	5%	26%	–	–	–	–	3%	15%
Sub-investment grade	1%	3%	–	–	4%	2%	–	–	53%	63%	5%	4%
30 days past due	–	–	4%	22%	–	–	–	–	–	–	1%	9%
Others	22%	5%	2%	2%	15%	7%	100%	100%	4%	6%	17%	4%
Total stage 2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

The majority of exposures and the associated expected credit loss provisions are in stage 2 due to increases in the probability of default. 22 per cent of the provisions held against stage 2 Retail Banking exposures arise from the application of the 30 days past due backstop, although this represents only 4 per cent of exposures.

For debt securities originated prior to 1 January 2018, those with a sub-investment rating were allocated into stage 2. For debt securities originated after 1 January 2018, significant increase in Credit risk is assessed based on the relative and absolute increases in PD.

'Others' incorporates exposures where origination data is incomplete and the exposures are allocated into stage 2. Significant increase in Credit risk for Private Banking clients is assessed by referencing the nature and level of collateral against which credit is extended.

Credit impairment charge

With effect from 1 January 2019, the liquidation portfolio has been included in the ongoing portfolio as the actions to reduce exposures in the liquidation portfolio were substantially completed in 2018. 2018 has not been restated.

The underlying credit impairment charge is 22 per cent higher at $906 million (2018: $740 million) as the benefit of lower stage 3 impairment charges was more than offset by an increase in stage 1 and 2 provisions. Just over half of the increase in stage 1 and 2 provisions was due to a deterioration in macroeconomic forecasts over the year, which includes the downward revision to Hong Kong GDP in the second half of 2019.

Corporate & Institutional Banking was $233 million higher at $475 million (2018: $242 million) due to higher stage 1 and 2 impairments as 2018 benefitted from upgrades within stage 2 as well as releases from improvements in macroeconomic forecasts. While accounts graded as 'Higher risk' stabilised in 2019, Corporate & Institutional Banking was impacted by deteriorating macroeconomic forecasts, particularly in Metals. Stage 3 provisions were slightly higher.

Retail Banking was $69 million higher at $336 million (2018: $267 million) mainly due to non-recurring impairment releases in Korea and Indonesia in 2018. Excluding these one-off releases, credit impairment was flat year-on-year. The impact of the macroeconomic downgrades for Hong Kong increased stage 1 and 2 provisions, while stage 3 provisions improved year on year mainly driven by recoveries from Korea, Singapore and the UAE.

Commercial Banking decreased 50 per cent to $121 million (2018: $244 million). This is mainly due to lower stage 3 impairments offset by lower recoveries. 2018 included significant stage 3 provisions on a few clients in Africa & Middle East and Greater China & North Asia which did not repeat.

Private Banking impairment reduced by $31 million due to net provision release of $29 million driven primarily by a stage 3 client.

Central & other segment impairments was a charge of $5 million (2018: release of $13 million) mainly driven by debt security instruments managed by Treasury.

There was a $2 million restructuring impairment on a small number of legacy positions in the Principal Finance business.

	2019[1] $million	2018 $million
Ongoing business portfolio		
Corporate & Institutional Banking	475	242
Retail Banking	336	267
Commercial Banking	121	244
Private Banking	(31)	–
Central & other items	5	(13)
Credit impairment charge	906	740
Restructuring business portfolio		
Liquidation portfolio	–	(79)
Others	2	(8)
Credit impairment charge	2	(87)
Total credit impairment charge	908	653

1 In 2019, the liquidation portfolio has been included in ongoing business. Prior periods have not been restated

Problem credit management and provisioning

Forborne and other modified loans by client segment

A forborne loan arises when a concession has been made to the contractual terms of a loan in response to a customer's financial difficulties.

The table below presents loans with forbearance measures by segment.

	2019				
Amortised cost	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Total $million
All loans with forbearance measures	1,533	344	767	–	2,644
Credit impairment (stage 1 and 2)	(13)	–	(4)	–	(17)
Credit impairment (stage 3)	(748)	(169)	(558)	–	(1,475)
Net carrying value	772	175	205	–	1,152
Included within the above table					
Gross performing forborne loans	421	19	49	–	489
Modification of terms and conditions[1]	421	19	44	–	484
Refinancing[2]	–	–	5	–	5
Impairment provisions	(13)	–	(4)	–	(17)
Modification of terms and conditions[1]	(13)	–	(4)	–	(17)
Refinancing[2]	–	–	–	–	–
Net performing forborne loans	408	19	45	–	472
Collateral	62	19	22	–	103
Gross non-performing forborne loans	1,112	325	718	–	2,155
Modification of terms and conditions[1]	1,071	325	696	–	2,092
Refinancing[2]	41	–	22	–	63
Impairment provisions	(748)	(169)	(558)	–	(1,475)
Modification of terms and conditions[1]	(717)	(169)	(544)	–	(1,430)
Refinancing[2]	(31)	–	(14)	–	(45)
Net non-performing forborne loans	364	156	160	–	680
Collateral	190	156	99	–	445

Amortised cost	2018 Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Total $million
All loans with forbearance measures[4]	1,694	376	929	–	2,999
Credit impairment (stage 1 and 2)[3]	(14)	–	(8)	–	(22)
Credit impairment (stage 3)[4]	(766)	(174)	(647)	–	(1,587)
Net carrying value	914	202	274	–	1,390
Included within the above table					
Gross performing forborne loans	286	23	71	–	380
Modification of terms and conditions[1]	273	23	64	–	360
Refinancing[2]	13	–	7	–	20
Impairment provisions	(14)	–	(8)	–	(22)
Modification of terms and conditions[1]	(9)	–	(8)	–	(17)
Refinancing[2]	(5)	–	–	–	(5)
Net performing forborne loans	272	23	63	–	358
Collateral	16	23	28	–	67
Gross non-performing forborne loans[4]	1,408	353	858	–	2,619
Modification of terms and conditions[1,4]	1,319	353	815	–	2,487
Refinancing[2,4]	89	–	43	–	132
Impairment provisions[4]	(766)	(174)	(647)	–	(1,587)
Modification of terms and conditions[1,4]	(716)	(174)	(614)	–	(1,504)
Refinancing[2,4]	(50)	–	(33)	–	(83)
Net non-performing forborne loans	642	179	211	–	1,032
Collateral	225	163	107	–	495

1 Modification of terms is any contractual change apart from refinancing, as a result of credit stress of the counterparty, i.e. interest reductions, loan covenant waivers
2 Refinancing is a new contract to a lender in credit stress, such that they are refinanced and can pay other debt contracts that they were unable to honour
3 Credit impairment (stage 1 and 2) line added for completeness
4 Interest due but unpaid included in gross assets and credit impairment

Forborne and other modified loans by region (unaudited)

Amortised cost	2019 Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Performing forborne loans	100	251	110	11	472
Stage 3 forborne loans	177	173	148	182	680
Net forborne loans	277	424	258	193	1,152

Amortised cost	2018 Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Performing forborne loans[1]	112	94	111	41	358
Stage 3 forborne loans	233	344	179	276	1,032
Net forborne loans	345	438	290	317	1,390

1 Credit impairment provision for performing forborne loans included for completeness

Credit-impaired (stage 3) loans and advances by client segment

With effect from 1 January 2019, the liquidation portfolio has been included within the underlying portfolio. Prior periods have not been restated.

Gross stage 3 loans and stage 3 provisions on loans and advances have been restated to include the impact of interest in suspense of $1.5 billion in 2018.

Gross stage 3 loans for the Group are down 12 per cent in the period to $7.4 billion (31 December 2018: $8.5 billion), driven by repayments, write-offs and transfers to stage 2 mainly in the Corporate & Institutional Banking and Commercial Banking segments.

The inflows of stage 3 loans in Corporate & Institutional Banking are 6 per cent lower at $0.8 billion. The new inflows in 2019 were mainly in ASEAN & South Asia.

Stage 3 inflows in Commercial Banking reduced by 24 per cent to $0.5 billion from $0.6 billion in 2018. Inflows increased in ASEAN & South Asia offset by reductions in Africa & Middle East and Greater China & North Asia.

Gross stage 3 loans in Retail Banking were broadly stable at $0.8 billion.

Gross stage 3 loans in Private Banking marginally increased by $68 million in ASEAN & South Asia and Europe & Americas to $0.4 billion at 31 December 2019.

Stage 3 cover ratio

The stage 3 cover ratio measures the proportion of stage 3 impairment provisions to gross stage 3 loans, and is a metric commonly used in considering impairment trends. This metric does not allow for variations in the composition of stage 3 loans and should be used in conjunction with other Credit risk information provided, including the level of collateral cover.

The balance of stage 3 loans not covered by stage 3 impairment provisions represents the adjusted value of collateral held and the net outcome of any workout or recovery strategies.

Collateral provides risk mitigation to some degree in all client segments and supports the credit quality and cover ratio assessments post impairment provisions. Further information on collateral is provided in the Credit risk mitigation section.

Corporate & Institutional Banking cover ratio increased to 71 per cent from 65 per cent due to repayments, increased provisions and upgrades to stage 2. Commercial Banking cover ratio reduced to 75 per cent from 77 per cent mainly due to write-offs.

Private Banking cover ratio reduced to 40 per cent from 55 per cent in 2018 due to a small increase in stage 3 loans in ASEAN & South Asia and Europe & Americas and a reduction in provisions due to a net release on a client in ASEAN & South Asia.

Retail cover ratio decreased to 44 per cent from 48 per cent in December 2018 due to increase of Mortgage portfolio.

	2019[1]				
Amortised cost	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Total $million
Gross credit-impaired	4,173	846	2,013	366	7,398
Credit impairment provisions	(2,980)	(374)	(1,503)	(147)	(5,004)
Net carrying value	1,193	472	510	219	2,394
Cover ratio	71%	44%	75%	40%	68%
Collateral ($ million)	497	286	263	211	1,257
Cover ratio (after collateral)	83%	78%	88%	98%	85%

1 The remaining portfolio of loans and advances to customers previously separately identified in the liquidation portfolio are now included in the ongoing business

Amortised cost	2018 Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Total $million
Gross credit-impaired[1]	4,996	832	2,328	298	8,454
Credit impairment provisions[1]	(3,238)	(396)	(1,789)	(163)	(5,586)
Net carrying value	1,758	436	539	135	2,868
Cover ratio[1]	65%	48%	77%	55%	66%
Collateral ($ million)	802	324	302	135	1,563
Cover ratio (after collateral)[1]	81%	87%	90%	100%	85%
Of the above, included in the liquidation portfolio:					
Gross credit-impaired[1]	1,337	–	130	216	1,683
Credit impairment provisions[1]	(1,088)	–	(130)	(152)	(1,370)
Net carrying value	249	–	–	64	313
Cover ratio[1]	81%	–	100%	70%	81%
Collateral ($million)	159	–	–	64	223
Cover ratio (after collateral)[1]	93%	–	100%	100%	95%

1 Balances have been restated to reflect interest due but unpaid together with equivalent credit impairment charges. The cover ratios have been restated as a result

Credit-impaired (stage 3) loans and advances by geographic region (unaudited)

Stage 3 loans decreased by $1.1 billion or 12 per cent compared with 31 December 2018. The largest decrease was in the ASEAN & South Asia region, primarily due to write-offs, settlements and transfers to stage 2.

Amortised cost	2019 Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Gross credit-impaired	716	3,084	2,585	1,013	7,398
Credit impairment provisions	(360)	(2,087)	(1,899)	(658)	(5,004)
Net carrying value	356	997	686	355	2,394
Cover ratio	50%	68%	73%	65%	68%

Amortised cost	2018 Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Gross credit-impaired[1]	838	3,624	3,061	931	8,454
Credit impairment provisions[1]	(343)	(2,599)	(2,214)	(430)	(5,586)
Net carrying value	495	1,025	847	501	2,868
Cover ratio[1]	41%	72%	72%	46%	66%

1 Balances have been restated to reflect interest due but unpaid together with equivalent credit impairment charges. The cover ratios have been restated as a result

Movement of credit-impaired (stage 3) loans and advances provisions by client segment

Credit impairment provisions as at 31 December 2019 were $5,004 million, compared with $5,586 million at 31 December 2018. The decrease was largely due to write-offs in Corporate & Institutional Banking and Commercial Banking. Private Banking provisions fell by $16 million primarily due to a net provision release for a single client.

The following table shows the movement of credit-impaired (stage 3) provisions for each client segment.

	2019				
Amortised cost	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Total[2] $million
Gross credit-impaired loans at 31 December	4,173	846	2,013	366	7,398
Credit impairment allowances at 1 January	3,238	396	1,789	163	5,586
Net transfers into and out of stage 3	111	166	24	–	301
New provisions charge/(release)[1]	177	81	107	–	365
Changes due to risk parameters[1]	335	327	122	(26)	758
Net change in exposures[1]	(170)	–	(96)	(6)	(272)
Amounts written off	(658)	(585)	(380)	(2)	(1,625)
Interest due but unpaid	(48)	–	(87)	17	(118)
Discount unwind	(38)	(28)	(13)	(4)	(83)
Exchange translation difference	33	17	37	5	92
Credit impairment allowances at 31 December	2,980	374	1,503	147	5,004
Net carrying value	1,193	472	510	219	2,394
Income statement charge/(release)[1]	342	408	133	(32)	851
Recoveries of amounts previously written off	–	(247)	(1)	–	(248)
Total income statement charge	342	161	132	(32)	603

	2018				
Amortised cost	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Total[2] $million
Gross credit-impaired loans at 31 December[3]	4,996	832	2,328	298	8,454
Credit impairment allowances at 1 January[3]	4,524	389	2,118	154	7,185
Net transfers into and out of stage 3	85	172	14	–	271
New provisions charge/(release)[1]	189	12	218	3	422
Changes due to risk parameters[1]	400	402	162	13	977
Net change in exposures[1]	(379)	–	(136)	(5)	(520)
Amounts written off	(1,179)	(575)	(291)	–	(2,045)
Interest due but unpaid[3]	(175)	–	(194)	–	(369)
Discount unwind	(39)	(20)	(16)	(5)	(80)
Exchange translation difference and other movements	(188)	16	(86)	3	(255)
Credit impairment allowances at 31 December	3,238	396	1,789	163	5,586
Net carrying value	1,758	436	539	135	2,868
Income statement charge/(release)[1]	210	414	244	11	879
Recoveries of amounts previously written off	(77)	(214)	(21)	–	(312)
Total income statement charge	133	200	223	11	567

1 Components of the income statement charge/(release)
2 Excludes credit impairment relating to loan commitments and financial guarantees
3 Stage 3 balances at 1 January 2018 have been restated to reflect contractual interest due but unpaid together with equivalent credit impairment charges

Credit risk mitigation

Potential credit losses from any given account, customer or portfolio are mitigated using a range of tools such as collateral, netting arrangements, credit insurance and credit derivatives, taking into account expected volatility and guarantees.

The reliance that can be placed on these mitigants is carefully assessed in light of issues such as legal certainty and enforceability, market valuation correlation and counterparty risk of the guarantor.

Collateral

The requirement for collateral is not a substitute for the ability to repay, which is the primary consideration for any lending decisions.

The unadjusted market value of collateral across all asset types, in respect of Corporate & Institutional Banking and Commercial Banking, without adjusting for over-collateralisation, was $280 billion in 2019 (2018: $265 billion).

The collateral values in the table below (which covers loans and advances to banks and customers, excluding those held at fair value through profit or loss) are adjusted where appropriate in accordance with our risk mitigation policy and for the effect of over-collateralisation. The extent of over-collateralisation has been determined with reference to both the drawn and undrawn components of exposure as this best reflects the effect of collateral and other credit enhancements on the amounts arising from expected credit losses.

We have remained prudent in the way we assess the value of collateral, which is calibrated for a severe downturn and backtested against our prior experience. On average, across all types of non-cash collateral, the value ascribed is approximately half of its current market value.

In the Retail Banking and Private Banking segments, a secured loan is one where the borrower pledges an asset as collateral of which the Group is able to take possession in the event that the borrower defaults. Total collateral for Retail Banking has increased by $6.7 billion to $81.1 billion due to an increase in Mortgages and Secured wealth products in the Greater China & North Asia and ASEAN & South Asia regions.

Private Banking collateral is $10.3 billion, an increase of 6 per cent as compared with 2018, in line with the overall movement of the secured portfolio.

Collateral held on loans and advances

The table below details collateral held against exposures, separately disclosing stage 2 and stage 3 exposure and corresponding collateral.

	2019								
	Net amount outstanding			Collateral			Net exposure		
Amortised cost	Total $million	Stage 2 financial assets $million	Credit-impaired financial assets (S3) $million	Total[2] $million	Stage 2 financial assets $million	Credit-impaired financial assets (S3) $million	Total $million	Stage 2 financial assets $million	Credit-impaired financial assets (S3) $million
Corporate & Institutional Banking[1]	164,748	14,368	1,193	23,502	2,731	497	141,246	11,637	696
Retail Banking	106,368	2,823	472	81,137	2,323	286	25,231	500	186
Commercial Banking	26,117	3,821	510	7,709	1,826	263	18,408	1,995	247
Private Banking	14,741	283	219	10,306	188	211	4,435	95	8
Central & other items	10,098	7	–	802	–	–	9,296	7	–
Total	322,072	21,302	2,394	123,456	7,068	1,257	198,616	14,234	1,137

	2018								
	Net amount outstanding			Collateral			Net exposure		
Amortised cost	Total $million	Stage 2 financial assets $million	Credit-impaired financial assets (S3) $million	Total[2] $million	Stage 2 financial assets $million	Credit-impaired financial assets (S3) $million	Total $million	Stage 2 financial assets $million	Credit-impaired financial assets (S3) $million
Corporate & Institutional Banking[1]	166,091	10,234	1,758	15,882	1,314	802	150,209	8,920	956
Retail Banking	101,235	2,705	436	74,485	2,092	324	26,750	613	112
Commercial Banking	26,759	4,331	539	6,767	3,966	302	19,992	365	237
Private Banking	13,616	785	135	9,729	783	135	3,887	2	–
Central & other items	10,270	26	–	6,278	–	–	3,992	26	–
Total	317,971	18,081	2,868	113,141	8,155	1,563	204,830	9,926	1,305

1 Includes loans and advances to banks
2 Adjusted for over-collateralisation based on the drawn and undrawn components of exposures

Collateral – Corporate & Institutional Banking and Commercial Banking

Collateral held against Corporate & Institutional Banking and Commercial Banking exposures amounted to $31 billion.

Collateral taken for longer-term and sub-investment grade corporate loans remains high at 45 per cent. Our underwriting standards encourage taking specific charges on assets and we consistently seek high-quality, investment grade collateral.

76 per cent of tangible collateral held comprises physical assets or is property based, with the remainder largely in cash and investment securities.

Non-tangible collateral such as guarantees and standby letters of credit is also held against corporate exposures, although the financial effect of this type of collateral is less significant in terms of recoveries. However, this is considered when determining probability of default and other credit-related factors. Collateral is also held against off-balance sheet exposures, including undrawn commitments and trade-related instruments.

The following table provides an analysis of the types of collateral held against Corporate & Institutional Banking and Commercial Banking loan exposures.

Corporate & Institutional Banking

Amortised cost	2019 $million	2018 $million
Maximum exposure	164,748	166,091
Property	6,965	5,557
Plant, machinery and other stock	1,134	1,067
Cash	2,755	2,019
Reverse repos	2,000	528
A– to AA+	756	321
BBB– to BBB+	439	207
Unrated	805	–
Financial guarantees and insurance	7,422	3,697
Commodities	136	90
Ships and aircraft	3,090	2,924
Total value of collateral	23,502	15,882
Net exposure[1]	141,246	150,209

1 Adjusted for over-collateralisation based on the drawn and undrawn components of exposures

Commercial Banking

Amortised cost	2019 $million	2018 $million
Maximum exposure	26,117	26,759
Property	5,029	4,557
Plant, machinery and other stock	1,094	992
Cash	836	486
Reverse repos	8	72
A– to AA+	–	1
BBB– to BBB+	1	71
Unrated	7	–
Financial guarantees and insurance	531	502
Commodities	26	11
Ships and aircraft	185	147
Total value of collateral	7,709	6,767
Net exposure[1]	18,408	19,992

1 Adjusted for over-collateralisation based on the drawn and undrawn components of exposures

Collateral – Retail Banking and Private Banking

In Retail Banking and Private Banking, 85 per cent of the portfolio is fully secured. The proportion of unsecured loans remains broadly stable at 14 per cent and the remaining 1 per cent is partially secured.

The following table presents an analysis of loans to individuals by product; split between fully secured, partially secured and unsecured:

	2019				2018			
Amortised cost	Fully secured $million	Partially secured $million	Unsecured $million	Total $million	Fully secured $million	Partially secured $million	Unsecured $million	Total $million
Maximum exposure	102,612	1,257	17,240	121,109	96,534	1,383	16,934	114,851
Loans to individuals								
Mortgages	78,217	109	5	78,331	75,386	191	23	75,600
CCPL	123	8	17,092	17,223	168	102	16,692	16,962
Auto	562	–	10	572	671	–	2	673
Secured wealth products	20,275	127	–	20,402	17,721	107	172	18,000
Other	3,435	1,013	133	4,581	2,588	983	45	3,616
Total collateral[1]				91,443				84,214
Net exposure[2]				29,666				30,637
Percentage of total loans	85%	1%	14%		84%	1%	15%	

1 Collateral values are adjusted where appropriate in accordance with our risk mitigation policy and for the effect of over-collateralisation
2 Amounts net of ECL

Mortgage loan-to-value ratios by geography

Loan-to-value (LTV) ratios measure the ratio of the current mortgage outstanding to the current fair value of the properties on which they are secured.

In mortgages, the value of property held as security significantly exceeds the value of mortgage loans. The average LTV of the overall mortgage portfolio is low at 45 per cent. Hong Kong, which represents 38 per cent of the Retail Banking mortgage portfolio has an average LTV of 39.1 per cent. All of our other key markets continue to have low portfolio LTVs, (Korea, Singapore and Taiwan at 43.6 per cent, 53.3 per cent and 51.8 per cent respectively).

An analysis of LTV ratios by geography for the mortgage portfolio is presented in the mortgage LTV ratios by geography table below.

	2019				
Amortised cost	Greater China & North Asia % Gross	ASEAN & South Asia % Gross	Africa & Middle East % Gross	Europe & Americas % Gross	Total % Gross
Less than 50 per cent	67.8	43.4	21.6	10.8	59.3
50 per cent to 59 per cent	14.4	19.4	14.2	26.3	15.9
60 per cent to 69 per cent	9.2	22.5	21.0	29.4	13.2
70 per cent to 79 per cent	6.7	12.5	19.0	28.0	9.0
80 per cent to 89 per cent	1.6	1.7	11.5	4.5	2.0
90 per cent to 99 per cent	0.2	0.3	6.5	0.4	0.4
100 per cent and greater	0.1	0.2	6.2	0.6	0.3
Average portfolio loan-to-value	42.1	50.7	66.6	62.2	44.9
Loans to individuals – mortgages ($million)	55,724	18,301	2,047	2,259	78,331

	2018				
Amortised cost	Greater China & North Asia % Gross	ASEAN & South Asia % Gross	Africa & Middle East % Gross	Europe & Americas % Gross	Total % Gross
Less than 50 per cent	67.7	41.5	20.9	19.6	58.5
50 per cent to 59 per cent	14.9	18.8	15.3	21.0	16.0
60 per cent to 69 per cent	10.7	22.0	21.8	30.2	14.4
70 per cent to 79 per cent	5.0	16.0	21.6	26.8	8.8
80 per cent to 89 per cent	1.3	1.5	12.0	2.4	1.7
90 per cent to 99 per cent	0.3	0.1	4.7	–	0.3
100 per cent and greater	0.1	0.1	3.8	–	0.2
Average portfolio loan-to-value	42.0	51.5	65.2	54.2	44.8
Loans to individuals – mortgages ($million)	52,434	19,156	2,126	1,884	75,600

Collateral and other credit enhancements possessed or called upon

The Group obtains assets by taking possession of collateral or calling upon other credit enhancements (such as guarantees). Repossessed properties are sold in an orderly fashion. Where the proceeds are in excess of the outstanding loan balance the excess is returned to the borrower.

Certain equity securities acquired may be held by the Group for investment purposes and are classified as fair value through other comprehensive income, and the related loan written off.

The carrying value of collateral possessed and held by the Group as at 31 December 2019 is $37.0 million (2018: $18.2 million).

The increase in collateral value is largely due to property and plant taken possession of in Malaysia.

	2019 $million	2018 $million
Property, plant and equipment	29.0	8.7
Guarantees	5.2	8.6
Cash	2.7	0.6
Other	0.1	0.3
Total	37.0	18.2

Other credit risk mitigation

Other forms of Credit risk mitigation are set out below.

Credit default swaps

The Group has entered into credit default swaps for portfolio management purposes, referencing loan assets with a notional value of $14.5 billion (2018: $21 billion). These credit default swaps are accounted for as financial guarantees as per IFRS 9 as they will only reimburse the holder for an incurred loss on an underlying debt instrument. The Group continues to hold the underlying assets referenced in the credit default swaps and it continues to be exposed to related Credit and Foreign exchange risk on these assets.

Derivative financial instruments

The Group enters into master netting agreements, which in the event of default result in a single amount owed by or to the counterparty through netting the sum of the positive and negative mark-to-market values of applicable derivative transactions. These are set out in more detail under Derivative financial instruments Credit risk mitigation.

Off-balance sheet exposures

For certain types of exposures, such as letters of credit and guarantees, the Group obtains collateral such as cash depending on internal Credit risk assessments, as well as in the case of letters of credit holding legal title to the underlying assets should a default take place.

Other portfolio analysis

This section provides maturity analysis by business segment, credit quality by industry and industry and retail products analysis by region.

Maturity analysis of loans and advances by client segment

The loans and advances to the Corporate & Institutional Banking and Commercial Banking segments remain predominantly short-term, with 62 per cent of loans and advances to customers in the segments maturing in less than one year, an increase compared with 61 per cent in December 2018. 97 per cent of loans to banks are maturing in less than one year, an increase compared with 96 per cent in 2018. Shorter maturity gives us the flexibility to respond promptly to events and rebalance or reduce our exposure to clients or sectors that are facing increased pressure or uncertainty.

The Private Banking loan book also demonstrates a short-term bias, typical for loans that are secured on wealth management assets.

The Retail Banking loan book continues to be longer-term in nature with 69 per cent (2018: 70 per cent) of the loans maturing over five years, as mortgages constitute the majority of this portfolio.

	2019			
Amortised cost	One year or less $million	One to five years $million	Over five years $million	Total $million
Corporate & Institutional Banking	66,275	36,864	11,272	114,411
Retail Banking	17,763	15,282	74,159	107,204
Commercial Banking	21,443	5,111	1,139	27,693
Private Banking	13,893	507	499	14,899
Central & other items	10,098	–	1	10,099
Gross loans and advances to customers	129,472	57,764	87,070	274,306
Impairment provisions	(4,887)	(439)	(457)	(5,783)
Net loans and advances to customers	124,585	57,325	86,613	268,523
Net loans and advances to banks	51,871	1,678	–	53,549

	2018			
Amortised cost	One year or less $million	One to five years $million	Over five years $million	Total $million
Corporate & Institutional Banking[1]	61,705	36,164	10,330	108,199
Retail Banking[1]	16,372	14,091	71,600	102,063
Commercial Banking[1]	21,640	5,660	1,364	28,664
Private Banking[1]	12,773	396	618	13,787
Central & other items	10,265	7	–	10,272
Gross loans and advances to customers	122,755	56,318	83,912	262,985
Impairment provisions[1]	(5,858)	(294)	(276)	(6,428)
Net loans and advances to customers	116,897	56,024	83,636	256,557
Net loans and advances to banks	58,784	2,597	33	61,414

1 Stage 3 balances have been restated to reflect interest due but unpaid together with equivalent credit impairment charges

Credit quality by industry (unaudited)

Loans and advances

This section provides an analysis of the Group's amortised cost portfolio by industry on a gross, total credit impairment and net basis.

From an industry perspective, loans and advances increased by $5.1 billion, largely driven by five sectors namely Mining and quarrying, Commercial real estate, Transport, telecom and utilities, Government and Financing insurance and non-banking, with each sector contributing an increase of $1 billion or more. Retail Products increased by $6.3 billion primarily within secured wealth products in ASEAN & South Asia and Mortgages in Greater China & North Asia. Stage 1 loans increased by $9.0 billion compared with 2018, representing 80 per cent of the increase in total loans and advances.

Amortised cost	2019 Stage 1 Gross balance $million	Stage 1 Total credit impairment $million	Stage 1 Net carrying amount $million	Stage 2 Gross balance $million	Stage 2 Total credit impairment $million	Stage 2 Net carrying amount $million	Stage 3 Gross balance $million	Stage 3 Total credit impairment $million	Stage 3 Net carrying amount $million	Total Gross balance $million	Total Total credit impairment $million	Total Net carrying amount $million
Industry:												
Energy	13,227	(17)	13,210	1,562	(22)	1,540	894	(758)	136	15,683	(797)	14,886
Manufacturing	20,099	(15)	20,084	3,499	(29)	3,470	970	(695)	275	24,568	(739)	23,829
Financing, insurance and non-banking	20,971	(8)	20,963	1,196	(17)	1,179	292	(183)	109	22,459	(208)	22,251
Transport, telecom and utilities	14,884	(10)	14,874	1,874	(35)	1,839	841	(599)	242	17,599	(644)	16,955
Food and household products	8,327	(8)	8,319	1,552	(18)	1,534	585	(429)	156	10,464	(455)	10,009
Commercial real estate	14,669	(18)	14,651	2,110	(33)	2,077	293	(102)	191	17,072	(153)	16,919
Mining and quarrying	6,143	(8)	6,135	1,067	(12)	1,055	320	(232)	88	7,530	(252)	7,278
Consumer durables	6,384	(5)	6,379	1,095	(15)	1,080	651	(443)	208	8,130	(463)	7,667
Construction	3,087	(5)	3,082	333	(8)	325	774	(607)	167	4,194	(620)	3,574
Trading companies & distributors	1,202	(1)	1,201	1,928	(1)	1,927	307	(218)	89	3,437	(220)	3,217
Government	14,698	(1)	14,697	702	(3)	699	–	–	–	15,400	(4)	15,396
Other	4,847	(8)	4,839	561	(10)	551	261	(218)	43	5,669	(236)	5,433
Retail Products:												
Mortgage	75,792	(10)	75,782	2,278	(12)	2,266	406	(123)	283	78,476	(145)	78,331
CCPL and other unsecured lending	16,834	(268)	16,566	620	(158)	462	404	(209)	195	17,858	(635)	17,223
Auto	570	(1)	569	2	–	2	1	–	1	573	(1)	572
Secured wealth products	19,895	(19)	19,876	336	(3)	333	354	(161)	193	20,585	(183)	20,402
Other	4,520	–	4,520	44	(1)	43	45	(27)	18	4,609	(28)	4,581
Total value (customers)[1]	246,149	(402)	245,747	20,759	(377)	20,382	7,398	(5,004)	2,394	274,306	(5,783)	268,523

1 Includes reverse repurchase agreements and other similar secured lending held at amortised cost of $1,469 million

Amortised cost	2018 Stage 1 Gross balance $million	Stage 1 Total credit impairment $million	Stage 1 Net carrying amount $million	Stage 2 Gross balance $million	Stage 2 Total credit impairment $million	Stage 2 Net carrying amount $million	Stage 3[2] Gross balance $million	Stage 3[2] Total credit impairment $million	Stage 3[2] Net carrying amount $million	Total Gross balance $million	Total Total credit impairment $million	Total Net carrying amount $million
Industry:												
Energy	14,530	(18)	14,512	2,198	(46)	2,152	1,052	(716)	336	17,780	(780)	17,000
Manufacturing	21,627	(23)	21,604	1,932	(86)	1,846	891	(702)	189	24,450	(811)	23,639
Financing, insurance and non-banking	20,419	(7)	20,412	379	(10)	369	288	(182)	106	21,086	(199)	20,887
Transport, telecom and utilities	12,977	(21)	12,956	2,495	(25)	2,470	978	(634)	344	16,450	(680)	15,770
Food and household products	7,558	(7)	7,551	1,851	(15)	1,836	865	(523)	342	10,274	(545)	9,729
Commercial real estate	13,516	(16)	13,500	1,299	(27)	1,272	363	(100)	263	15,178	(143)	15,035
Mining and quarrying	4,845	(7)	4,838	1,047	(29)	1,018	616	(486)	130	6,508	(522)	5,986
Consumer durables	7,328	(5)	7,323	906	(13)	893	656	(470)	186	8,890	(488)	8,402
Construction	2,565	(4)	2,561	512	(22)	490	884	(633)	251	3,961	(659)	3,302
Trading companies & distributors	2,512	(2)	2,510	385	(2)	383	444	(330)	114	3,341	(334)	3,007
Government	13,488	(1)	13,487	250	–	250	–	–	–	13,738	(1)	13,737
Other	4,639	(7)	4,632	552	(8)	544	287	(251)	36	5,478	(266)	5,212
Retail Products:												
Mortgage	73,437	(9)	73,428	1,936	(9)	1,927	343	(98)	245	75,716	(116)	75,600
CCPL and other unsecured lending	16,622	(277)	16,345	560	(117)	443	437	(263)	174	17,619	(657)	16,962
Auto	670	(2)	668	4	–	4	1	–	1	675	(2)	673
Secured wealth products	17,074	(18)	17,056	825	(5)	820	299	(175)	124	18,198	(198)	18,000
Other	3,296	(2)	3,294	297	(2)	295	50	(23)	27	3,643	(27)	3,616
Total value (customers)[1]	237,103	(426)	236,677	17,428	(416)	17,012	8,454	(5,586)	2,868	262,985	(6,428)	256,557

1 Includes reverse repurchase agreements and other similar secured lending held at amortised cost of $3,151 million
2 Stage 3 balances have been restated to reflect interest due but unpaid together with equivalent credit impairment charges

Industry and Retail Products analysis of loans and advances by geographic region (unaudited)

This section provides an analysis of the Group's amortised cost loan portfolio, net of provisions, by industry and region.

In the Corporate & Institutional Banking and Commercial Banking segments our largest industry exposure remains manufacturing, which constitutes 16 per cent of Corporate & Institutional Banking and Commercial Banking loans and advances to customers (31 December 2018: 17 per cent). The manufacturing sector group is spread across a diverse range of industries, including automobiles and components, capital goods, pharmaceuticals, biotech and life sciences, technology hardware and equipment, chemicals, paper products and packaging, with lending spread over 4,561 clients.

The financing, insurance and non-banking industry group constitutes 15 per cent of Corporate & Institutional Banking and Commercial Banking loans and advances to customers. Clients are mostly investment grade institutions and this lending forms part of the liquidity management of the Group.

Loans and advances to the energy sector reduced to 10 per cent of total loans and advances to Corporate & Institutional Banking and Commercial Banking from 12 per cent in 2018. The energy sector lending is spread across five sub-sectors and over 364 clients.

The Group provides loans to commercial real estate counterparties of $16.9 billion, which represents 6 per cent of total customer loans and advances. In total, $8.5 billion of this lending is to counterparties where the source of repayment is substantially derived from rental or sale of real estate and is secured by real estate collateral. The remaining commercial real estate loans comprise working capital loans to real estate corporates, loans with non-property collateral, unsecured loans and loans to real estate entities of diversified conglomerates. The average LTV ratio of the commercial real estate portfolio has increased to 46 per cent, compared with 43 per cent in 2018. The proportion of loans with LTV greater than 80 per cent has remained at less than 1 per cent during the same period.

The Mortgage portfolio continues to be the largest portion of the Retail Products portfolio, at 65 per cent. Credit cards and personal loans (CCPL) and other unsecured lending is broadly stable at 14 per cent of total Retail Products loans and advances.

	2019				
Amortised cost	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Industry:					
Energy	2,582	3,769	2,946	5,589	14,886
Manufacturing	11,350	6,127	3,211	3,141	23,829
Financing, insurance and non-banking	9,367	4,314	988	7,582	22,251
Transport, telecom and utilities	6,279	4,014	5,349	1,313	16,955
Food and household products	2,784	3,651	2,478	1,096	10,009
Commercial real estate	9,820	4,954	1,783	362	16,919
Mining and quarrying	2,151	2,469	965	1,693	7,278
Consumer durables	4,516	2,019	699	433	7,667
Construction	1,094	1,220	1,126	134	3,574
Trading companies and distributors	2,602	296	198	121	3,217
Government	1,490	9,907	3,926	73	15,396
Other	1,761	1,870	836	966	5,433
Retail Products:					
Mortgages	55,724	18,301	2,047	2,259	78,331
CCPL and other unsecured lending	10,633	4,239	2,258	93	17,223
Auto	–	485	87	–	572
Secured wealth products	8,159	10,473	338	1,432	20,402
Other	3,754	121	705	1	4,581
Net loans and advances to customers	134,066	78,229	29,940	26,288	268,523
Net loans and advances to banks	19,313	15,756	5,350	13,130	53,549

	2018				
Amortised cost	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Industry:					
Energy	2,778	5,279	2,793	6,150	17,000
Manufacturing	10,531	6,298	3,209	3,601	23,639
Financing, insurance and non-banking	8,657	4,653	915	6,662	20,887
Transport, telecom and utilities	5,712	4,177	4,703	1,178	15,770
Food and household products	1,945	4,011	2,798	975	9,729
Commercial real estate	8,148	4,865	1,854	168	15,035
Mining and quarrying	1,683	2,283	1,088	932	5,986
Consumer durables	4,892	2,255	731	524	8,402
Construction	831	1,094	1,225	152	3,302
Trading companies and distributors	1,976	624	391	16	3,007
Government	1,726	8,815	3,113	83	13,737
Other	1,686	1,899	803	824	5,212
Retail Products:					
Mortgages	52,434	19,156	2,126	1,884	75,600
CCPL and other unsecured lending	10,269	4,234	2,459	–	16,962
Auto	–	522	150	1	673
Secured wealth products	6,912	9,055	310	1,723	18,000
Other	2,616	320	679	1	3,616
Net loans and advances to customers	122,796	79,540	29,347	24,874	256,557
Net loans and advances to banks	27,858	11,676	5,573	16,307	61,414

Debt securities and other eligible bills

This section provides further detail on gross debt securities and treasury bills.

Amortised cost and FVOCI	2019 Debt securities and other eligible bills $million	2018 Debt securities and other eligible bills $million
12-month expected credit losses (stage 1)	138,782	118,713
AAA	63,799	55,205
AA– to AA+	36,840	35,685
A– to A+	19,625	13,803
BBB– to BBB+	9,466	9,639
Lower than BBB-	973	30
Unrated	8,079	4,351
Lifetime expected credit losses (stage 2)	4,644	6,909
AAA	248	156
AA– to AA+	41	115
A– to A+	–	54
BBB– to BBB+	3,909	5,486
Lower than BBB-	241	292
Unrated	205	806
Credit-impaired financial assets (stage 3)	75	498
Lower than BBB-	–	–
Unrated[1]	75	498
Gross balance	143,501	126,120

1 2018 stage 3 balance has been restated to reflect interest due but unpaid

The standard credit ratings used by the Group are those used by Standard & Poor's or its equivalent. Debt securities held that have a short-term rating are reported against the long-term rating of the issuer. For securities that are unrated, the Group applies an internal credit rating, as described under the credit rating and measurement section.

In line with the balance sheet growth, the Group strengthened its liquidity portfolio by deploying excess liquidity into highly rated securities. This is observed in the increased holdings of debt securities in the AAA rating category during the year by $8.7 billion to $64.0 billion. Increase in holdings of debt securities rated A– to A+ under stage 1 of $5.8 billion is mainly due to investing excess liquidity into securities that meet regulatory liquidity requirement and at the same time offering higher yield than Treasury bills. Increase in stage 1 unrated debt securities of $3.7 billion comprised mainly of corporate and government agency bonds.

IFRS 9 methodology

Approach for determining expected credit losses

Credit loss terminology

Component	Definition
Probability of default (PD)	The probability that a counterparty will default, over the next 12 months from the reporting date (stage 1) or over the lifetime of the product (stage 2) incorporating the impact of forward-looking economic assumptions that have an effect on Credit risk, such as interest rates, unemployment rates and GDP forecasts. The PD estimates will fluctuate in line with the economic cycle. The lifetime (or term structure) PDs are based on statistical models, calibrated using historical data and adjusted to incorporate forward-looking economic assumptions.
Loss given default (LGD)	The loss that is expected to arise on default, incorporating the impact of forward-looking economic assumptions where relevant, which represents the difference between the contractual cash flows due and those that the bank expects to receive. The Group estimates LGD based on the history of recovery rates and considers the recovery of any collateral that is integral to the financial asset, taking into account forward-looking economic assumptions where relevant.
Exposure at default (EAD)	The expected balance sheet exposure at the time of default, taking into account expected changes over the lifetime of the exposure. This incorporates the impact of drawdowns of committed facilities, repayments of principal and interest, amortisation and prepayments.

To determine the expected credit loss, these components are multiplied together (PD for the reference period (up to 12 months or lifetime) x LGD x EAD and discounted to the balance sheet date using the effective interest rate as the discount rate.

IFRS 9 expected credit loss models have been developed for the Corporate & Institutional Banking and Commercial Banking businesses on a global basis, in line with their respective portfolios. However, for some of the key countries, country-specific models have also been developed.

The calibration of forward-looking information is assessed at a country or region level to take into account local macroeconomic conditions.

Retail Banking expected credit loss models are country and product specific given the local nature of the Retail Banking business.

For less material Retail Banking portfolios, the Group has adopted less sophisticated approaches based on historical roll rates or loss rates:

- For medium-sized Retail Banking portfolios, a roll rate model is applied, which uses a matrix that gives average loan migration rate between delinquency states from period to period. A matrix multiplication is then performed to generate the final PDs by delinquency bucket over different time horizons
- For smaller Retail Banking portfolios, loss rate models are applied. These use an adjusted gross charge-off rate, developed using monthly write-off and recoveries over the preceding 12 months and total outstanding balances.
- While these models do not incorporate forward looking information, to the extent that there are significant changes in the macroeconomic forecasts an assessment will be completed on whether an adjustment to the model output is required.

For a limited number of exposures, proxy parameters or approaches are used where the data is not available to calculate the origination PDs for the purpose of applying the SICR criteria; or for some retail portfolios where a full history of LGD data is not available estimates based on the loss experience from similar portfolios are used. The use of proxies is monitored and will reduce over time.

The following processes are in place to assess the ongoing performance of the models:

- Quarterly model monitoring that uses recent data to compare the differences between model predictions and actual outcomes against approved thresholds.
- Annual independent validations of the performance of material models by Group Model Validation (GMV); an abridged validation is completed for non-material models.

Where a model's performance breaches the monitoring thresholds or validation standards then an assessment of whether an ECL Post Model Adjustment (PMA) is required to correct for the identified model issue is completed. For the year end reporting, PMAs have been applied for seven models out of the 181 in total. In aggregate the PMAs decrease the Group's impairment provisions by $13 million (0.2 per cent).

Application of lifetime

Expected credit loss is estimated based on the period over which the Group is exposed to Credit risk. For the majority of exposures this equates to the maximum contractual period. For Retail Banking credit cards and Corporate & Institutional Banking overdraft facilities however, the Group does not typically enforce the contractual period, which can be as short as one day. As a result, the period over which the Group is exposed to Credit risk for these instruments reflects their behavioural life, which incorporates expectations of customer behaviour and the extent to which credit risk management actions curtails the period of that exposure. During the year, the Group revised the approach to determining behavioural life for credit cards, assessing at an individual card rather than customer level. This has resulted in an average life of between 2 and 6 years across our footprint markets (2018: 3 to 10 years). The change in approach did not have a material impact on the 2019 income statement. Corporate overdraft facilities have a 32 month lifetime (2018: 32 months).

Key assumptions and judgements in determining expected credit loss

Incorporation of forward-looking information

The evolving economic environment is a key determinant of the ability of a bank's clients to meet their obligations as they fall due. It is a fundamental principle of IFRS 9 that the provisions banks hold against potential future Credit risk losses should depend not just on the health of the economy today, but should also take into account potential changes to the economic environment. For example, if a bank was to anticipate a sharp slowdown in the world economy over the coming year, it should hold more provisions today to absorb the credit losses likely to occur in the near future.

To capture the effect of changes to the economic environment, the PDs and LGDs used to calculate expected credit loss, incorporate forward-looking information in the form of forecasts of the values of economic variables and asset prices that are likely to have an effect on the repayment ability of the Group's clients.

The 'Base Forecast' of the economic variables and asset prices is based on management's view on the five-year outlook, supported by projections from the Group's in-house research team and outputs from a third-party model that project specific economic variables and asset prices. The research team takes consensus views into consideration and senior management review projections for some core country variables against consensus when forming their view of the outlook. For the period beyond five years, management utilises the inhouse research view and outputs and third party model outputs which allow for a reversion to long-term growth rates or norms. All projections are updated on a quarterly basis.

Forecast of key macroeconomic variables underlying the expected credit loss calculation and the impact on non-linearity

The Base Forecast – management's view of the most likely outcome – is that the expansion of the global economy will continue, characterised by soft but stabilising growth in the near term. There are some major challenges to the outlook for some of the Bank's key markets such as Hong Kong and China. The recent interest rate cuts by a number of prominent central banks, US-China trade deal and fiscal stimulus measures in key markets, such as China and India, will counter some of the headwinds to global growth including from structural drags such as debt overhang, ageing populations and anti-globalisation sentiment.

Economies are expected to reach their long-term – or potential – growth levels within the next three to five years, as the effect of current economic shocks dissipate. Countries which are going through a phase of structural transition are likely to experience a fall in their actual and potential growth at the same time. For example, China's rebalancing towards consumption and more sustainable growth is expected to slow its trend growth to around 5 per cent by the end of the decade. It will therefore take China longer to settle to a stabilised growth rate.

While the quarterly base forecasts informs the Group's strategic plan, one of the key requirements of IFRS 9 is that the assessment of provisions should consider multiple future economic environments. For example, the global economy may grow more quickly or more slowly than the Base Forecast, and these variations would have different implications for the provisions that the Group should hold today. As the negative impact of an economic downturn on credit losses tends to be greater than the positive impact of an economic upturn, if the Group sets provisions only on the expected credit loss under the Base Forecast it might maintain a level of provisions that does not appropriately capture the range of potential outcomes. To address this skewness (or non-linearity) in expected credit losses, IFRS 9 requires the ECL to be the probability-weighted ECL outcome calculated for a range of possible outcomes.

To assess the range of possible outcomes, the Group simulates a set of 50 scenarios around the Base Forecast and calculates the expected credit loss under each of them and assigns an equal weight of 2 per cent to each of the scenario outcomes. These scenarios are generated by a Monte Carlo simulation, which considers the degree of uncertainty (or volatility) around economic outcomes and how these outcomes have tended to move in relation to one another (or correlation). The use of Monte Carlo simulation is motivated by the number and spread of countries in which the Group operates. This implies that the number of countries' macroeconomic variables to forecast is large, but more importantly the observation that a downturn in one part of the world is never perfectly synchronised with downturns everywhere else means that the Group may be challenged to capture a full range of scenarios with a handful of manually tuned scenarios.

While the 50 scenarios do not each have a specific narrative, they reflect a range of plausible hypothetical alternative outcomes for the global economy. Some imply an unwinding of the current shocks and uncertainty leading to higher global economic activity and higher asset prices, while others represent an intensification of current shocks or introduction of new shocks that raise uncertainty, leading to lower global economic activity and lower asset prices.

The table on the next page provides a summary of the Group's Base Forecast for key footprint markets, alongside the corresponding range seen across the multiple scenarios. To inform on the range within the Base Forecasts, the peak/trough amounts in the table show the highest and lowest points within the Base Forecast and the GDP graphs illustrate the shape of Base Forecast in relation to prior periods actuals and the long-term growth rates.

Since the start of the year global trade tensions between the US and China have affected investment sentiment and export performance across Asia. Growth in China and trade dependent countries such as Singapore and Korea have softened. While a US-China trade deal is expected to reduce the drag from the trade dispute the recent softening is reflected in the five-year average GDP growth for all three falling marginally compared to last year. Hong Kong has fallen into a recession and there has been a material downgrade in the near-term outlook. Beyond the impact of trade tensions and China slowdown, the social unrest and subsequent disruption have triggered the largest economic contraction since 2009. The current pressures on the Hong Kong economy are not expected to dissipate soon and average five year GDP growth has been reduced to 1.6 per cent from 3 per cent last year. India's economic growth has also been surprisingly weak: GDP growth fell to the slowest pace in more than six years in Q1-FY20 (April to June 2019). Weaker trade, weaker credit demand by non-bank finance companies, and significant weakness in household consumption have weighed on economic activity. However, stimulus measures by India's central bank and the government is expected to help growth pick up to close to its long-term level during 2021.

Slowing growth, lower-than-expected inflation and rising downside risks have caused central banks around the world to adopt an increasingly accommodative monetary policy stance. This is reflected by lower average interest rates across the five countries compared with a year ago.

There were material revisions to the base forecast for oil prices since last year. At the end of last year oil prices were expected to average around US$85/barrel over the medium term, but by the end of 2019 that projection had been revised down to around US$71. Oil prices have been weaker than expected during the year and this is reflected in the revised projections. Trade tensions between the US and China and weakness in oil demand concentrated in the OECD have weighed on prices in 2019.

After the close of the 2019 accounts, the novel coronavirus (Covid-19) outbreak in January 2020 has increased risk aversion and uncertainty. The outbreak will likely lead to a weaker outlook for at least the Group's Asian markets in 2020.

2019

	China				Hong Kong				Korea				Singapore				India			
	5 yr average base forecast	Base forecast peak/ trough	Low[2]	High[3]	5 yr average base forecast	Base forecast peak/ trough	Low[2]	High[3]	5 yr average base forecast	Base forecast peak/ trough	Low[2]	High[3]	5 yr average base forecast	Base forecast peak/ trough	Low[2]	High[3]	5 yr average base forecast	Base forecast peak/ trough	Low[2]	High[3]
GDP growth (YoY%)	5.8	6.3/5.5	4.4	7.4	1.6	2.5/(4.8)	(2.7)[4]	4.4	2.6	2.9/2.1	0.6	4.8	2.1	2.5/0.9	(1.4)	5.9	6.9	7.2/6.1	5.0	9.0
Unemployment (%)	3.6	3.6/3.6	3.6	3.7	3.5	3.6/3.1	2.7	4.3	3.6	4.0/3.2	3.0	4.2	3.0	3.2/3.0	2.3	3.8	N/A	N/A	N/A	N/A
3 month interest rates (%)	2.6	2.8/2.3	1.8	3.6	2.4	3.5/1.2	0.9	4.3	1.7	2.5/1.2	0.8	2.9	2.0	2.9/1.3	1.1	3.1	5.2	5.6/4.8	4.3	6.1
House prices (YoY%)	6.3	7.6/4.2	4.2	8.3	3.6	5.7/(5.1)	(6.5)	14.6	2.6	2.8/0.7	0.5	4.8	3.4	4.4/0.4	(2.7)	9.7	7.8	8.1/6.9	2.4	13.2

2018

	China				Hong Kong				Korea				Singapore				India			
	5 yr average base forecast	Base forecast peak/ trough	Low[2]	High[3]	5 yr average base forecast	Base forecast peak/ troughh	Low[2]	High[3]	5 yr average base forecast	Base forecast peak/ trough	Low[2]	High[3]	5 yr average base forecast	Base forecast peak/ trough	Low[2]	High[3]	5 yr average base forecast	Base forecast peak/ trough	Low[2]	High[3]
GDP growth (YoY%)	6.0	6.6/5.7	4.3	7.7	3.0	3.0/3.0	0.6	5.6	2.9	3.0/2.4	0.4	5.3	2.4	2.7/2.2	(1.7)	6.4	7.7	8.0/6.7	5.6	10.1
Unemployment (%)	4.0	4.0/3.9	3.8	4.2	3.4	3.6/2.9	2.4	4.6	3.2	3.5/3.0	2.4	4.0	3.0	3.0/2.9	2.3	3.7	N/A	N/A	N/A	N/A
3 month interest rates (%)	3.1	3.2/2.9	2.0	4.3	3.0	3.4/2.8	1.8	4.2	2.6	3.0/1.9	1.4	4.0	2.4	2.4/2.0	1.3	3.8	6.9	7.3/6.4	5.1	8.9
House prices (YoY%)	5.8	7.2/3.8	3.4	8.5	2.3	9.8/(2.7)	(8.1)	12.1	3.5	4.0/1.8	1.3	6.1	4.4	6.4/3.8	(1.5)	10.6	8.4	8.8/7.9	1.4	15.1

	2019				2018			
	5 yr average base forecast	Base forecast peak/trough	Low[2]	High[3]	5 yr average base forecast	Base forecast peak/trough	Low[2]	High[3]
Crude price Brent, $ pb	71	76/66	42	102	85	91/76	40	118

1 N/A - not available
2 Represents the 10th percentile in the range used to determine non-linearity
3 Represents the 90th percentile in the range used to determine non-linearity
4 This value is higher than the trough in the base forecast because it is measured over the five-year range.

The final probability weighted expected credit loss reported by the Group is a simple average of the expected credit loss for each of the 50 scenarios together with the expected credit loss from the base forecast. The impact of non-linearity on expected credit loss is set out in the table below:

	Including non-linearity $million	Base forecast $million	Difference %
Total expected credit loss[1]	1,108	1,079[1]	2.7

1 Total modelled expected credit loss comprises stage 1 and stage 2 balances of $975 million and $133 million of modelled expected credit loss on stage 3 loans

The average expected credit loss under multiple scenarios is 2.7 per cent higher than the expected credit loss calculated using only the most likely scenario (the Base Forecast). Portfolios that are more sensitive to non-linearity include those with greater leverage and/or a longer tenor, such as Project and Shipping Finance and credit card portfolios. Other portfolios display minimal non-linearity owing to limited responsiveness to macroeconomic impacts for structural reasons such as significant collateralisation as with the Retail Banking mortgage portfolios.

Hong Kong

A combination of the social unrest, escalating US-China trade tensions and China's slowing economy has led to an economic recession in Hong Kong. Macroeconomic forecasts in Hong Kong were downgraded in the second half of 2019, which contributed to a $46 million increase in ECL provisions in Hong Kong have over the same period.

As one of the key drivers for the Hong Kong recession is the social unrest, there is more uncertainty in the economic forecasts as it is challenging to forecast the economic impact of possible resolutions to the social unrest. Therefore the downside risk of an economically damaging resolution may not have been fully captured in the non-linearity calculated for our Hong Kong exposures. While the Monte Carlo approach equally weights all scenarios, given the increased uncertainties in Hong Kong, we have increased the weighting placed on a Hong Kong specific downside scenario.

Stage 3

Credit-impaired assets managed by GSAM incorporate forward-looking economic assumptions in respect of the recovery outcomes identified and are assigned individual probability weightings. These assumptions are not based on a Monte Carlo simulation but are informed by the Base Forecast.

Sensitivity of expected credit loss calculation to macroeconomic variables

The expected credit loss calculation relies on multiple variables and is inherently non-linear and portfolio-dependent, which implies that no single analysis can fully demonstrate the sensitivity of the expected credit loss to changes in the macroeconomic variables. The Group has conducted a series of analyses with the aim of identifying the macroeconomic variables which might have the greatest impact on overall expected credit loss. These encompassed single variable and multi-variable exercises, using simple up/down variation and extracts from actual calculation data, as well as bespoke scenario design and assessments.

The primary conclusion of these exercises is that no individual macroeconomic variable is materially influential – that is, likely to result in an impact of at least 1 per cent of the Group's expected credit loss. The Group believes this is plausible as the number of variables used in the expected credit loss calculation is large. This does not mean that macroeconomic variables are uninfluential; rather, that the Group believes that consideration of macroeconomics should involve whole scenarios, as this aligns with the multi-variable nature of the calculation.

As the Group has Emerging Risks related to the macroeconomic outlook, a sensitivity analysis of ECL was undertaken to explore the effect of these: an extended trade war that leads to a China slowdown with spillovers to emerging markets. Two variants of the scenario were run – one with moderate escalation of trade disputes and the other more extreme. Both scenarios are characterised by current trade policy tensions between the US and China increasing dramatically. The US targets trading partners with which it has a material trade deficit and pushes through highly protectionist measures, initiating trade tensions with Asia focused on China. Indirectly, economies reliant on global trade flows are vulnerable to the trade shock. The escalating trade war creates uncertainty which reduces risk appetite, leading to a sharp decline in asset prices and lower consumption and investment across developed and emerging markets. This leads to a global downturn and a sharp fall in commodity prices. As an indication, in the more extreme version of the scenario the average growth for China annual real GDP growth over the next five years fall to 3 per cent, which is almost half the growth in the equivalent for the base projection of around 5.8 per cent. US GDP falls from just below 2 per cent down five-year average to 0.8 per cent, crude oil prices fall, and residential property indices in China and Hong Kong dip negative.

	Moderate downside		Extreme downside	
	Five year average	Peak/Trough	Five year average	Peak/Trough
China GDP	4.9%	5.6% / 3.4%	3.0%	5.3% / (2.0)%
China unemployment	4.4%	4.5% / 3.9%	5.9%	6.2% / 4.6%
China property prices	0.0%	7.1% / (7.0)%	(12.5)%	6.2% / (29.4)%
Hong Kong GDP	0.7%	2.3% / (5.5)%	(1.4)%	1.9% / (10.3)%
Hong Kong unemployment	4.3%	4.8% / 3.4%	5.9%	7.7 / 3.9%
Hong Kong property prices	0.1%	7.0% / (13.2)%	(8.1)%	18.4% / (34.8)%
US GDP	1.4%	1.8% / 0.2%	0.8%	1.9% / (2.6)%
Crude oil	$59	$71 / $51	$35	$60 / $22

Modelled expected credit loss provisions would be approximately $401 million (2018: $362 million) higher than the reported base case expected credit loss provision (excluding the impact of non-linearity) under the moderate scenario and $3.0 billion higher under the extreme scenario. The proportion of stage 2 assets would increase from 6 per cent to 8 per cent and 14 per cent under the two scenarios. This includes the impact of exposures transferring to stage 2 from stage 1 but does not consider an increase in stage 3 defaults. There was no material change in modelled stage 3 provisions as these primarily relate to unsecured Retail Banking exposures for which the LGD is not sensitive to changes in the macroeconomic forecasts. Under moderate and extreme scenarios the majority of the increase was in Corporate & Institutional Banking and Commercial Banking with the main corporate portfolios in China, Hong Kong and Singapore impacted. Around 20 per cent of the increase was in Retail Banking, with the main portfolios impacted being the Group's credit card portfolios in Hong Kong and Singapore. Note that the actual outcome of any scenario may be materially different due to, amongst other factors, the effect of management actions to mitigate potential increases in risk and changes in the underlying portfolio.

Modelled provisions

	Moderate downside increase $m	Extreme downside increase $m
Corporate & Institutional Banking	252	1,786
Retail Banking	84	503
Commercial Banking	53	348
Private Banking	8	255
Central & other items	4	16
Total	401	2,908

Proportion of assets in stage 2[1]

	Base Forecast %	Moderate downside scenario %	Extreme downside scenario %
Corporate & Institutional Banking	7.7%	12.0%	20.6%
Retail Banking	3.6%	3.8%	12.5%
Commercial Banking	15.0%	25.1%	41.8%
Private Banking	0.1%	0.1%	0.1%
Central & other items	3.2%	3.2%	3.2%
Total	5.9%	8.0%	13.9%

1 Excludes cash and balances at central banks, accrued income, assets held for sale and other assets

Significant increase in credit risk (SICR)

Quantitative criteria

SICR is assessed by comparing the risk of default at the reporting date with the risk of default at origination. Whether a change in the risk of default is significant or not is assessed using quantitative and qualitative criteria. These quantitative significant deterioration thresholds have been separately defined for each business and where meaningful are consistently applied across business lines.

Assets are considered to have experienced SICR if they have breached both relative and absolute thresholds for the change in the average annualised lifetime probability of default over the residual term of the exposure.

The absolute measure of increase in Credit risk is used to capture instances where the PDs on exposures are relatively low at initial recognition as these may increase by several multiples without representing a significant increase in Credit risk. Where PDs are relatively high at initial recognition, a relative measure is more appropriate in assessing whether there is a significant increase in Credit risk, as the PDs increase more quickly.

The SICR thresholds have been calibrated based on the following principles:

- Stability – The thresholds are set to achieve a stable stage 2 population at a portfolio level, trying to minimise the number of accounts moving back and forth between stage 1 and stage 2 in a short period of time
- Accuracy – The thresholds are set such that there is a materially higher propensity for stage 2 exposures to eventually default than is the case for stage 1 exposures
- Dependency from backstops – The thresholds are stringent enough such that a high proportion of accounts transfer to stage 2 due to movements in forward-looking PD rather than relying on backward-looking backstops such as arrears
- Relationship with business and product risk profiles – The thresholds reflect the relative risk differences between different products, and are aligned to business processes

For Corporate & Institutional Banking and Commercial Banking clients, the relative threshold is a 100 per cent increase in PD and the absolute change in PD is between 50 and100 bps.

For Retail Banking clients, the relative threshold is a 100 per cent increase in PD and the absolute change in PD is between 100 and 350 bps depending on the product. Certain counties have a higher absolute threshold reflecting the lower default rate within their personal loan portfolios compared with the Group’s other personal loan portfolios.

Private Banking clients are assessed qualitatively, based on a delinquency measure relating to collateral top-ups or sell-downs.

Debt securities originated before 1 January 2018 with an internal credit rating mapped to an investment grade equivalent are allocated to stage 1 and all other debt securities to stage 2. Debt securities originated after 1 January 2018 apply the same approach and thresholds as for Corporate & Institutional Banking and Commercial Banking clients.

Qualitative criteria

Qualitative factors that indicate that there has been a significant increase in Credit risk include processes linked to current risk management, such as placing loans on non-purely precautionary Early Alert.

Backstop

Across all portfolios, accounts that are 30 or more days past due (DPD) on contractual payments of principal and/or interest that have not been captured by the criteria above are considered to have experienced a significant increase in Credit risk.

Expert credit judgement may be applied in assessing significant increase in Credit risk to the extent that certain risks may not have been captured by the models or through the above criteria. Such instances are expected to be rare, for example due to events and material uncertainties arising close to the reporting date.

Corporate & Institutional Banking and Commercial Banking clients
Quantitative criteria
Exposures are assessed based on both the absolute and the relative movement in the PD from origination to the reporting date as described above.

To account for the fact that the mapping between internal credit grades (used in the origination process) and PDs is non-linear (e.g. a one-notch downgrade in the investment grade universe results in a much smaller PD increase than in the sub-investment grade universe), the absolute thresholds have been differentiated by credit quality at origination, as measured by internal credit grades being investment grade or sub-investment grade.

Qualitative criteria
All assets of clients that have been placed on Early Alert (for non-purely precautionary reasons) are deemed to have experienced a significant increase in Credit risk.

An account is placed on non-purely precautionary Early Alert if it exhibits risk or potential weaknesses of a material nature requiring closer monitoring, supervision or attention by management. Weaknesses in such a borrower's account, if left uncorrected, could result in deterioration of repayment prospects and the likelihood of being downgraded. Indicators could include a rapid erosion of position within the industry, concerns over management's ability to manage operations, weak/deteriorating operating results, liquidity strain and overdue balances among other factors.

All client assets that have been assigned a CG12 rating, equivalent to 'Higher risk', are deemed to have experienced a significant increase in Credit risk. Accounts rated CG12 are managed by the GSAM unit. All Corporate & Institutional Banking and Commercial Banking clients are placed on CG12 when they are 30 DPD unless they are granted a waiver through a strict governance process.

Retail Banking clients
Quantitative criteria
Material portfolios (defined as a combination of country and product, for example Hong Kong mortgages, Taiwan credit cards) for which a statistical model has been built, are assessed based on both the absolute and relative movement in the PD from origination to the reporting date as described previously. For these portfolios, the original lifetime PD term structure is determined based on the original Application Score or Risk Segment of the client.

Qualitative criteria
Accounts that are 30 DPD that have not been captured by the quantitative criteria are considered to have experienced a significant increase in Credit risk. For less material portfolios, which are modelled based on a roll-rate or loss-rate approach, significant increase in credit risk is primarily assessed through the 30 DPD trigger.

Private Banking clients
For Private Banking clients, significant increase in Credit risk is assessed by referencing the nature and the level of collateral against which credit is extended (known as 'Classes of Risk').

Qualitative criteria
For all Private Banking Classes, in line with risk management practice, an increase in Credit risk is deemed to have occurred where margining or loan-to-value covenants have been breached.

For Class I assets (lending against diversified liquid collateral), if these margining requirements have not been met within 30 days of a trigger, a significant increase in Credit risk is assumed to have occurred.

For Class I and Class III assets (real-estate lending), a significant increase in credit risk is assumed to have occurred where the bank is unable to 'sell down' the applicable assets to meet revised collateral requirements within five days of a trigger.

Class II assets are typically unsecured or partially secured, or secured against illiquid collateral such as shares in private companies. Significant credit deterioration of these assets is deemed to have occurred when any Early Alert trigger has been breached.

Debt Securities

Quantitative criteria

For debt securities originated before 1 January 2018, the bank is utilising the low Credit risk simplified approach, where debt securities with an internal credit rating mapped to an investment grade equivalent are allocated to stage 1 and all other debt securities are allocated to stage 2. Debt securities originated after 1 January 2018 are assessed based on the absolute and relative movements in PD from origination to the reporting date.

Qualitative criteria

Debt securities utilise the same qualitative criteria as the Corporate & Institutional Banking and Commercial Banking client segments, including being placed on Early Alert or being classified as CG12.

Assessment of credit-impaired financial assets

Retail Banking clients

The core components in determining credit-impaired expected credit loss provisions are the value of gross charge off and recoveries. Gross charge off and/or loss provisions are recognised when it is established that the account is unlikely to pay through the normal process. Recovery of unsecured debt post credit impairment is recognised based on actual cash collected, either directly from clients or through the sale of defaulted loans to third-party institutions. Release of credit impairment provisions for secured loans is recognised if the loan outstanding is paid in full (release of full provision), or the provision is higher than the loan outstanding (release of the excess provision).

Corporate & Institutional Banking, Commercial Banking and Private Banking clients

Credit-impaired accounts are managed by the Group's specialist recovery unit, GSAM, which is independent from its main businesses. Where any amount is considered irrecoverable, a stage 3 credit impairment provision is raised. This stage 3 provision is the difference between the loan-carrying amount and the probability-weighted present value of estimated future cash flows, reflecting a range of scenarios (typically the best, worst and most likely recovery outcomes). Where the cash flows include realisable collateral, the values used will incorporate the impact of forward-looking economic information.

The individual circumstances of each client are considered when GSAM estimates future cash flows and timing of future recoveries which involve significant judgement. All available sources, such as cash flow arising from operations, selling assets or subsidiaries, realising collateral or payments under guarantees are considered. In any decision relating to the raising of provisions, the Group attempts to balance economic conditions, local knowledge and experience, and the results of independent asset reviews.

Write-offs

Where it is considered that there is no realistic prospect of recovering a portion of an exposure against which an impairment provision has been raised, that amount will be written off.

Governance and application of expert credit judgement in respect of expected credit losses

The Group's Credit Policy and Standards framework details the requirements for continuous monitoring to identify any changes in credit quality and resultant ratings, as well as ensuring a consistent approach to monitoring, managing and mitigating credit risks. The framework aligns with the governance of ECL estimation through the early recognition of significant deteriorations in ratings which drive stage 2 and 3 ECL.

The models used in determining expected credit losses are reviewed and approved by the Group Credit Model Assessment Committee (CMAC) which is appointed by the Model Risk Committee. CMAC has the responsibility to assess and approve the use of models and to review all IFRS 9 interpretations related to models. CMAC also provides oversight on operational matters related to model development, performance monitoring and model validation activities including standards, regulatory and Group Internal Audit matters.

Prior to submission to CMAC for approval, the models have been validated by Group Model Validation (GMV), a function which is independent of the business and the model developers. GMV's analysis comprises review of model documentation, model design and methodology; data validation; review of model development and calibration process; out-of-sample performance testing; and assessment of compliance review against IFRS 9 rules and internal standards.

A quarterly model monitoring process is in place that uses recent data to compare the differences between model predictions and actual outcomes against approved thresholds. Where a model's performance breaches the monitoring thresholds then an assessment is completed of whether a Post Model Adjustment (PMA) is required to correct for the identified model issues.

Key inputs into the calculation and resulting expected credit loss provisions are subject to review and approval by the IFRS 9 Impairment Committee which is appointed by the Group Risk Committee. The IFRS 9 Impairment Committee consists of senior representatives from Risk, Finance, and Group Economic Research. It meets at least twice every quarter, once before the models are run to approve key inputs into the calculation, and once after the models are run to approve the expected credit loss provisions and any judgemental overrides that may be necessary.

The IFRS 9 Impairment Committee:

- Oversees the appropriateness of all Business Model Assessment and Solely Payments of Principal and Interest tests
- Reviews and approves expected credit loss for financial assets classified as stages 1, 2 and 3 for each financial reporting period
- Reviews and approves stage allocation rules and thresholds
- Approves material adjustments in relation to expected credit loss for fair value through other comprehensive income (FVOCI) and amortised cost financial assets
- Reviews, challenges and approves base macroeconomic forecasts and (the multiple macroeconomic scenarios approach) that are utilised in the forward-looking expected credit loss calculations

The IFRS 9 Impairment Committee is supported by an Expert Panel which reviews and challenges the full extended version of base case projections and multiple macroeconomic scenarios. The Expert Panel consists of members of Enterprise Risk Management (which includes the Scenario Design team), Finance, Group Economic Research and country representatives of major jurisdictions.

PMAs may be applied to account for identified weaknesses in model estimates. The processes for identifying the need for, calculating the level of, and approving PMAs are prescribed in the Credit Risk IFRS9 ECL Model Family Standards which are approved by CMAC. PMA calculation methodologies are reviewed by GMV and submitted to CMAC as the model approver. As part of the governance framework Model Risk Oversight review that PMAs adhere to the requirements given in the standards. All PMAs have a remediation plan to fix the identified model weakness, and these plans are reported to and tracked at CMAC.

In addition, Risk Event Overlays account for events that are sudden and therefore not captured in the Base Case Forecast or the resulting ECL calculated by the models. All Risk Event Overlays must be approved by the IFRS 9 Impairment Committee (IIC) having considered the nature of the event, why the risk is not captured in the model, and the basis on which the quantum of the overlay has been calculated. Risk Event Overlays are subject to quarterly review and re-approval by the IIC.

Country Risk (unaudited)

During 2019, the Group has expanded its definition of Country Risk beyond a historical focus on Country Cross-Border Risk. The Group now monitors Gross Country Risk (GCR), which is an aggregate of two distinct risk types:

- Transfer and Convertibility Risk (TCR), which is the potential for losses on cross-border or foreign currency obligations arising from the possibility that a government is unable or unwilling to make foreign currency available for remittance out of the country
- Local Currency Risk (LCR), which is the potential for losses on local currency obligations arising from operating in a volatile domestic economic and political environment

The profile of the Group's largest Gross Country Risk exposures as at 31 December 2019 is consistent with its strategic focus on core franchise countries. Changes in the pace of economic activity and portfolio management activity had an impact on the growth of Country Risk exposure for certain markets.

There has been a significant increase in exposure to the US, driven by increased purchases of medium-term domestic government securities and higher lending, especially to domestic financial institutions.

Exposure to Hong Kong increased during the year due to an increase in retail assets as well as increased cross-border lending to corporates. This was balanced by a reduction in short-term domestic government securities.

The overall exposure to South Korea has increased due to growth in the retail portfolio and higher nostros balances. This was partially offset by a reduction in domestic government securities and trade contingents.

Exposure to China decreased slightly due to lower nostros balances along with a reduction in derivative exposure. This was partially offset by increased lending and trade finance activity.

The slight increase in exposure to Singapore is due to increased purchases of short-term domestic government securities. This was partially offset by reduced corporate cross-border exposure.

Domestic and cross-border exposure to the UK grew due to an increase in lending, particularly to corporates, along with an increase in the Private Banking portfolio.

Exposure to India decreased slightly, due to a reduction in cross-border trade finance volumes as well as lower nostros balances. Domestic exposure to non-financial corporates notably increased during the year.

Exposure to the UAE decreased due to a decline in cross-border lending, particularly to non-financial corporates, along with a reduction in the retail portfolio.

The increase in exposure to Japan has been driven by higher purchases of government securities, particularly in off-shore locations, resulting in significant growth of overall cross-border exposure.

Overall exposure to Taiwan reduced during the year due to lower nostros balances and a reduction in domestic government securities, which exceeded incremental growth in lending and the retail portfolio.

The table below, which is based on the Group's internal Country Risk reporting requirements, shows the 10 largest country/market exposures across the Group.

	2019			2018[1]		
	TCR $million	LCR $million	GCR $million	TCR $million	LCR $million	GCR $million
United States	25,966	58,930	84,896	23,757	46,254	70,011
Hong Kong	21,361	63,214	84,575	20,194	61,897	82,091
South Korea	17,809	49,351	67,160	16,663	47,430	64,092
China	36,469	20,977	57,446	37,555	20,717	58,272
Singapore	18,304	34,046	52,350	18,573	32,606	51,179
United Kingdom	27,563	16,782	44,344	25,539	14,992	40,531
India	14,008	20,305	34,313	15,392	19,347	34,739
United Arab Emirates	16,461	6,145	22,606	17,591	6,106	23,696
Japan	9,341	10,393	19,733	4,546	12,312	16,858
Taiwan	2,733	14,827	17,561	2,876	15,292	18,168

1 The 2018 figures have been restated to encompass the change in methodology from reporting Country Cross-Border Risk to Gross Country Risk

Traded Risk

Traded Risk is the potential for loss resulting from activities undertaken by the Group in financial markets. Under the Enterprise Risk Management Framework, the Traded Risk Framework brings together all risk types exhibiting risk features common to Traded Risk.

These risk types include Market Risk, Counterparty Credit Risk, Issuer Risk, XVA, Algorithmic Trading and Pension Risk. Traded Risk Management (TRM) is the core risk management function supporting market-facing businesses, specifically Financial Markets and Treasury Markets.

Market Risk

Market Risk is the potential for loss of economic value due to adverse changes in financial market rates or prices. The Group's exposure to Market Risk arises predominantly from the following sources:

- Trading book:
  - The Group provides clients access to financial markets, facilitation of which entails the Group taking moderate Market Risk positions. All trading teams support client activity; there are no proprietary trading teams. Hence, income earned from Market Risk-related activities is primarily driven by the volume of client activity rather than risk-taking.
- Non-trading book:
  - The Treasury Markets desk is required to hold a liquid assets buffer, much of which is held in high-quality marketable debt securities
  - The Group has capital invested and related income streams denominated in currencies other than US dollars. To the extent that these are not hedged, the Group is subject to Structural Foreign Exchange Risk which is reflected in reserves

A summary of our current policies and practices regarding Market Risk management is provided in the Principal Risks section.

The primary categories of Market Risk for the Group are:

- Interest Rate Risk: arising from changes in yield curves, credit spreads and implied volatilities on interest rate options
- Foreign Exchange Rate Risk: arising from changes in currency exchange rates and implied volatilities on foreign exchange options
- Commodity Risk: arising from changes in commodity prices and implied volatilities on commodity options; covering energy, precious metals, base metals and agriculture as well as commodity baskets
- Equity Risk: arising from changes in the prices of equities, equity indices, equity baskets and implied volatilities on related options

Market Risk changes

The average level of total trading and non-trading VaR in 2019 was $30.2 million, 47 per cent higher than in 2018 ($20.6 million). The actual level of total trading and non-trading VaR in 2019 was $34.4 million, 35 per cent higher than in 2018 ($25.5 million). The increase in total average VaR was driven by the non-trading book, which has seen an increase in the bond inventory size in high-quality assets from Treasury Markets business.

For the trading book, the average level of VaR in 2019 was $11 million, 12 per cent higher than in 2018 ($9.8 million). Trading activities have remained relatively unchanged and client-driven.

Daily value at risk (VaR at 97.5%, one day)

	2019				2018			
Trading and non-trading	Average $million	High[1] $million	Low[1] $million	Actual[2] $million	Average $million	High[1] $million	Low[1] $million	Actual[2] $million
Interest Rate Risk[3]	28.9	35.2	24.1	34.2	19.2	25.9	16.6	25.9
Foreign Exchange Risk	4.3	8.5	2.3	5.1	4.4	8.6	2.5	7.7
Commodity Risk	1.3	2.2	0.8	1.4	1.3	2.1	0.8	1.2
Equity Risk	3.5	4.6	2.5	2.5	4.8	6.8	2.6	2.7
Total[4]	30.2	37.1	24.1	34.4	20.6	26.1	16.4	25.5

	2019				2018			
Trading[5]	Average $million	High[1] $million	Low[1] $million	Actual[2] $million	Average $million	High[1] $million	Low[1] $million	Actual[2] $million
Interest Rate Risk[3]	8.0	11.8	6.3	7.0	8.0	11.7	6.0	7.9
Foreign Exchange Risk	4.3	8.5	2.3	5.1	4.4	8.6	2.5	7.7
Commodity Risk	1.3	2.2	0.8	1.4	1.3	2.1	0.8	1.2
Equity Risk	–	0.1	–	–	0.1	0.1	–	–
Total[4]	11.0	14.0	8.8	10.0	9.8	13.8	7.5	13.6

	2019				2018			
Non-trading	Average $million	High[1] $million	Low[1] $million	Actual[2] $million	Average $million	High[1] $million	Low[1] $million	Actual[2] $million
Interest Rate Risk[3]	26.2	33.3	21.2	33.3	16.8	20.7	14.1	20.7
Equity Risk[6]	3.5	4.6	2.5	2.5	4.7	6.8	2.6	2.7
Total[4]	26.7	33.4	20.6	32.0	17.2	21.3	15.3	21.3

1 Highest and lowest VaR for each risk factor are independent and usually occur on different days
2 Actual one-day VaR at year-end date
3 Interest Rate Risk VaR includes Credit Spread Risk arising from securities accounted for as fair value through profit or loss (FVTPL) or fair value through other comprehensive income (FVOCI)
4 The total VaR shown in the tables above is not equal to the sum of the component risks due to offsets between them
5 Trading book for Market Risk is defined in accordance with the EU Capital Requirements Regulation (CRD IV/CRR) Part 3 Title I Chapter 3, which restricts the positions permitted in the trading book
6 Non-trading Equity Risk VaR includes only listed equities

The following table sets out how trading and non-trading VaR is distributed across the Group's products:

	2019				2018			
	Average $million	High[1] $million	Low[1] $million	Actual[2] $million	Average $million	High[1] $million	Low[1] $million	Actual[2] $million
Trading and non-trading	30.2	37.1	24.1	34.4	20.6	26.1	16.4	25.5
Trading[4]								
Rates	5.4	7.6	4.0	5.1	5.0	7.1	3.8	5.8
Global Foreign Exchange	4.3	8.5	2.3	5.1	4.4	8.6	2.5	7.7
Credit Trading & Capital Markets	4.2	7.9	1.9	4.6	3.8	6.1	1.8	2.9
Commodities	1.3	2.2	0.8	1.4	1.3	2.1	0.8	1.2
Equities	–	0.1	–	–	0.1	0.1	–	–
XVA	4.0	6.8	1.8	2.8	3.1	4.1	2.3	3.5
Total[3]	11.0	14.0	8.8	10.0	9.8	13.8	7.5	13.6
Non-trading								
Treasury Markets	26.2	33.3	21.2	33.3	16.8	20.7	14.1	20.7
Listed private equity	3.5	4.6	2.5	2.5	4.7	6.8	2.6	2.7
Total[3]	26.7	33.4	20.6	32.0	17.2	21.3	15.3	21.3

1 Highest and lowest VaR for each risk factor are independent and usually occur on different days
2 Actual one-day VaR at year-end date
3 The total VaR shown in the tables above is not a sum of the component risks due to offsets between them
4 Trading book for Market Risk is defined in accordance with the EU Capital Requirements Regulation (CRD IV/CRR) Part 3 Title I Chapter 3, which restricts the positions permitted in the trading book

Risks not in VaR (unaudited)
In 2019, the main Market Risk not reflected in VaR was Currency Risk where the exchange rate is currently pegged or managed. The historical one-year VaR observation period does not reflect the future possibility of a change in the currency regime such as sudden depegging. The other material Market Risk not reflected in VaR was associated with basis risks where historical market price data for VaR is sometimes more limited and therefore proxied, generating a potential basis risk. Additional capital is set aside to cover such 'risks not in VaR'. For further details on Market Risk capital see the Standard Chartered PLC Pillar 3 Disclosures for 31 December 2019 section on Market Risk.

Backtesting (unaudited)
In 2019, there were five regulatory backtesting negative exceptions at Group level (in 2018, there were two regulatory backtesting negative exceptions at Group level). These exceptions occurred on:

- 1 April: when markets rallied following the release of strong Chinese manufacturing data
- 30 May: driven by a reduction in US dollar yields and implied volatility which reversed an increase of the previous day
- 10 June: when US Treasury yields rallied following reports that proposed tariffs on goods from Mexico to the US would not be implemented
- 8 August: stronger than expected Chinese renminbi fixing eased concerns over US-China trade tensions and new Chinese economic data signalled some recovery for China's export-heavy economy. US dollar and US Treasury yields rose
- 19 August: US and Mexico reached agreement on illegal migration. President Trump announced suspension of proposed tariffs on Mexican goods. US dollar yields rose

In total, there have been five Group exceptions in the previous 250 business days which is within the 'amber zone' applied internationally to internal models by bank supervisors (Basel Committee on Banking Supervision, *Supervisory framework for the use of backtesting in conjunction with the internal models approach to market risk capital requirements,* January 1996).

Financial Markets loss days

	2019	2018
Number of loss days reported for Financial Markets trading book total product income[1]	1	8

1 Reflects total product income for Financial Markets:

- Including credit valuation adjustment (CVA) and funding valuation adjustment (FVA) risk
- Excluding Treasury Markets business (non-trading) and periodic valuation changes for Capital Markets, expected loss provisions and overnight indexed swap (OIS) discounting

Average daily income earned from Market Risk-related activities[1]

Trading	2019 $million	2018 $million
Interest Rate Risk	3.6	3.1
Foreign Exchange Risk	4.5	3.9
Commodity Risk	0.6	0.8
Equity Risk	–	–
Total	8.7	7.8
Non-trading		
Interest Rate Risk	1.7	2.4
Equity Risk	0.3	0.4
Total	2.0	2.8

1 Reflects total product income which is the sum of client income and own account income. Includes elements of trading income, interest income and other income which are generated from Market Risk-related activities. XVA income is included under Interest Rate Risk

Mapping of Market Risk items to the balance sheet (unaudited)

Market Risk contributes 7.9 per cent of the Group's regulatory capital risk-weighted asset (RWA) requirement (refer to risk-weighted assets tables. As highlighted in the VaR disclosure, during 2019 the majority of Market Risk was managed within Treasury Markets and Financial Markets, which span both the trading book and non-trading book. The non-trading equity Market Risk is generated by listed private equity holdings within Principal Finance. Treasury manages the market risk associated with debt and equity capital issuance.

	Amounts as per financial statements $million	Exposure to Trading Risk $million	Exposure to Non-Trading Risk $million	**Market Risk type**
Financial assets				
Derivative financial instruments	47,212	47,201	11	Interest Rate, Foreign Exchange, Commodity or Equity Risk
Loans and advances to banks	75,346	22,478	52,868	Interest Rate or Foreign Exchange Risk
Loans and advances to customers	314,754	43,264	271,490	Interest Rate or Foreign Exchange Risk
Debt securities and other eligible bills	165,761	22,740	143,021	Interest Rate mainly, but also Foreign Exchange or Equity Risk
Equities	2,760	2,208	552	Equities Risk mainly, but also Interest or Foreign Exchange Risk
Other assets	42,022	–	42,022	Interest Rate, Foreign Exchange, Commodity or Equity Risk
Total	647,855	137,891	509,964	
Financial liabilities				
Deposits by banks	37,432	–	37,432	Interest Rate or Foreign Exchange Risk
Customer accounts	452,733	–	452,733	Interest Rate or Foreign Exchange Risk
Debt securities in issue	61,535	–	61,535	Interest Rate mainly, but also Foreign Exchange or Equity Risk
Derivative financial instruments	48,484	48,472	12	Interest Rate, Foreign Exchange, Commodity or Equity Risk
Short positions	4,153	–	4,153	Interest Rate, Foreign Exchange, Commodity or Equity Risk
Total	604,337	48,472	555,865	

Structural foreign exchange exposures

The table below sets out the principal structural foreign exchange exposures (net of investment hedges) of the Group.

	2019 $million	2018 $million
Hong Kong dollar	8,432	7,792
Indian rupee	3,930	3,819
Renminbi	3,344	2,900
Singapore dollar	2,531	2,852
Korean won	2,393	2,148
Taiwanese dollar	1,418	1,238
UAE dirham	1,994	1,852
Malaysian ringgit	1,557	1,513
Thai baht	929	1,304
Indonesian rupiah	1,139	999
Pakistani rupee	441	458
Other	4,558	3,999
	32,666	30,874

As at 31 December 2019, the Group had taken net investment hedges using derivative financial investments of $1,997 million (31 December 2018: $2,137 million) to partly cover its exposure to the Korean won, $789 million (31 December 2018: $800 million) to partly cover its exposure to the Taiwanese dollar, $1,565 million (31 December 2018: $1,606 million) to partly cover its exposure to the renminbi and $713 million (31 December 2018: $712 million) to partly cover its exposure to the Indian rupee. An analysis has been performed on these exposures to assess the impact of a 1 per cent fall in the US dollar exchange rates, adjusted to incorporate the impacts of correlations of these currencies to the US dollar. The impact on the positions above would be an increase of $358 million (31 December 2018: $336 million). Changes in the valuation of these positions are taken to reserves.

For analysis of the Group's capital position and requirements, refer to the Capital Review.

Counterparty Credit Risk

Counterparty Credit Risk is the potential for loss in the event of the default of a derivative counterparty, after taking into account the value of eligible collaterals and risk mitigation techniques. The Group's counterparty credit exposures are included in the Credit Risk section.

Derivative financial instruments Credit Risk mitigation

The Group enters into master netting agreements, which in the event of default result in a single amount owed by or to the counterparty through netting the sum of the positive and negative mark-to-market values of applicable derivative transactions. The value of exposure under master netting agreements is $28,659 million (2018: $32,283 million).

In addition, the Group enters into credit support annexes (CSAs) with counterparties where collateral is deemed a necessary or desirable mitigant to the exposure. Cash collateral includes collateral called under a variation margin process from counterparties if total uncollateralised mark-to-market exposure exceeds the threshold and minimum transfer amount specified in the CSA. With certain counterparties, the CSA is reciprocal and requires us to post collateral if the overall mark-to-market values of positions are in the counterparty's favour and exceed an agreed threshold.

Liquidity and Funding Risk

Liquidity and Funding Risk is the risk that we may not have sufficient stable or diverse sources of funding to meet our obligations as they fall due.

The Group's Liquidity and Funding Risk framework requires each country to ensure that it operates within predefined liquidity limits and remains in compliance with Group liquidity policies and practices, as well as local regulatory requirements.

The Group achieves this through a combination of setting risk appetite and associated limits, policy formation, risk measurement and monitoring, prudential and internal stress testing, governance and review. In 2019 the Global Cross Border and Remote Booking Model Policy was implemented to set out the overall risk management approach for cross border booking of assets and liabilities.

In April 2019, the Group resolved the previously disclosed investigations by the US Authorities and the Financial Conduct Authority related to historical sanctions compliance and financial crime controls.

These legacy investigation issues were the main regulatory uncertainties facing the Group. We will continue to maintain a strong liquidity position and would continue to optimise this where possible subject to a number of factors including market conditions and current and future regulatory requirements.

The Group has relatively low levels of sterling and euro funding and exposures within the context of the overall Group balance sheet. The result of the UK referendum to leave the EU has therefore not had a material first order liquidity impact to date. A new subsidiary has been established in Germany (Standard Chartered Bank AG) to grow our continental Europe franchise.

Primary sources of funding

The Group's funding strategy is largely driven by its policy to maintain adequate liquidity at all times, in all geographic locations and for all currencies, and hence to be in a position to meet all obligations as they fall due. The Group's funding profile is therefore well diversified across different sources, maturities and currencies.

A substantial portion of our assets are funded by customer deposits aligned with our policy to fund customer assets predominantly using customer deposits. Wholesale funding is diversified by type and maturity and represents a stable source of funds for the Group.

We maintain access to wholesale funding markets in all major financial centres in which we operate. This seeks to ensure that we have market intelligence, maintain stable funding lines and can obtain optimal pricing when performing our interest rate risk management activities.

In 2019, the Group issued approximately $6.1 billion of senior debt securities and $1 billion of subordinated debt securities and $0.5 billion of Additional Tier 1 securities from its holding company (HoldCo) Standard Chartered PLC. (2018: $4.6 billion of term senior debt and $0.5 billion of subordinated debt securities).

Debt refinancing levels are low. In the next 12 months approximately $6.8 billion of the Group's senior debt, subordinated debt and Additional Tier 1 securities in total are falling due for repayment either contractually or callable by the Group.

The information presented in the Liquidity Pool section is on a financial view. This is the location in which the transaction or balance was booked and provides a more accurate view of where liquidity risk is actually located.

Liquidity and Funding risk metrics

We monitor key liquidity metrics regularly, both on a country basis and in aggregate across the Group.

The following liquidity and funding Board Risk Appetite metrics define the maximum amount and type of risk that the Group is willing to assume in pursuit of its strategy: liquidity coverage ratio (LCR), liquidity stress survival horizons, external wholesale borrowing, and advances-to-deposits ratio.

Liquidity coverage ratio (LCR) (unaudited)

The LCR is a regulatory requirement set to ensure that the Group has sufficient unencumbered high-quality liquid assets to meet its liquidity needs in a 30-calendar-day liquidity stress scenario.

The Group monitors and reports its liquidity position under European Commission Delegated Regulation 2015/61 and has maintained its liquidity position above the prudential requirement.

At the reporting date, the Group LCR was 144 per cent (2018: 154 per cent) with a prudent surplus to both Board-approved Risk Appetite and regulatory requirements. Both the liquidity buffer and cash outflows grew during the year in line with the overall balance sheet growth. However, higher net outflows, mainly due to reduced inflows, exceeded the growth in high-quality liquid assets (HQLA) resulting in an overall decrease in the ratio as we looked to optimise our liquidity position.

We also held adequate liquidity across our footprint to meet all local prudential LCR requirements where applicable.

	2019 $million	2018 $million
Liquidity buffer	158,415	149,602
Total net cash outflows	110,269	97,443
Liquidity coverage ratio	144%	154%

Stressed coverage (unaudited)

The Group intends to maintain a prudent and sustainable funding and liquidity position, in all countries and currencies, such that it can withstand a severe but plausible liquidity stress.

Our approach to managing liquidity and funding is reflected in the following Board-level Risk Appetite Statement:

"The Group should hold an adequate buffer of high-quality liquid assets to survive extreme but plausible liquidity stress scenarios for at least 60 days without recourse to extraordinary central bank support."

The Group's internal liquidity stress testing framework covers the following stress scenarios:

- Standard Chartered-specific – This scenario captures the liquidity impact from an idiosyncratic event affecting the Group only i.e. the rest of the market is assumed to operate normally.
- Market wide – This scenario captures the liquidity impact from a market wide crisis affecting all participants in a country, region or globally.
- Combined – This scenario assumes both Standard Chartered-specific and Market-wide events affecting the Group simultaneously and hence is the most severe scenario.

All scenarios include, but are not limited to, modelled outflows for retail and wholesale funding, off-balance sheet funding risk, cross currency funding risk, intraday risk, franchise risk and risks associated with a deterioration of a firm's credit rating.

Stress testing results show that a positive surplus was maintained under all scenarios at 31 December 2019, i.e. respective countries are able to survive for a period of time as defined under each scenario. The combined scenario at 31 December 2019 showed the Group maintained liquidity resources to survive greater than 60 days, as per our Board Risk Appetite. The results take into account currency convertibility and portability constraints across all major presence countries.

Standard Chartered Bank's credit ratings as at 31 December 2019 were A+ with stable outlook (Fitch), A with stable outlook (S&P) and A1 with stable outlook (Moody's). A downgrade in the Group's long-term credit ratings would increase derivative collateral requirements and outflows due to rating-linked liabilities. At 31 December 2019, the estimated contractual outflow of a two-notch long-term ratings downgrade is $1.3 billion.

External wholesale borrowing

The Board sets a risk limit to prevent excessive reliance on wholesale borrowing. Limits are applied to all branches and operating subsidiaries in the Group and as at the reporting date the Group remained within Board Risk Appetite.

Advances-to-deposits ratio

This is defined as the ratio of total loans and advances to customers relative to total customer accounts. An advances-to-deposits ratio of below 100 per cent demonstrates that customer deposits exceed customer loans as a result of the emphasis placed on generating a high level of funding from customers.

The advances-to-deposits ratio remained broadly unchanged from last year at 64.2 per cent (2018: 63.1 per cent).

	2019 $million	2018 $million
Total loans and advances to customers[1,2]	264,841	250,922
Total customer accounts[3]	412,303	397,764
Advances-to-deposits ratio	64.2%	63.1%

1 Excludes reverse repurchase agreement and other similar secured lending of $1,469 million and includes loans and advances to customers held at fair value through profit and loss of $6,896 million

2 Loans and advances to customers for the purpose of the advances-to-deposits ratio excludes $9,109 million of approved balances held with central banks, confirmed as repayable at the point of stress. The loans and advances to customers balance at 31 December 2018 used in the advances-to-deposits ratio at 31 December 2018 has decreased by $7,412 million from $258,334 million to $250,922 million to exclude approved balances held with central banks. The advances-to-deposits ratio has been restated from 64.9 per cent to 63.1 per cent as a result

3 Includes customer accounts held at fair value through profit or loss of $6,947 million (31 December 2018: $6,751 million)

Net stable funding ratio (NSFR) (unaudited)

On 23 November 2016, the European Commission, as part of a package of risk-reducing measures, proposed a binding requirement for stable funding (net stable funding ratio (NSFR)) at European Union level. The proposal aims to implement the European Banking Authority's interpretation of the Basel standard on NSFR (BCBS295). The NSFR is due to become a binding regulatory requirement in June 2021 with a minimum of 100 per cent. Pending implementation of the final rules, the Group continues to monitor NSFR in line with the BCBS' final recommendation (BCBS295).

The NSFR is a balance sheet metric which requires institutions to maintain a stable funding profile in relation to the characteristics of their assets and off-balance sheet activities over a one-year horizon. It is the ratio between the amount of available stable funding (ASF) and the amount of required stable funding (RSF). ASF factors are applied to balance sheet liabilities and capital, based on their perceived stability and the amount of stable funding they provide. Likewise, RSF factors are applied to assets and off-balance sheet exposures according to the amount of stable funding they require. At the last reporting date, the Group NSFR remained above 100 per cent.

Liquidity pool (unaudited)

The liquidity value of the Group's LCR eligible liquidity pool at the reporting date was $158 billion. The figures in the below table account for haircuts, currency convertibility and portability constraints, and therefore are not directly comparable with the consolidated balance sheet. The pool is held to offset stress outflows as defined in European Commission Delegated Regulation 2015/61. Cash and balances at central banks at 31 December 2019 in the table below has increased compared to year end as a result of the inclusion of approved term amounts confirmed as repayable at the point of stress.

	2019				
	Greater China & North East Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Level 1 securities					
Cash and balances at central banks	15,109	11,535	1,265	24,326	52,235
Central banks, governments/public sector entities	31,735	7,952	2,201	39,136	81,024
Multilateral development banks and international organisations	2,761	1,183	160	7,448	11,552
Other	–	–	14	1,104	1,118
Total Level 1 securities	49,605	20,670	3,640	72,014	145,929
Level 2A securities	4,824	1,928	63	3,217	10,032
Level 2B securities	–	343	–	2,111	2,454
Total LCR eligible assets	54,429	22,941	3,703	77,342	158,415

	2018				
	Greater China & North East Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Level 1 securities					
Cash and balances at central banks	16,267	2,645	1,416	28,232	48,560
Central banks, governments/public sector entities	33,462	9,900	1,540	30,166	75,068
Multilateral development banks and international organisations	1,543	1,451	195	8,487	11,676
Other	–	–	–	1,125	1,125
Total Level 1 securities	51,272	13,996	3,151	68,010	136,429
Level 2 A securities	3,943	1,083	60	5,296	10,382
Level 2 B securities	–	1,264	–	1,527	2,791
Total LCR eligible assets	55,215	16,343	3,211	74,833	149,602

Encumbrance (unaudited)

Encumbered assets

Encumbered assets represent on-balance sheet assets pledged or subject to any form of arrangement to secure, collateralise or credit enhance a transaction from which it cannot be freely withdrawn. Cash collateral pledged against derivatives and Hong Kong government certificates of indebtedness, which secure the equivalent amount of Hong Kong currency notes in circulation, are included within Other assets.

Unencumbered – readily available for encumbrance

Unencumbered assets that are considered by the Group to be readily available in the normal course of business to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements and are not subject to any restrictions on their use for these purposes.

Unencumbered – other assets capable of being encumbered

Unencumbered assets that, in their current form, are not considered by the Group to be readily realisable in the normal course of business to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements and are not subject to any restrictions on their use for these purposes. Included within this category are loans and advances which would be suitable for use in secured funding structures such as securitisations.

Unencumbered – cannot be encumbered

Unencumbered assets that have not been pledged and cannot be used to secure funding, meet collateral needs, or be sold to reduce potential/future funding requirements, as assessed by the Group.

Derivatives, reverse repurchase assets and stock lending

These assets are shown separately as these on-balance sheet amounts cannot be pledged. However, these assets can give rise to off-balance sheet collateral which can be used to raise secured funding or meet additional funding requirements.

The following table provides a reconciliation of the Group's encumbered assets to total assets.

	2019									
		Assets encumbered as a result of transactions with counterparties other than central banks			Other assets (comprising assets encumbered at the central bank and unencumbered assets)					
						Assets not positioned at the central bank				
	Assets $million	As a result of securitisations $million	Other $million	Total $million	Assets positioned at the central bank (i.e. pre-positioned plus encumbered) $million	Readily available for encumbrance $million	Other assets that are capable of being encumbered $million	Derivatives and reverse repo/stock lending $million	Cannot be encumbered $million	Total $million
Cash and balances at central banks	52,728	–	–	–	9,843	42,885	–	–	–	52,728
Derivative financial instruments	47,212	–	–	–	–	–	–	47,212	–	47,212
Loans and advances to banks	75,346	326	73	399	–	40,600	13,341	19,610	1,396	74,947
Loans and advances to customers	314,754	298	1,082	1,380	–	–	259,061	40,804	13,509	313,374
Investment securities	168,521	–	7,919	7,919	1,284	108,209	47,399	–	3,710	160,602
Other assets	42,022	–	16,080	16,080	–	–	14,516	–	11,426	25,942
Current tax assets	539	–	–	–	–	–	–	–	539	539
Prepayments and accrued income	2,700	–	–	–	–	–	1,530	–	1,170	2,700
Interests in associates and joint ventures	1,908	–	–	–	–	–	–	–	1,908	1,908
Goodwill and intangible assets	5,290	–	–	–	–	–	–	–	5,290	5,290
Property, plant and equipment	6,220	–	–	–	–	–	444	–	5,776	6,220
Deferred tax assets	1,105	–	–	–	–	–	–	–	1,105	1,105
Assets classified as held for sale	2,053	–	–	–	–	–	–	–	2,053	2,053
Total	720,398	624	25,154	25,778	11,127	191,694	336,291	107,626	47,882	694,620

	2018									
		Assets encumbered as a result of transactions with counterparties other than central banks			Other assets (comprising assets encumbered at the central bank and unencumbered assets)					
					Assets positioned at the central bank (i.e. pre-positioned plus encumbered)	Assets not positioned at the central bank				
	Assets $million	As a result of securitisations $million	Other $million	Total $million	$million	Readily available for encumbrance $million	Other assets that are capable of being encumbered $million	Derivatives and reverse repo/stock lending $million	Cannot be encumbered $million	Total $million
Cash and balances at central banks	57,511	–	–	–	8,152	49,359	–	–	–	57,511
Derivative financial instruments	45,621	–	–	–	–	–	–	45,621	–	45,621
Loans and advances to banks	82,065	447	–	447	–	45,623	13,918	20,698	1,379	81,618
Loans and advances to customers	299,371	497	7	504	–	–	243,802	41,037	14,028	298,867
Investment securities	149,568	–	7,521	7,521	–	95,523	40,591	–	5,933	142,047
Other assets	35,401	–	16,287	16,287	–	–	11,440	–	7,674	19,114
Current tax assets	492	–	–	–	–	–	–	–	492	492
Prepayments and accrued income	2,505	–	–	–	–	–	1,356	–	1,149	2,505
Interests in associates and joint ventures	2,307	–	–	–	–	–	–	–	2,307	2,307
Goodwill and intangible assets	5,056	–	–	–	–	–	–	–	5,056	5,056
Property, plant and equipment	6,490	–	–	–	–	–	400	–	6,090	6,490
Deferred tax assets	1,047	–	–	–	–	–	–	–	1,047	1,047
Assets classified as held for sale	1,328	–	–	–	–	–	–	–	1,328	1,328
Total	688,762	944	23,815	24,759	8,152	190,505	311,507	107,356	46,483	664,003

The Group received $85,415 million (31 December 2018: $82,534 million) as collateral under reverse repurchase agreements that was eligible for repledging; of this the Group sold or repledged $44,530 million (31 December 2018: $40,552 million) under repurchase agreements.

Liquidity analysis of the Group's balance sheet

Contractual maturity of assets and liabilities

The following table presents assets and liabilities by maturity groupings based on the remaining period to the contractual maturity date as at the balance sheet date on a discounted basis. Contractual maturities do not necessarily reflect actual repayments or cashflows.

Within the tables below, cash and balances with central banks, interbank placements and investment securities that are fair value through other comprehensive income are used by the Group principally for liquidity management purposes.

As at the reporting date, assets remain predominantly short-dated, with 56 per cent maturing in under one year. Our less than three-month cumulative net funding gap increased from the previous year, largely due to an increase in customer accounts as the Group focused on improving the quality of its deposit base. In practice, these deposits are recognised as stable and have behavioural profiles that extend beyond their contractual maturities.

	2019								
	One month or less $million	Between one month and three months $million	Between three months and six months $million	Between six months and nine months $million	Between nine months and one year $million	Between one year and two years $million	Between two years and five years $million	More than five years and undated $million	Total $million
Assets									
Cash and balances at central banks	42,885	–	–	–	–	–	–	9,843	52,728
Derivative financial instruments	6,643	5,751	3,835	2,714	1,860	3,955	9,439	13,015	47,212
Loans and advances to banks[1,2]	33,133	19,030	11,069	5,150	3,464	1,701	1,366	433	75,346
Loans and advances to customers[1,2]	86,927	37,322	20,849	10,088	12,640	21,517	38,624	86,787	314,754
Investment securities	11,968	11,837	17,180	11,789	7,070	34,859	44,488	29,330	168,521
Other assets	20,689	18,223	1,433	105	75	264	133	20,915	61,837
Total assets	202,245	92,163	54,366	29,846	25,109	62,296	94,050	160,323	720,398
Liabilities									
Deposits by banks[1,3]	31,873	2,931	1,079	361	528	174	486	–	37,432
Customer accounts[1,4]	349,992	50,546	25,552	10,270	9,545	2,622	1,553	2,653	452,733
Derivative financial instruments	7,086	5,922	4,249	2,990	2,031	5,007	10,069	11,130	48,484
Senior debt	325	1,373	2,870	607	495	3,083	11,248	11,318	31,319
Other debt securities in issue[1]	5,612	12,234	8,766	895	1,449	280	56	924	30,216
Other liabilities	17,701	17,206	3,039	600	908	1,866	835	11,191	53,346
Subordinated liabilities and other borrowed funds	–	17	754	–	–	–	5,523	9,913	16,207
Total liabilities	412,589	90,229	46,309	15,723	14,956	13,032	29,770	47,129	669,737
Net liquidity gap	(210,344)	1,934	8,057	14,123	10,153	49,264	64,280	113,194	50,661

1 Loans and advances, investment securities, deposits by banks, customer accounts and debt securities in issue include financial instruments held at fair value through profit or loss, see Note 13 Financial instruments
2 Loans and advances include reverse repurchase agreements and other similar secured lending of $60.4 billion
3 Deposits by banks include repurchase agreements and other similar secured borrowing of $7.8 billion
4 Customer accounts include repurchase agreements and other similar secured borrowing of $40.4 billion

	2018								
	One month or less $million	Between one month and three months $million	Between three months and six months $million	Between six months and nine months $million	Between nine months and one year $million	Between one year and two years $million	Between two years and five years $million	More than five years and undated $million	Total $million
Assets									
Cash and balances at central banks	49,359	–	–	–	–	–	–	8,152	57,511
Derivative financial instruments	6,902	5,861	5,827	3,509	2,333	4,458	8,079	8,652	45,621
Loans and advances to banks[1,2]	38,331	20,549	11,209	5,214	2,835	2,584	1,064	279	82,065
Loans and advances to customers[1,2]	84,846	33,756	18,133	11,641	10,321	17,519	39,306	83,849	299,371
Investment securities	15,297	13,589	14,131	14,300	17,402	25,695	31,303	17,851	149,568
Other assets	21,155	8,909	2,385	224	135	96	155	21,567	54,626
Total assets	215,890	82,664	51,685	34,888	33,026	50,352	79,907	140,350	688,762
Liabilities									
Deposits by banks[1,3]	30,368	2,593	572	553	397	244	230	60	35,017
Customer accounts[1,4]	331,633	51,553	23,643	10,966	11,634	3,631	1,154	2,967	437,181
Derivative financial instruments	7,467	6,072	6,136	3,544	2,140	5,257	8,886	7,707	47,209
Senior debt	1,259	959	509	5,087	667	2,878	6,327	10,093	27,779
Other debt securities in issue[1]	4,893	9,792	8,062	177	715	1,030	16	1,395	26,080
Other liabilities	22,835	8,698	4,130	852	536	868	401	11,823	50,143
Subordinated liabilities and other borrowed funds	23	17	–	–	–	2,522	4,421	8,018	15,001
Total liabilities	398,478	79,684	43,052	21,179	16,089	16,430	21,435	42,063	638,410
Net liquidity gap	(182,588)	2,980	8,633	13,709	16,937	33,922	58,472	98,287	50,352

1 Loans and advances, investment securities, deposits by banks, customer accounts and debt securities in issue include financial instruments held at fair value through profit or loss, see Note 13 Financial instruments
2 Loans and advances include reverse repurchase agreements and other similar secured lending of $61.7 billion
3 Deposits by banks include repurchase agreements and other similar secured borrowing of $5.0 billion
4 Customer accounts include repurchase agreements and other similar secured borrowing of $39.4 billion

Behavioural maturity of financial assets and liabilities

The cashflows presented in the previous section reflect the cashflows that will be contractually payable over the residual maturity of the instruments. However, contractual maturities do not necessarily reflect the timing of actual repayments or cashflow. In practice, certain assets and liabilities behave differently from their contractual terms, especially for short-term

customer accounts, credit card balances and overdrafts, which extend to a longer period than their contractual maturity. On the other hand, mortgage balances tend to have a shorter repayment period than their contractual maturity date. Expected customer behaviour is assessed and managed on a country basis using qualitative and quantitative techniques, including analysis of observed customer behaviour over time.

Maturity of financial liabilities on an undiscounted basis

The following table analyses the contractual cashflows payable for the Group's financial liabilities by remaining contractual maturities on an undiscounted basis. The financial liability balances in the table below will not agree to the balances reported in the consolidated balance sheet as the table incorporates all contractual cashflows, on an undiscounted basis, relating to both principal and interest payments. Derivatives not treated as hedging derivatives are included in the 'On demand' time bucket and not by contractual maturity.

Within the 'More than five years and undated' maturity band are undated financial liabilities, the majority of which relate to subordinated debt, on which interest payments are not included as this information would not be meaningful, given the instruments are undated. Interest payments on these instruments are included within the relevant maturities up to five years.

	2019								
	One month or less $million	Between one month and three months $million	Between three months and six months $million	Between six months and nine months $million	Between nine months and one year $million	Between one year and two years $million	Between two years and five years $million	More than five years and undated $million	Total $million
Deposits by banks	33,034	2,977	1,112	381	588	189	502	–	38,783
Customer accounts	350,679	50,908	26,552	10,415	9,839	2,694	1,625	3,127	455,839
Derivative financial instruments[1]	47,000	5	18	170	314	355	512	110	48,484
Debt securities in issue	5,951	13,615	11,886	1,559	2,210	3,882	12,431	13,557	65,091
Subordinated liabilities and other borrowed funds	–	–	1,009	26	395	641	7,140	15,124	24,335
Other liabilities	15,341	16,870	3,046	601	865	1,876	885	12,376	51,860
Total liabilities	452,005	84,375	43,623	13,152	14,211	9,637	23,095	44,294	684,392

	2018								
	One month or less $million	Between one month and three months $million	Between three months and six months $million	Between six months and nine months $million	Between nine months and one year $million	Between one year and two years $million	Between two years and five years $million	More than five years and undated $million	Total $million
Deposits by banks	30,467	2,609	593	569	409	267	250	62	35,226
Customer accounts	332,115	51,845	24,686	11,094	11,780	3,700	1,226	3,552	439,998
Derivative financial instruments[1]	45,665	137	141	9	91	31	679	456	47,209
Debt securities in issue	6,169	11,345	8,786	5,310	1,628	3,685	7,104	13,000	57,027
Subordinated liabilities and other borrowed funds	23	–	255	–	414	3,169	6,154	13,865	23,880
Other liabilities	19,746	8,757	4,129	892	520	885	407	12,302	47,638
Total liabilities	434,185	74,693	38,590	17,874	14,842	11,737	15,820	43,237	650,978

1 Derivatives are on a discounted basis

Interest Rate Risk in the Banking Book (unaudited)

The following table provides the estimated impact on the Group's earnings of a 50 basis point parallel shock (up and down) across all yield curves. The sensitivities shown represent the estimated change in base case projected net interest income (NII), plus the change in interest rate implied income and expense from FX swaps used to manage Banking Book currency positions, under the two interest rate shock scenarios.

The interest rate sensitivities are indicative and based on simplified scenarios, estimating the aggregate impact of an instantaneous 50 basis point parallel shock across all yield curves over a one-year horizon, including the time taken to implement changes to pricing before becoming effective. The assessment assumes that non-interest rate sensitive aspects of the size and mix of the balance sheet remain constant and that there are no specific management actions in response to the change in rates. No assumptions are made in relation to the impact on credit spreads in a changing rate environment.

Significant modelling and behavioural assumptions are made regarding scenario simplification, market competition, pass-through rates, asset and liability repricing tenors, and price flooring. In particular, the assumption that interest rates of all currencies and maturities shift by the same amount concurrently, and that no actions are taken to mitigate the impacts arising from this are considered unlikely. Reported sensitivities will vary over time due to a number of factors including changes in balance sheet composition, market conditions, customer behaviour and risk management strategy and should therefore not be considered an income or profit forecast.

	2019			
Estimated one-year impact to earnings from a parallel shift in yield curves at the beginning of the period of:	USD bloc $million	HKD, SGD & KRW bloc $million	Other currency bloc $million	Total $million
+ 50 basis points	(10)	60	90	140
- 50 basis points	10	(40)	(90)	(120)

	2018			
Estimated one-year impact to earnings from a parallel shift in yield curves at the beginning of the period of:	USD bloc $million	HKD, SGD & KRW bloc $million	Other currency bloc $million	Total $million
+ 50 basis points	10	110	90	210
- 50 basis points	(20)	(70)	(90)	(180)

As at 31 December 2019, the Group estimates the one-year impact of an instantaneous, parallel increase across all yield curves of 50 basis points to be an earnings benefit of $140 million. The corresponding impact from a parallel decrease of 50 basis points would result in an earnings reduction of $120 million.

The benefit from rising interest rates is primarily from reinvesting at higher yields and from assets repricing faster and to a greater extent than deposits. The asymmetry between the up and down shock is primarily driven by differing behavioural assumptions, which are scenario specific. Overall NII sensitivity under both the up and down shock has reduced versus 31 December 2018, driven by Treasury Markets risk management activity to mitigate the risk to income in falling rate environment.

The US dollar sensitivity is dampened further by the impact of funding trading book assets with Banking Book liabilities. The reported sensitivities include the cost of Banking Book liabilities used to fund the Trading Book, however the revenue associated with the Trading Book positions is recognised in Trading Book income and is excluded from the reported sensitivities. If this were to be included, it would make the US dollar earnings sensitivity positively correlated with changes in US dollar interest rates. Further information on the impact of changes in interest rates on Trading Book is set out in the Market Risk section.

Operational Risk (unaudited)

Operational Risks arise from the processes executed within the Group. Risks associated with these processes are mapped into a Group Process Universe where the Control Assessment Standards are applied. The Standards are benchmarked against regulatory requirements.

Operational Risk profile

The Operational Risk profile is the Group's overall exposure to non-financial risk, at a given point in time, covering all Principal Risk Types. The Operational Risk profile comprises both Operational Risk events (including losses) and the current exposures to non-financial risks.

Operational Risk events and losses

Operational losses are one indicator of the effectiveness and robustness of the non-financial risk control environment. As at 31 December 2019, recorded operational losses for 2019 excluding monetary penalties to the US authorities and the Financial Conduct Authority (FCA) for legacy conduct and control issues are lower than 2018. Operational losses in 2019 comprise unrelated non-systemic events which were not individually significant.

Losses in 2018 include incremental events that were recognised in 2019. As at 31 December 2019, the largest loss recorded for 2018 relates to a regulatory settlement on historic conduct and control issues related to the Group's Foreign Exchange trading and sales business of $40.0 million in the Trading and Sales Basel business line.

The Group's profile of operational loss events in 2019 and 2018 is summarised in the table below. It shows the percentage distribution of gross operational losses by Basel business line.

	% Loss	
Distribution of operational losses by Basel business line	2019[1]	2018[2]
Agency services	0.3%	0.8%
Asset management	–	–
Commercial Banking	14.0%	8.9%
Corporate Finance	–	–
Corporate items	16.2%	3.2%
Payment and settlements	4.7%	9.0%
Retail Banking	53.0%	31.9%
Retail brokerage	0.2%	–
Trading and sales	11.6%	46.2%

1 Excludes monetary penalties to the US authorities and the FCA
2 Losses in 2018 have been restated to include incremental events recognised in 2019

The Group's profile of operational loss events in 2019 and 2018 is also summarised by Basel event type in the table below. It shows the percentage distribution of gross operational losses by Basel event type.

	% Loss	
Distribution of operational losses by Basel event type	2019[1]	2018[2]
Business disruption and system failures	1.8%	3.8%
Clients products and business practices	3.6%	37.8%
Damage to physical assets	–	0.1%
Employment practices and workplace safety	–	0.1%
Execution delivery and process management	58.2%	37.6%
External fraud	35.5%	18.3%
Internal fraud	0.9%	2.3%

1 Excludes monetary penalties to the US authorities and the FCA
2 Losses in 2018 have been restated to include incremental events recognised in 2019

Other principal risks (unaudited)

Losses arising from operational failures for other principal risks (for example: Compliance, Conduct, Reputational, Information and Cyber Security and Financial Crime Risk) are reported as operational losses. Operational losses do not include Operational Risk-related credit impairments.

Capital review

The Capital review provides an analysis of the Group's capital and leverage position and requirements.

Capital summary (unaudited)

The Group's capital and leverage position is managed within the Board-approved risk appetite. The Group is well capitalised with low leverage and high levels of loss-absorbing capacity.

Capital, leverage and risk-weighted assets (RWA)	2019	2018
CET1 capital	13.8 %	14.2 %
Tier 1 capital	16.5 %	16.8 %
Total capital	21.2 %	21.6 %
UK leverage	5.2 %	5.6 %
Risk-weighted assets (RWA) $million	264,090	258,297

The Group's Common Equity Tier 1 (CET1) capital and Tier 1 leverage position are well above current minimum requirements. For further detail see the Capital section in the Standard Chartered PLC Pillar 3 Disclosures for FY 2019.

The Group's Pillar 2A requirement increased to 3.4 per cent of RWA, from 2.9 per cent, of which at least 1.9 per cent must be held in CET1. This requirement can vary over time. The Hong Kong Monetary Authority (HKMA) reduced the Hong Kong countercyclical buffer to 2.0 per cent from 2.5 per cent. The combined impact of changes to the Pillar 2A requirements and Hong Kong countercyclical buffer rates increased the Group's CET1 minimum requirement from 10.0 per cent to 10.2 per cent at 31 December 2019. The Financial Policy Committee announced it would increase the UK countercyclical buffer from 1.0 per cent to 2.0 per cent to take effect from 16 December 2020 and this change (based on the period end balance sheet) is expected to increase the Group's minimum CET1 requirements by 6 basis points to 10.3 per cent by the end of 2020.

The Group's fully phased minimum requirement for own funds and eligible liabilities (MREL) is 22.8 per cent of RWA from 1 January 2022. The Group's combined buffer (the capital conservation, global systemically important institution (G-SII) and countercyclical buffers) is additive to the minimum requirement, resulting in a total MREL requirement of 26.7[1] per cent of RWA from 1 January 2022. The Group's MREL position at 31 December 2019 was 28.6 per cent of RWA and 9.4 per cent of leverage exposure.

The Group has continued its programme of MREL issuance from its holding company in 2019, issuing around $7.7 billion of MREL eligible securities during the period, including the Group's inaugural issuance of Australian dollar senior notes. The Group also priced an inaugural SGD750 million Additional Tier 1 (AT1) and its first emerging-markets focused sustainability bond of EUR500 million in the period.

In the period, the Group completed a buy-back of $1.0 billion of its ordinary share capital. The impact of the $1.0 billion buy-back on the Group's CET1 ratio was a reduction of around 39 basis points.

The Group is a G-SII, with a 1.0 per cent G-SII CET1 buffer. The Standard Chartered PLC 2018 G-SII disclosure is published at: sc.com/fullyearresults

1 Fully phased minimum 2022 MREL requirement includes the estimated impact of the proposed UK countercyclical buffer increase from 1.0 per cent to 2.0 per cent with effect from 16 December 2020

Capital ratios (unaudited)

	2019	2018
CET1	13.8%	14.2%
Tier 1 capital	16.5%	16.8%
Total capital	21.2%	21.6%

CRD IV Capital base[1]

	2019 $million	2018 $million
CET1 instruments and reserves		
Capital instruments and the related share premium accounts	5,584	5,617
Of which: share premium accounts	3,989	3,965
Retained earnings	24,044	25,377
Accumulated other comprehensive income (and other reserves)	11,685	11,878
Non-controlling interests (amount allowed in consolidated CET1)	723	686
Independently reviewed interim and year-end profits	2,301	1,072
Foreseeable dividends net of scrip	(871)	(527)
CET1 capital before regulatory adjustments	43,466	44,103
CET1 regulatory adjustments		
Additional value adjustments (prudential valuation adjustments)	(615)	(564)
Intangible assets (net of related tax liability)	(5,318)	(5,146)
Deferred tax assets that rely on future profitability (excludes those arising from temporary differences)	(129)	(115)
Fair value reserves related to net losses on cash-flow hedges	59	10
Deduction of amounts resulting from the calculation of excess expected loss	(822)	(875)
Net gains on liabilities at fair value resulting from changes in own Credit Risk	(2)	(412)
Defined-benefit pension fund assets	(26)	(34)
Fair value gains arising from the institution's own Credit Risk related to derivative liabilities	(38)	(127)
Exposure amounts which could qualify for risk weighting of 1250%	(62)	(123)
Total regulatory adjustments to CET1	(6,953)	(7,386)
CET1 capital	36,513	36,717
AT1 capital instruments	7,184	6,704
AT1 regulatory adjustments	(20)	(20)
Tier 1 capital	43,677	43,401
Tier 2 capital instruments	12,318	12,325
Tier 2 regulatory adjustments	(30)	(30)
Tier 2 capital	12,288	12,295
Total capital	55,965	55,696
Total risk-weighted assets (unaudited)	264,090	258,297

1 CRD IV capital is prepared on the regulatory scope of consolidation

Movement in total capital

	2019 $million	2018 $million
CET1 at 1 January	36,717	38,162
Ordinary shares issued in the period and share premium	25	14
Share buy-back[1]	(1,006)	–
Profit for the period	2,301	1,072
Foreseeable dividends net of scrip deducted from CET1	(871)	(527)
Difference between dividends paid and foreseeable dividends	(641)	(575)
Movement in goodwill and other intangible assets	(172)	(34)
Foreign currency translation differences	(180)	(1,161)
Non-controlling interests	37	(164)
Movement in eligible other comprehensive income	284	60
Deferred tax assets that rely on future profitability	(14)	10
Decrease/(increase) in excess expected loss	53	267
Additional value adjustments (prudential valuation adjustment)	(51)	10
IFRS 9 day one transitional impact on regulatory reserves	(43)	(441)
Exposure amounts which could qualify for risk weighting	61	18
Other	13	6
CET1 at 31 December	36,513	36,717
AT1 at 1 January	6,684	6,699
Issuances net of redemptions	552	–
Foreign currency translation difference	9	(15)
Excess on AT1 grandfathered limit (ineligible)	(81)	–
AT1 at 31 December	7,164	6,684
Tier 2 capital at 1 January	12,295	13,897
Regulatory amortisation	(1,111)	166
Issuances net of redemptions	1,000	(1,713)
Foreign currency translation difference	(12)	(215)
Tier 2 ineligible minority interest	31	144
Recognition of ineligible AT1	81	–
Other	4	16
Tier 2 capital at 31 December	12,288	12,295
Total capital at 31 December	55,965	55,696

1 $1,006 million includes share buy-back expenses of $6 million

The main movements in capital in the period were:

- The CET1 ratio decreased from 14.2 per cent to 13.8 per cent predominantly because of higher RWAs, the impact of the $1.0 billion share buy-back and other distributions to shareholders, including preference dividends, partly offset by profit for the period
- CET1 capital decreased by $0.2 billion, mainly due to the share buy-back of $1.0 billion and other distributions during the period of $1.5 billion, partly offset by profit after tax of $2.3 billion
- AT1 increased slightly to $7.2 billion, mainly due to the new issuance of SGD 750 million of AT1 securities
- Tier 2 capital was unchanged at $12.3 billion mainly due to $1.0 billion of new subordinated debt issuance, offset by amortisation of $1.1 billion during the year

Risk-weighted assets by business (unaudited)

	2019			
	Credit Risk $million	Operational Risk $million	Market Risk $million	Total risk $million
Corporate & Institutional Banking	98,227	13,261	20,562	132,050
Retail Banking	37,138	7,314	–	44,452
Commercial Banking	25,440	2,626	–	28,066
Private Banking	5,681	728	–	6,409
Central & other items	49,178	3,691	244	53,113
Total risk-weighted assets	215,664	27,620	20,806	264,090

	2018			
	Credit Risk $million	Operational Risk $million	Market Risk $million	Total risk $million
Corporate & Institutional Banking	96,954	13,029	19,008	128,991
Retail Banking	35,545	7,358	–	42,903
Commercial Banking	27,711	2,770	–	30,481
Private Banking	5,103	758	–	5,861
Central & other items	45,825	4,135	101	50,061
Total risk-weighted assets	211,138	28,050	19,109	258,297

Risk-weighted assets by geographic region (unaudited)

	2019 $million	2018 $million
Greater China & North Asia	85,695	81,023
ASEAN & South Asia	88,942	87,935
Africa & Middle East	49,244	53,072
Europe & Americas	43,945	40,789
Central & other items	(3,736)	(4,522)
Total risk-weighted assets	264,090	258,297

Movement in risk-weighted assets (unaudited)

	Credit Risk								
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million	Operational Risk $million	Market Risk $million	Total risk $million
As at 1 January 2018	109,368	36,345	29,712	5,134	45,671	226,230	30,478	23,040	279,748
Assets (decline)/growth	(1,527)	1,466	(1,347)	56	2,896	1,544	–	–	1,544
Net credit migration	(2,120)	25	237	–	494	(1,364)	–	–	(1,364)
Risk-weighted assets efficiencies	(3,540)	(597)	–	–	(748)	(4,885)	–	–	(4,885)
Model, methodology and policy changes	(3,338)	(671)	66	–	77	(3,866)	–	(1,948)	(5,814)
Disposals	–	–	–	–	(626)	(626)	–	–	(626)
Foreign currency translation	(1,889)	(1,023)	(957)	(87)	(1,939)	(5,895)	–	–	(5,895)
Other non-credit risk movements	–	–	–	–	–	–	(2,428)	(1,983)	(4,411)
Aa at 31 December 2018	96,954	35,545	27,711	5,103	45,825	211,138	28,050	19,109	258,297
Assets (decline)/growth	1,303	1,020	(557)	528	4,093	6,387	–	–	6,387
Net credit migration	2,565	832	(642)	8	607	3,370	–	–	3,370
Risk-weighted assets efficiencies	(1,112)	(33)	(403)	–	(2,404)	(3,952)	–	–	(3,952)
Model, methodology and policy changes	(904)	(7)	–	–	1,400	489	–	500	989
Disposals	(397)	–	(441)	–	–	(838)	–	–	(838)
Foreign currency translation	(182)	(219)	(228)	42	(343)	(930)	–	–	(930)
Other non-Credit Risk movements	–	–	–	–	–	–	(430)	1,197	767
Aa at 31 December 2019	98,227	37,138	25,440	5,681	49,178	215,664	27,620	20,806	264,090

Movements in risk-weighted assets

RWA increased by $5.8 billion, or 2.2 per cent from 31 December 2018 to $264.1 billion. This was mainly due to increases in Credit Risk RWA of $4.5 billion, Market Risk RWA $1.7 billion, partly offset by a decrease of $0.4 billion in Operational Risk RWA.

Corporate & Institutional Banking
Credit risk RWA increased by $1.3 billion to $98.2 billion mainly due to:

- $2.6 billion increase due to net credit migration principally in Greater China & North Asia and Europe & Americas
- $1.3 billion increase due to asset balance growth in Financial Markets and Corporate Finance, primarily in Greater China & North Asia, partly offset by asset decline in Africa & Middle East
- $1.1 billion decrease due to RWA efficiencies, relating to a number of initiatives across the segment
- $0.9 billion decrease due to the implementation of the internal model method (IMM) for Counterparty Credit Risk
- $0.4 billion decrease due to the disposal of Principal Finance assets
- $0.2 billion decrease from foreign currency translation due to depreciation of currencies in Europe and India against the US dollar.

Retail Banking
Credit Risk RWA increased by $1.6 billion to $37.1 billion mainly due to:

- $1.0 billion asset balance growth in Greater China & North Asia
- $0.8 billion increase from net credit migration primarily in Greater China & North Asia and in Africa & Middle East
- $0.2 billion decrease from foreign currency translation mainly due to depreciation of currencies in Korea against the US dollar

Commercial Banking
Credit Risk RWA decreased by $2.3 billion to $25.4 billion mainly due to:

- $0.6 billion RWA decrease due to decline in asset balances in Greater China & North Asia
- $0.6 billion decrease due to net credit migration primarily in Greater China & North Asia and in Africa & Middle East
- $0.4 billion decrease in RWA efficiencies primarily relating to SME clients
- $0.4 billion decrease due to the disposal of Principal Finance assets
- $0.2 billion decrease from foreign currency translation due to depreciation of currencies in India, Korea and Pakistan against the US dollar.

Private Banking
Credit Risk RWA increased by $0.6 billion to $5.7 billion principally due to asset balance growth in wealth management products primarily in Greater China & North Asia

Central & other items
Central & other items RWA mainly relates to the Treasury Markets liquidity portfolio, the Group's principal joint venture investment, PT Bank Permata Tbk, equity investments and deferred/current tax assets.

Credit Risk RWA increased by $3.4 billion to $49.2 billion mainly due to:

- $4.1 billion RWA increase from asset balance growth, primarily in Europe & Americas and ASEAN & South Asia regions
- $0.6 billion increase in net credit migration primarily in Greater China & North Asia and in Africa & Middle East
- $1.4 billion increase from the implementation of the IFRS 16 standard relating to leases on property
- $2.4 billion of benefit from RWA efficiency initiatives on Treasury exposures (Interbank Loans & Treasury bills)
- $0.3 billion decrease from foreign currency translation due to depreciation of currencies in Pakistan, Ghana and Korea against the US dollar.

Market Risk

Total Market Risk RWA increased by $1.7 billion, or 8.9 per cent from 31 December 2018 to $20.8 billion. This change was due mainly to increased RWA under standardised rules, and a net increase in internal models approach (IMA) RWA following an increase in regulatory backtesting exceptions, partly offset by reduced IMA positions.

Operational Risk

Operational Risk RWA reduced by $0.4 billion to $27.6 billion, comprising a decrease in the average income over a rolling three-year time horizon, as lower 2018 income replaced higher 2015 income, and a reduced average beta factor, due to a shift towards lower beta businesses. This represents a 1.5 per cent year-on-year reduction in Operational Risk RWA.

UK leverage ratio

The Group's UK leverage ratio, which excludes qualifying claims on central banks in accordance with a PRA waiver, was 5.2 per cent, which is above the current minimum requirement of 3.7 per cent. The lower UK leverage ratio in the period was mainly due to: an increased exposure measure reflecting asset growth (on and off balance sheet), lower derivative and regulatory consolidation adjustments partly offset by a small increase in Tier 1 capital following the new issuance of SGD750 million of AT1 securities in the period.

UK leverage ratio (unaudited)

	2019 $million	2018 $million
Tier 1 capital (transitional)	43,677	43,401
Additional Tier 1 capital subject to phase-out	(1,671)	(1,743)
Tier 1 capital (end point)	42,006	41,658
Derivative financial instruments	47,212	45,621
Derivative cash collateral	9,169	10,323
Securities financing transactions (SFTs)	60,414	61,735
Loans and advances and other assets	603,603	571,083
Total on-balance sheet assets	720,398	688,762
Regulatory consolidation adjustments[1]	(31,485)	(45,521)
Derivatives adjustments		
Derivatives netting	(32,852)	(34,300)
Adjustments to cash collateral	(11,853)	(14,827)
Net written credit protection	1,650	1,221
Potential future exposure on derivatives	32,961	28,498
Total derivatives adjustments	(10,094)	(19,408)
Counterparty Risk leverage exposure measure for SFTs	7,005	8,281
Off-balance sheet items	122,341	115,335
Regulatory deductions from Tier 1 capital	(6,913)	(6,847)
UK leverage exposure (end point)	801,252	740,602
UK leverage ratio (end point)	5.2%	5.6%
UK leverage exposure quarterly average	816,244	734,976
UK leverage ratio quarterly average	5.1%	5.8%
Countercyclical leverage ratio buffer	0.1%	0.1%
G-SII additional leverage ratio buffer	0.4%	0.3%

1 Includes adjustment for qualifying central bank claims

Statement of directors' responsibilities

The directors are responsible for preparing the Annual Report and the Group and Company financial statements in accordance with applicable law and regulations.

Company law requires the directors to prepare Group and Company financial statements for each financial year. Under that law they are required to prepare the Group financial statements in accordance with International Financial Reporting Standards as adopted by the European Union (IFRSs as adopted by the EU) and applicable law and have elected to prepare the Company financial statements on the same basis.

Under company law the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and Company and of their profit or loss for that period. In preparing each of the Group and Company financial statements, the directors are required to:

- Select suitable accounting policies and then apply them consistently;
- Make judgements and estimates that are reasonable, relevant and reliable;
- State whether they have been prepared in accordance with IFRSs as adopted by the EU;
- Assess the Group and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and
- Use the going concern basis of accounting unless they either intend to liquidate the Group or the Company or to cease operations, or have no realistic alternative but to do so

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions and disclose with reasonable accuracy at any time the financial position of the Company and enable them to ensure that its financial statements comply with the Companies Act 2006. They are 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, and have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the Group and to prevent and detect fraud and other irregularities.

Under applicable law and regulations, the directors are also responsible for preparing a Strategic Report, Directors' Report, Directors' Remuneration Report and Corporate Governance Statement that complies with that law and those regulations.

The directors are responsible for the maintenance and integrity of the corporate and financial information included on the Company's website. Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Responsibility statement of the directors in respect of the annual financial report

We confirm that to the best of our knowledge:

- The financial statements, prepared in accordance with the applicable set of accounting standards, give a true and fair view of the assets, liabilities, financial position and profit or loss of the Company and the undertakings included in the consolidation taken as a whole; and
- The Strategic report includes a fair review of the development and performance of the business and the position of the Company and the undertakings included in the consolidation taken as a whole, together with a description of the principal risks and uncertainties that they face

We consider that the Annual Report, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess the Group's position and performance, business model and strategy.

By order of the Board

Andy Halford
Group Chief Financial Officer

27 February 2020

Consolidated income statement

For the year ended 31 December 2019

	Notes	2019 $million	restated[1] 2018 $million
Interest income		16,549	15,150
Interest expense		(8,882)	(7,355)
Net interest income	3	7,667	7,795
Fees and commission income		4,111	4,029
Fees and commission expense		(589)	(537)
Net fee and commission income	4	3,522	3,492
Net trading income	5	3,350	2,681
Other operating income	6	878	821
Operating income		15,417	14,789
Staff costs		(7,122)	(7,074)
Premises costs		(420)	(790)
General administrative expenses		(2,211)	(2,926)
Depreciation and amortisation		(1,180)	(857)
Operating expenses	7	(10,933)	(11,647)
Operating profit before impairment losses and taxation		4,484	3,142
Credit impairment	8	(908)	(653)
Goodwill impairment	9	(27)	–
Other impairment	9	(136)	(182)
Profit from associates and joint ventures	32	300	241
Profit before taxation		3,713	2,548
Taxation	10	(1,373)	(1,439)
Profit for the year		2,340	1,109
Profit attributable to:			
Non-controlling interests	29	37	55
Parent company shareholders		2,303	1,054
Profit for the year		2,340	1,109

		cents	cents
Earnings per share:			
Basic earnings per ordinary share	12	57.0	18.7
Diluted earnings per ordinary share	12	56.4	18.5

1 Refer to Accounting policies section (Note 1). The Group has changed its accounting policies for net interest income and net trading income

The notes form an integral part of these financial statements.

Consolidated statement of comprehensive income

For the year ended 31 December 2019

	Notes	2019 $million	2018 $million
Profit for the year		2,340	1,109
Other comprehensive (loss)/income			
Items that will not be reclassified to income statement:		(531)	382
Own credit (losses)/gains on financial liabilities designated at fair value through profit or loss		(462)	394
Equity instruments at fair value through other comprehensive income		13	36
Actuarial losses on retirement benefit obligations	30	(124)	(19)
Taxation relating to components of other comprehensive income	10	42	(29)
Items that may be reclassified subsequently to income statement:		131	(1,189)
Exchange differences on translation of foreign operations:			
Net losses taken to equity		(386)	(1,462)
Net gains on net investment hedges		191	282
Share of other comprehensive income from associates and joint ventures		25	33
Debt instruments at fair value through other comprehensive income:			
Net valuation gains/(losses) taken to equity		555	(128)
Reclassified to income statement		(170)	31
Net impact of expected credit losses		7	–
Cashflow hedges:			
Net (losses)/gains taken to equity		(64)	34
Reclassified to income statement	14	21	7
Taxation relating to components of other comprehensive income	10	(48)	14
Other comprehensive loss for the year, net of taxation		(400)	(807)
Total comprehensive income for the year		1,940	302
Total comprehensive income attributable to:			
Non-controlling interests	29	20	34
Parent company shareholders		1,920	268
Total comprehensive income for the year		1,940	302

Consolidated balance sheet

As at 31 December 2019

	Notes	2019 $million	2018 $million
Assets			
Cash and balances at central banks	13,35	52,728	57,511
Financial assets held at fair value through profit or loss	13	92,818	87,132
Derivative financial instruments	13,14	47,212	45,621
Loans and advances to banks[1]	13,15	53,549	61,414
Loans and advances to customers[2]	13,15	268,523	256,557
Investment securities	13	143,731	125,901
Other assets	20	42,022	35,401
Current tax assets	10	539	492
Prepayments and accrued income		2,700	2,505
Interests in associates and joint ventures	32	1,908	2,307
Goodwill and intangible assets	17	5,290	5,056
Property, plant and equipment	18	6,220	6,490
Deferred tax assets	10	1,105	1,047
Assets classified as held for sale	21	2,053	1,328
Total assets		720,398	688,762
Liabilities			
Deposits by banks	13	28,562	29,715
Customer accounts	13	405,357	391,013
Repurchase agreements and other similar secured borrowing	13,16	1,935	1,401
Financial liabilities held at fair value through profit or loss	13	66,974	60,700
Derivative financial instruments	13,14	48,484	47,209
Debt securities in issue	13,22	53,025	46,454
Other liabilities	23	41,583	38,309
Current tax liabilities	10	703	676
Accruals and deferred income		5,369	5,393
Subordinated liabilities and other borrowed funds	13,27	16,207	15,001
Deferred tax liabilities	10	611	563
Provisions for liabilities and charges	24	449	1,330
Retirement benefit obligations	30	469	399
Liabilities included in disposal groups held for sale	21	9	247
Total liabilities		669,737	638,410
Equity			
Share capital and share premium account	28	7,078	7,111
Other reserves		11,685	11,878
Retained earnings		26,072	26,129
Total parent company shareholders' equity		44,835	45,118
Other equity instruments	28	5,513	4,961
Total equity excluding non-controlling interests		50,348	50,079
Non-controlling interests	29	313	273
Total equity		50,661	50,352
Total equity and liabilities		720,398	688,762

1 Reverse repurchase agreements and other similar secured lending balances held at amortised cost of $1,341 million (31 December 2018: $3,815 million) have been included with loans and advances to banks
2 Reverse repurchase agreements and other similar secured lending balances held at amortised cost of $1,469 million (31 December 2018: $3,151 million) have been included with loans and advances to customers

The notes form an integral part of these financial statements.

These financial statements were approved by the Board of directors and authorised for issue on 27 February 2020 and signed on its behalf by:

José Viñals	Bill Winters	Andy Halford
Chairman	*Group Chief Executive*	*Group Chief Financial Officer*

Consolidated statement of changes in equity

For the year ended 31 December 2019

	Ordinary share capital and share premium account $million	Preference share capital and share premium account $million	Capital and merger reserves $million	Own credit adjustment reserve $million	Fair value through other compre-hensive income reserve – debt $million	Fair value through other compre-hensive income reserve – equity $million	Cash flow hedge reserve $million	Translation reserve $million	Retained earnings $million	Parent company shareholders' equity $million	Other equity instruments $million	Non-controlling interests $million	Total $million
As at 1 January 2018	5,603	1,494	17,129[1]	54	(77)	53	(45)	(4,454)	25,895	45,652	4,961	333	50,946
Profit after tax	–	–	–	–	–	–	–	–	1,054	1,054	–	55	1,109
Other comprehensive income/(loss)	–	–	–	358	(84)	67	35	(1,158)	(4)[2]	(786)	–	(21)	(807)
Distributions	–	–	–	–	–	–	–	–	–	–	–	(97)	(97)
Shares issued, net of expenses[3]	14	–	–	–	–	–	–	–	–	14	–	–	14
Treasury shares purchased	–	–	–	–	–	–	–	–	(8)	(8)	–	–	(8)
Treasury shares issued	–	–	–	–	–	–	–	–	9	9	–	–	9
Share option expense, net of taxation	–	–	–	–	–	–	–	–	158	158	–	–	158
Dividends on ordinary shares	–	–	–	–	–	–	–	–	(539)	(539)	–	–	(539)
Dividends on preference shares and AT1 securities	–	–	–	–	–	–	–	–	(436)	(436)	–	–	(436)
Other movements	–	–	–	–	–	–	–	–	–	–	–	3[4]	3
As at 31 December 2018	5,617	1,494	17,129	412	(161)	120	(10)	(5,612)	26,129	45,118	4,961	273	50,352
Profit after tax	–	–	–	–	–	–	–	–	2,303	2,303	–	37	2,340
Other comprehensive (loss)/income	–	–	–	(410)	358	30	(49)	(180)	(132)[2]	(383)	–	(17)	(400)
Distributions	–	–	–	–	–	–	–	–	–	–	–	(35)	(35)
Shares issued, net of expenses[3]	25	–	–	–	–	–	–	–	–	25	–	–	25
Other equity instruments issued, net of expenses	–		–	–	–	–	–	–	–	–	552	–	552
Treasury shares purchased	–	–	–	–	–	–	–	–	(206)	(206)	–	–	(206)
Treasury shares issued	–	–	–	–	–	–	–	–	7	7	–	–	7
Share option expense, net of taxation	–	–	–	–	–	–	–	–	139	139	–	–	139
Dividends on ordinary shares	–	–	–	–	–	–	–	–	(720)	(720)	–	–	(720)
Dividend on preference shares and AT1 securities	–	–	–	–	–	–	–	–	(448)	(448)	–	–	(448)
Share buy-back[5]	(58)	–	58	–	–	–	–	–	(1,006)	(1,006)	–	–	(1,006)
Other movements	–	–	–	–	–	–	–	–	6[6]	6	–	55[7]	61
As at 31 December 2019	5,584	1,494	17,187	2	197	150	(59)	(5,792)	26,072	44,835	5,513	313	50,661

1 Includes capital reserve of $5 million, capital redemption reserve of $13 million and merger reserve of $17,111 million
2 Comprises actuarial loss, net of taxation and share from associates and joint ventures $132 million ($4 million for the year ending 31 December 2018)
3 Comprises share capital of shares issued to fulfil discretionary awards $1 million, share capital of shares issued to fulfil employee share save options $1 million ($5 million for the year ended 31 December 2018) and share premium of shares issued to fulfil employee Sharesave options exercised $23 million ($ 9 million for the year ended 31 December 2018)
4 Movement is mainly due to additional share capital issued by Standard Chartered Bank Angola S.A. subscribed by its non-controlling interest without change in shareholding percentage
5 On 1 May 2019, the Group commenced a share buy-back of its ordinary shares of $0.50 each up to a maximum consideration of $1,000 million. Nominal value of share purchases is $58 million for the year ended 31 December 2019 and the total consideration paid was $1,006 million which includes share buy-back expenses of $6 million. The total number of shares purchased was 116,103,483 representing 3.51% of the ordinary shares in issue. The nominal value of the shares was transferred from the share capital to the capital redemption reserve account
6 Comprises $10 million disposal of non-controlling interest of Phoon Huat Pte Ltd offset by $4 million withholding tax on capitalisation of revenue reserves for Standard Chartered Bank Ghana Limited
7 Comprises $72 million of non-controlling interest in SC Digital Solutions offset by $17 million disposal of non-controlling interest in Phoon Huat Pte Ltd, Sirat Holdings Limited and Ori Private Limited

Note 28 includes a description of each reserve.

The notes form an integral part of these financial statements.

Cash flow statement

For the year ended 31 December 2019

	Notes	Group 2019 $million	Group 2018 $million	Company 2019 $million	Company 2018 $million
Cash flows from operating activities:					
Profit before taxation		3,713	2,548	22,306	790
Adjustments for non-cash items and other adjustments included within income statement	34	2,417	2,635	(16,760)	232
Change in operating assets	34	(35,285)	(12,837)	(5,473)	61
Change in operating liabilities	34	29,935	33,859	(4,182)	(462)
Contributions to defined benefit schemes	30	(137)	(143)	–	–
UK and overseas taxes paid	10	(1,421)	(770)	–	–
Net cash (used in)/from operating activities		(778)	25,292	(4,109)	621
Cash flows from investing activities:					
Purchase of property, plant and equipment	18	(219)	(171)	–	–
Disposal of property, plant and equipment		119	85	–	–
Dividends received from subsidiaries, associates and joint ventures	32	3	67	4,494	1,035
Disposal of subsidiaries		–	7	–	–
Purchase of investment securities		(259,473)	(276,388)	(7,583)	–
Disposal and maturity of investment securities		241,600	263,983	1,065	621
Net cash (used in)/from investing activities		(17,970)	(12,417)	(2,024)	1,656
Cash flows from financing activities:					
Issue of ordinary and preference share capital, net of expenses	28	577	14	577	14
Exercise of share options		7	9	7	9
Purchase of own shares		(206)	(8)	(206)	(8)
Cancellation of shares including share buy-back		(1,006)	–	(1,006)	–
Premises and equipment lease liability principal payment		(332)	–	–	–
Gross proceeds from issue of subordinated liabilities	34	1,000	500	1,000	500
Interest paid on subordinated liabilities	34	(603)	(602)	(547)	(507)
Repayment of subordinated liabilities	34	(23)	(2,097)	–	(474)
Proceeds from issue of senior debts	34	9,169	9,766	6,012	4,552
Repayment of senior debts	34	(7,692)	(7,030)	(3,780)	(3,141)
Interest paid on senior debts	34	(797)	(507)	(740)	(355)
Investment from non-controlling interests		56	–	–	–
Dividends paid to non-controlling interests, preference shareholders and AT1 securities		(483)	(533)	(448)	(436)
Dividends paid to ordinary shareholders		(720)	(539)	(720)	(539)
Net cash (used in)/from financing activities		(1,053)	(1,027)	149	(385)
Net (decrease)/increase in cash and cash equivalents		(19,801)	11,848	(5,984)	1,892
Cash and cash equivalents at beginning of the year		97,500	87,231	17,606	15,714
Effect of exchange rate movements on cash and cash equivalents		(245)	(1,579)	–	–
Cash and cash equivalents at end of the year	**35**	77,454	97,500	11,622	17,606

Notes to the financial statements

1. Accounting policies

Statement of compliance
The Group financial statements consolidate Standard Chartered PLC (the Company) and its subsidiaries (together referred to as the Group) and equity account the Group's interests in associates and jointly controlled entities.

The parent company financial statements present information about the Company as a separate entity.

Both the parent company financial statements and the Group financial statements have been prepared and approved by the directors in accordance with International Financial Reporting Standards (IFRS) and International Financial Reporting Interpretations Committee (IFRIC) interpretations as endorsed by

the European Union (EU). EU-endorsed IFRS may differ from IFRS published by the International Accounting Standards Board (IASB) if a standard has not been endorsed by the EU.

The Company has taken advantage of the exemption in section 408 of the Companies Act 2006 not to present its individual statement of comprehensive income and related notes that form a part of these financial statements.

The following parts of the Risk review and Capital review form part of these financial statements:

a) From the start of Risk profile section to the end of other principal risks in the same section excluding:

- Loans and advances by client segment credit quality analysis
- Credit quality by geographic region
- Analysis of stage 2 balances
- Forborne and other modified loans by region
- Credit-impaired (stage 3) loans by geographic region
- Credit quality by industry
- Industry and Retail products analysis by geographic region
- Country Risk
- Risks not in VaR
- Backtesting
- Mapping of market risk items to the balance sheet
- Liquidity coverage ratio (LCR)
- Stressed coverage
- Net stable funding ratio (NSFR)
- Liquidity pool
- Encumbrance
- Interest rate risk in the banking book
- Operational Risk
- Other principal risks

b) Capital review: from the start of 'Capital Requirements Directive (CRD) IV capital base' to the end of 'Movement in total capital', excluding capital ratios and risk-weighted assets (RWA).

Basis of preparation

The consolidated and Company financial statements have been prepared on a going concern basis and under the historical cost convention, as modified by the revaluation of cash-settled share-based payments, fair value through other comprehensive income, and financial assets and liabilities (including derivatives) at fair value through profit or loss.

The consolidated financial statements are presented in United States dollars ($), being the presentation currency of the Group and functional currency of the Company, and all values are rounded to the nearest million dollars, except when otherwise indicated.

Significant accounting estimates and judgements

In determining the carrying amounts of certain assets and liabilities, the Group makes assumptions of the effects of uncertain future events on those assets and liabilities at the balance sheet date. The Group's estimates and assumptions are based on historical experience and expectation of future events and are reviewed periodically. Further information about key assumptions concerning the future, and other key sources of estimation uncertainty and judgement, are set out in the relevant disclosure notes for the following areas:

- Credit impairment (Note 8)
- Taxation (Note 10)
- Financial instruments measured at fair value (Note 13)
- Goodwill impairment (Note 17)
- Provisions for liabilities and charges (Note 24)
- Investments in subsidiary undertakings, joint ventures and associates (Note 32)

IFRS and Hong Kong accounting requirements

As required by the Hong Kong Listing Rules, an explanation of the differences in accounting practices between EU-endorsed IFRS and Hong Kong Financial Reporting Standards is required to be disclosed. There would be no significant differences had these accounts been prepared in accordance with Hong Kong Financial Reporting Standards.

New accounting policies adopted by the Group

Net interest and trading income

The Group has changed its accounting policies for net interest income and net trading income. In previous years the Group recognised interest income and expense on financial instruments held at fair value through profit or loss in net interest income, except for fair value elected structured notes and structured deposits for which all gains and losses were recognised in net trading income. The Group now recognises all gains and losses on financial assets and liabilities held at fair value through profit or loss, including contractual interest, in net trading income. Prior period comparatives have been presented under the updated accounting policy, and quantification of the effect of the change in accounting policy on the current and prior period is given in Notes 3 and 5.

The Group believes the updated accounting policy gives users of the financial statements reliable and more relevant information because it ensures that all interest income and expense presented on the face of the income statement is measured using the effective interest method as required by IAS 1 Presentation of Financial Statements, it results in a natural offset in net trading income of gains and losses on fair value through profit or loss instruments and derivatives used to economically hedge valuation risks of those instruments, and it is more comparable to our peers' accounting policies. There is no change in opening retained earnings or adjustment to basic or diluted earnings per share as a result of this change in accounting policy.

Interest in suspense

Following a clarification issued by IFRIC in March 2019, if there are any recoveries on stage 3 loans, any contractual interest earned while the asset was in stage 3 is recognised in the credit impairment line. Although this differs from the Group's previous approach of recognising a residual amount of this within interest income, there is no material impact on the classification of amounts reported in the income statement in the current or prior period and accordingly no adjustments have been made to comparative information. Further, the gross asset balances for stage 3 financial instruments have been increased to reflect contractual interest due but not paid with a corresponding increase in credit impairment provisions. These changes have been disclosed within the credit risk section. There has been no net impact on the balance sheet or on shareholders' equity.

Comparatives

Certain comparatives have been represented in line with current year disclosures.

Details of these changes are set out in the relevant sections and notes below:

- Credit risk: Problem credit management and provisioning
- Note 2 Segmental information
- Note 3 Net interest income
- Note 5 Net trading income
- Note 13 Financial instruments
- Note 17 Goodwill and intangible assets

New accounting standards adopted by the Group

IFRS 16 Leases

On 1 January 2019, the Group adopted IFRS 16 Leases, which has been endorsed by the EU. IFRS 16 replaced IAS 17 Leases.

IFRS 16 introduced a single lessee accounting model and requires a lessee to recognise assets and liabilities for all leases with a term of more than 12 months, unless the underlying asset is of low value. A lessee is required to recognise a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments. IFRS 16 substantially carries forward the lessor accounting requirements in IAS 17 Leases. Accordingly, a lessor continues to classify its leases as operating leases or finance leases, and to account for those two types of leases differently.

The Group has elected to adopt the modified retrospective approach and has not restated comparative information. The following practical expedients were applied on transition to IFRS 16:

- The Group did not reassess whether premises' leases identified under IAS 17 were leases under IFRS 16
- The Group did not record a lease liability or right-of-use asset for leases with a remaining term of less than 12 months as at 1 January 2019
- The Group excluded initial direct costs from the measurement of right-of-use assets as at 1 January 2019

The judgements in the implementation were determining if a contract contained a lease, and the determination of whether the Group is reasonably certain that it will exercise extension options present in lease contracts. The estimates were the determination of incremental borrowing rates in the respective economic environments. The weighted average discount rate applied to lease liabilities on the transition date 1 January 2019 was 5.0 per cent.

The impact of IFRS 16 on the Group is primarily where the Group is a lessee in property lease contracts. On 1 January 2019, the Group recognised a lease liability, being the remaining lease payments, including extensions options where renewal is reasonably certain, discounted using the Group's incremental borrowing rate at the date of initial application in the economic environment of the lease. The corresponding right-of-use asset recognised is the amount of the lease liability adjusted by prepaid or accrued lease payments related to those leases. The balance sheet gross-up on 1 January 2019 as a result of recognition of the lease liability and right-of-use asset was $1,421 million, with no adjustment to retained earnings. The comparative information is not restated, i.e. it is presented, as previously reported, under IAS 17 and related interpretations.

The asset is presented in 'Property, plant and equipment' and the liability is presented in 'Other liabilities'. Further information on these balances is shown in Notes 18 and 23.

IFRIC 23 Uncertainty over Income Tax Treatments

IFRIC 23 is effective from 1 January 2019 and has been endorsed by the EU. It clarifies the accounting for uncertainties in income taxes and has not resulted in a material impact to the Group's financial statements.

Amendments to IFRS 9, IAS 39 and IFRS 7: Interest rate benchmark reform

Interest rate benchmark reform is a global initiative to replace or reform interbank offered rates (IBORs) that are used to determine interest cash flows on financial instruments such as loans to customers, debt securities and derivatives. Historically IBORs such as USD LIBOR have been determined by panels of banks with a heavy reliance on expert judgement. The objective of the reforms is to replace IBORs with alternative nearly risk-free rates (RFRs) that are based on actual market transactions. The Financial Conduct Authority has stated that it will no longer compel panel banks to submit values for LIBORs after 31 December 2021 and it is expected that these benchmarks will cease to exist thereafter. Consequently, financial contracts referencing these benchmarks with a maturity beyond 2021 may need to be amended to reference the alternative RFR in the applicable currency.

There remain many uncertainties associated with the IBOR transition, including the prospective assessment of hedge accounting effectiveness because it is not known when hedged items and hedging instruments will be amended to reference alternative RFRs, or how this will change the cash flows on these instruments. Other key risks and uncertainties that require monitoring are:

- It is possible that not all hedged items and corresponding hedging instruments will move to alternative RFRs at the same time
- The liquidity of the alternative RFR term structures has historically been mixed and may continue to be so prior to transition. This raises uncertainty over the appropriate inputs and valuation technique required to assess hedge effectiveness

The IFRS amendments include reliefs which apply to all hedging relationships that are directly affected by interest rate benchmark reform by allowing entities to assume the benchmark interest rate is not altered as a result of IBOR reform. A hedging relationship is affected if the reform gives rise to uncertainties about the timing or amount of benchmark-based cash flows of the hedged item or hedging instrument, since our accounting policy requires that forecast cash flows must be highly probable and that the hedging instrument is highly effective in achieving offsetting changes in fair value or cash flows attributable to the hedged risk.

Following endorsement of the amendments by the EU, the Group has elected to early adopt the interest rate benchmark reform amendments for the current period. The amendments would have otherwise taken mandatory effect from 1 January 2020. This election reduces the effects of any uncertainty arising from IBOR reform on the current period's financial statements. Had it not made this election, the Group would have been required to further assess the effect of uncertainty arising from IBOR reform on its existing hedge relationships, potentially resulting in discontinuation of hedge relationships. The amendments are applied retrospectively to all designated hedge relationships that were either in force as of the start of the reporting period or designated subsequently.

The amendments allow the Group to assume that the interest rate benchmark on which the cash flows of the hedged item and/or hedging instrument are based is not altered by IBOR reform for the following activities:

- Prospective hedge assessment
- Determining whether a cash flow or forecast transaction for a cash flow hedge is highly probable
- Determining when cumulative balances in the cash flow hedge reserve from de-designated hedges should be recycled to the income statement

For retrospective hedge assessment, the Group will not de-designate a hedge relationship if the actual result is outside the required 80-125 per cent range, but it can be demonstrated that this is solely caused by interest rate benchmark uncertainty and the hedge passes the prospective assessment.

For hedges of non-contractually specified benchmark portions of an interest rate the Group only assesses whether the designated benchmark is separately identifiable at hedge inception.

The Group expects that the IASB will issue further amendments to these standards concerning the potential financial reporting implications when an existing interest rate benchmark is replaced with an alternative RFR.

Further information on the extent to which the IFRS amendments apply to hedge accounting relationships is provided in Note 14 to these financial statements.

New accounting standards in issue but not yet effective

IFRS 17 Insurance Contracts

IFRS 17 Insurance Contracts was issued in May 2017 to replace IFRS 4 Insurance Contracts and to establish a comprehensive standard for inceptors of insurance policies. The effective date is 1 January 2021, subject to IASB's approval of a deferral until 1 January 2022. The Group is assessing the likely implementation impact of adopting the standards on its financial statements.

Amendments to References to the Conceptual Framework in IFRS Standards

These amendments are effective 1 January 2020 and include limited revisions of definitions of an asset and a liability, as well as new guidance on measurement and derecognition, presentation and disclosure. The concept of prudence has been reintroduced with the statement that prudence supports neutrality.

Amendments to IFRS 3 Business Combinations

These amendments are effective 1 January 2020 on a prospective basis and assist entities in determining whether a transaction should be accounted for as a business combination or asset acquisition.

Amendments to IAS 1 and IAS 8: Definition of Material

Amendments to IAS 1 Presentation of Financial Statements and IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors (the amendments) to align the definition of 'material' across the standards and to clarify certain aspects of the definition.

None of the amendments above are expected to result in a material impact on the Group's financial statements.

Going concern

These financial statements were approved by the Board of directors on 27 February 2020. The directors made an assessment of the Group's ability to continue as a going concern and confirm they are satisfied that the Group has adequate resources to continue in business for a period of at least 12 months from the date of approval of these financial statements (refer to the Annual Report). For this reason, the Group continues to adopt the going concern basis of accounting for preparing the financial statements.

2. Segmental information

The Group's segmental reporting is in accordance with IFRS 8 Operating Segments and is reported consistently with the internal performance framework and as presented to the Group's Management Team. The four client segments are: Corporate & Institutional Banking, Retail Banking, Commercial Banking and Private Banking. The four geographic regions are: Greater China & North Asia, ASEAN & South Asia, Africa & Middle East, and Europe & Americas. Activities not directly related to a client segment and/or geographic region are included in Central & other items. These mainly include Corporate Centre costs, treasury markets, treasury activities, certain strategic investments and the UK bank levy.

The following should also be noted:

- Transactions and funding between the segments are carried out on an arm's-length basis
- Corporate Centre costs represent stewardship and central management services roles and activities that are not directly attributable to business or country operations
- Treasury markets, joint ventures and associate investments are managed in the regions and are included within the applicable region. However, they are not managed directly by a client segment and are therefore included in the Central & other items segment
- In addition to treasury activities, Corporate Centre costs and other Group-related functions, Central & other items for regions includes globally run businesses or activities that are managed by the client segments but not directly by geographic management. These include Principal Finance and Portfolio Management
- The Group allocates central costs (excluding Corporate Centre costs) relating to client segments and geographic regions using appropriate business drivers (such as in proportion to the direct cost base of each segment before allocation of indirect costs) and these are reported within operating expenses

Basis of preparation

The analysis reflects how the client segments and geographic regions are managed internally. This is described as the Management View (on an underlying basis) and is principally the location from which a client relationship is managed, which may differ from where it is financially booked and may be shared between businesses and/or regions. In certain instances this approach is not appropriate and a Financial View is disclosed, that is, the location in which the transaction or balance was booked. Typically, the Financial View is used in areas such as the Market and Liquidity Risk reviews where actual booking location is more important for an assessment. Segmental information is therefore on a Management View unless otherwise stated.

Restructuring items excluded from underlying results

The provision for regulatory matters of $226 million (2018: $900 million) primarily relates to the agreement to pay monetary penalties to the US Authorities and the FCA following the resolution of investigations concerning historical violations of US sanction laws and regulations and the effectiveness and governance of historical financial crime controls, described further in Note 26.

The Group incurred net restructuring charges of $254 million in 2019, of which $148 million related to planned initiatives to reduce ongoing costs and $60 million related to the Group's ship leasing business that the Group has decided to discontinue.

Reconciliations between underlying and statutory results are set out in the tables below:

Profit before taxation (PBT)

	2019						
	Underlying $million	Provision for regulatory matters $million	Restructuring $million	Gains arising on repurchase of senior and subordinated liabilities $million	Goodwill impairment $million	Share of profits of PT Bank Permata Tbk joint venture $million	Statutory $million
Operating income	15,271	–	146	–	–	–	15,417
Operating expenses	(10,409)	(226)	(298)	–	–	–	(10,933)
Operating profit/(loss) before impairment losses and taxation	4,862	(226)	(152)	–	–	–	4,484
Credit impairment	(906)	–	(2)	–	–	–	(908)
Other impairment	(38)	–	(98)	–	(27)	–	(163)
Profit from associates and joint ventures	254	–	(2)	–	–	48	300
Profit/(loss) before taxation	4,172	(226)	(254)	–	(27)	48	3,713

	2018						
	Underlying $million	Provision for regulatory matters $million	Restructuring $million	Gains arising on repurchase of senior and subordinated liabilities $million	Goodwill impairment $million	Share of profits of PT Bank Permata Tbk joint venture $million	Statutory $million
Operating income	14,968	–	(248)	69	–	–	14,789
Operating expenses	(10,464)	(900)	(283)	–	–	–	(11,647)
Operating profit/(loss) before impairment losses and taxation	4,504	(900)	(531)	69	–	–	3,142
Credit impairment	(740)	–	87	–	–	–	(653)
Other impairment	(148)	–	(34)	–	–	–	(182)
Profit from associates and joint ventures	241	–	–	–	–	–	241
Profit/(loss) before taxation	3,857	(900)	(478)	69	–	–	2,548

Underlying performance by client segment

	2019					
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
Operating income	7,185	5,171	1,478	577	860	15,271
External	7,356	4,223	1,539	329	1,824	15,271
Inter-segment	(171)	948	(61)	248	(964)	–
Operating expenses	(4,361)	(3,754)	(907)	(514)	(873)	(10,409)
Operating profit/(loss) before impairment losses and taxation	2,824	1,417	571	63	(13)	4,862
Credit impairment	(474)	(336)	(123)	31	(4)	(906)
Other impairment	(32)	2	–	–	(8)	(38)
Profit from associates and joint ventures	–	–	–	–	254	254
Underlying profit before taxation	2,318	1,083	448	94	229	4,172
Provision for regulatory matters	–	–	–	–	(226)	(226)
Restructuring	(110)	(63)	(11)	(11)	(59)	(254)
Goodwill impairment	–	–	–	–	(27)	(27)
Share of profits of PT Bank Permata Tbk joint venture	–	–	–	–	48	48
Statutory profit/(loss) before taxation	2,208	1,020	437	83	(35)	3,713
Total assets	329,866	108,801	31,244	14,922	235,565	720,398
Of which: loans and advances to customers including FVTPL	156,599	106,570	26,686	14,821	10,078	314,754
loans and advances to customers	111,304	106,332	25,990	14,821	10,076	268,523
loans held at fair value through profit or loss	45,295	238	696	–	2	46,231
Total liabilities	393,040	147,698	36,864	18,480	73,655	669,737
Of which: customer accounts	248,748	144,045	34,083	18,424	7,433	452,733

	2018					
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
Operating income	6,860	5,041	1,391	516	1,160	14,968
External	7,055	4,493	1,570	270	1,580	14,968
Inter-segment	(195)	548	(179)	246	(420)	–
Operating expenses	(4,396)	(3,736)	(923)	(530)	(879)	(10,464)
Operating profit/(loss) before impairment losses and taxation	2,464	1,305	468	(14)	281	4,504
Credit impairment	(242)	(267)	(244)	–	13	(740)
Other impairment	(150)	(5)	–	–	7	(148)
Profit from associates and joint ventures	–	–	–	–	241	241
Underlying profit/(loss) before taxation	2,072	1,033	224	(14)	542	3,857
Provision for regulatory matters	(50)	–	–	–	(850)	(900)
Restructuring	(350)	(68)	(12)	(24)	(24)	(478)
Gains arising on repurchase of senior and subordinated liabilities	3	–	–	–	66	69
Statutory profit/(loss) before taxation	1,675	965	212	(38)	(266)	2,548
Total assets	308,496	103,780	31,379	13,673	231,434	688,762
Of which: loans and advances to customers including FVTPL	146,575	101,635	27,271	13,616	10,274	299,371
loans and advances to customers	104,677	101,235	26,759	13,616	10,270	256,557
loans held at fair value through profit or loss	41,898	400	512	–	4	42,814
Total liabilities	369,316	140,328	37,260	19,733	71,773	638,410
Of which: customer accounts	243,019	136,691	34,860	19,622	2,989	437,181

Operating income by client segment

	2019					
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
Underlying operating income	7,185	5,171	1,478	577	860	15,271
Restructuring	146	–	4	–	(4)	146
Statutory operating income	7,331	5,171	1,482	577	856	15,417

	2018					
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
Underlying operating income	6,860	5,041	1,391	516	1,160	14,968
Restructuring	(257)	–	(1)	2	8	(248)
Gains arising on repurchase of senior and subordinated liabilities	3	–	–	–	66	69
Statutory operating income	6,606	5,041	1,390	518	1,234	14,789

Underlying performance by region

	2019					
	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Central & other items $million	Total $million
Operating income	6,155	4,213	2,562	1,725	616	15,271
Operating expenses	(3,771)	(2,681)	(1,747)	(1,470)	(740)	(10,409)
Operating profit/(loss) before impairment losses and taxation	2,384	1,532	815	255	(124)	4,862
Credit impairment	(194)	(506)	(132)	(98)	24	(906)
Other impairment	(5)	(1)	1	–	(33)	(38)
Profit from associates and joint ventures	247	–	–	–	7	254
Underlying profit/(loss) before taxation	2,432	1,025	684	157	(126)	4,172
Provision for regulatory matters	–	–	–	–	(226)	(226)
Restructuring	(138)	(34)	(18)	(34)	(30)	(254)
Goodwill impairment	–	–	–	–	(27)	(27)
Share of profits of PT Bank Permata Tbk joint venture	–	48	–	–	–	48
Statutory profit/(loss) before taxation	2,294	1,039	666	123	(409)	3,713
Total assets	277,704	149,785	59,828	220,579	12,502	720,398
Of which: loans and advances to customers including FVTPL	139,977	80,885	31,487	62,405	–	314,754
loans and advances to customers	134,066	78,229	29,940	26,288	–	268,523
loans held at fair value through profit or loss	5,911	2,656	1,547	36,117	–	46,231
Total liabilities	249,004	126,213	36,144	218,794	39,582	669,737
Of which: customer accounts	204,286	97,459	29,280	121,708	–	452,733

	2018					
	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Central & other items $million	Total $million
Operating income	6,157	3,971	2,604	1,670	566	14,968
Operating expenses	(3,812)	(2,711)	(1,810)	(1,453)	(678)	(10,464)
Operating profit/(loss) before impairment losses and taxation	2,345	1,260	794	217	(112)	4,504
Credit impairment	(71)	(322)	(262)	(83)	(2)	(740)
Other impairment	(110)	6	–	17	(61)	(148)
Profit from associates and joint ventures	205	26	–	3	7	241
Underlying profit/(loss) before taxation	2,369	970	532	154	(168)	3,857
Provision for regulatory matters	–	–	–	(50)	(850)	(900)
Restructuring	(106)	105	(100)	(8)	(369)	(478)
Gains arising on repurchase of senior and subordinated liabilities	–	–	–	3	66	69
Statutory profit/(loss) before taxation	2,263	1,075	432	99	(1,321)	2,548
Total assets	269,765	147,049	57,800	201,912	12,236	688,762
Of which: loans and advances to customers including FVTPL	130,669	81,905	29,870	56,927	–	299,371
Total liabilities	238,249	127,478	36,733	198,853	37,097	638,410
Of which: customer accounts	196,870	96,896	29,916	113,499	–	437,181

Operating income by region

	2019					
	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Central & other items $million	Total $million
Underlying operating income	6,155	4,213	2,562	1,725	616	15,271
Restructuring	87	(2)	–	–	61	146
Statutory operating income	6,242	4,211	2,562	1,725	677	15,417

	2018					
	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Central & other items $million	Total $million
Underlying operating income	6,157	3,971	2,604	1,670	566	14,968
Restructuring	(7)	21	1	6	(269)	(248)
Gains arising on repurchase of senior and subordinated liabilities	–	–	–	3	66	69
Statutory operating income	6,150	3,992	2,605	1,679	363	14,789

Additional segmental information (statutory)

	2019					
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
Net interest income	2,675	3,282	943	315	452	7,667
Net fees and commission income	1,559	1,505	285	223	(50)	3,522
Net trading and other income	3,097	384	254	39	454	4,228
Operating income	7,331	5,171	1,482	577	856	15,417

	2018 (restated)[1]					
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
Net interest income	2,498	3,142	859	297	999	7,795
Net fees and commission income	1,496	1,579	284	192	(59)	3,492
Net trading and other income	2,612	320	247	29	294	3,502
Operating income	6,606	5,041	1,390	518	1,234	14,789

1 Refer to Note 1 Accounting policies

	2019					
	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Central & other items $million	Total $million
Net interest income	3,276	2,068	1,456	149	718	7,667
Net fees and commission income	1,393	1,123	617	503	(114)	3,522
Net trading and other income	1,573	1,020	489	1,073	73	4,228
Operating income	6,242	4,211	2,562	1,725	677	15,417

	2018 (restated)[1]					
	Greater China & North Asia $million	ASEAN & South Asia $million	Africa & Middle East $million	Europe & Americas $million	Central & other items $million	Total $million
Net interest income	3,213	2,047	1,495	345	695	7,795
Net fees and commission income	1,437	1,032	643	490	(110)	3,492
Net trading and other income	1,500	913	467	844	(222)	3,502
Operating income	6,150	3,992	2,605	1,679	363	14,789

1 Refer to Note 1 Accounting policies

	2019								
	Hong Kong $million	Korea $million	China $million	Singapore $million	India $million	Indonesia $million	UAE $million	UK $million	US $million
Net interest income	1,893	659	562	731	564	112	365	(211)	256
Net fees and commission income	866	160	144	552	244	69	143	70	352
Net trading and other income	1,082	152	166	354	232	91	110	904	151
Operating income	3,841	971	872	1,637	1,040	272	618	763	759

	2018 (restated)[1]								
	Hong Kong $million	Korea $million	China $million	Singapore $million	India $million	Indonesia $million	UAE $million	UK $million	US $million
Net interest income	1,747	688	605	709	544	127	381	(48)	240
Net fees and commission income	908	192	114	490	210	84	164	71	343
Net trading and other income	1,092	129	100	349	182	59	92	805	84
Operating income	3,747	1,009	819	1,548	936	270	637	828	667

1 Refer to Note 1 Accounting policies

3. Net interest income

Accounting policy

Interest income for financial assets held at either fair value through other comprehensive income or amortised cost, and interest expense on all financial liabilities held at amortised cost is recognised in profit or loss using the effective interest method.

The effective interest method is a method of calculating the amortised cost of a financial asset or a financial liability and of allocating the interest income or interest expense over the relevant period. The effective interest rate is the rate that discounts estimated future cash payments or receipts through the expected life of the financial instrument or, when appropriate, a shorter period, to the net carrying amount of the financial asset or financial liability. When calculating the effective interest rate, the Group estimates cash flows considering all contractual terms of the financial instrument (for example, prepayment options) but does not consider future credit losses. The calculation includes all fees paid or received between parties to the contract that are an integral part of the effective interest rate, transaction costs and all other premiums or discounts. Where the estimates of cash flows have been revised, the carrying amount of the financial asset or liability is adjusted to reflect the actual and revised cash flows, discounted at the instrument's original effective interest rate. The adjustment is recognised as interest income or expense in the period in which the revision is made.

Interest income for financial assets that are either held at fair value through other comprehensive income or amortised cost that have become credit-impaired subsequent to initial recognition (stage 3) and have had amounts written off, is recognised using the credit adjusted effective interest rate. This rate is calculated in the same manner as the effective interest rate except that expected credit losses are included in the expected cash flows. Interest income is therefore recognised on the amortised cost of the financial asset including expected credit losses. Should the credit risk on a stage 3 financial asset improve such that the financial asset is no longer considered credit-impaired, interest income recognition reverts to a computation based on the rehabilitated gross carrying value of the financial asset.

	2019 $million	restated 2018[1] $million
Balances at central banks	329	364
Loans and advances to banks	1,834	1,783
Loans and advances to customers	10,693	9,947
Listed debt securities	2,113	1,587
Unlisted debt securities	796	695
Other eligible bills	702	683
Accrued on impaired assets (discount unwind)	82	91
Interest income	16,549	15,150
Of which: financial instruments held at fair value through other comprehensive income	3,246	2,827
Deposits by banks	739	594
Customer accounts	6,202	5,006
Debt securities in issue	1,120	988
Subordinated liabilities and other borrowed funds	756	767
Interest expense on IFRS 16 lease liabilities	65	–
Interest expense	8,882	7,355
Net interest income	7,667	7,795

1 In 2018 the Group reported net interest income of $8,793 million, consisting of interest income of $17,264 million and interest expense of $8,471 million. The difference between this and restated 2018 net interest income of $7,795 million is $998 million of net contractual interest receivable on financial instruments measured at fair value through profit or loss being reclassified to net trading income

Had the financial statements been prepared under the previous year's accounting policy, under which contractual interest on financial instruments measured at fair value through profit or loss (except for fair value elected structured notes and structured deposits) was recorded in net interest income, interest income in the current period would have been $19,594 million and interest expense would have been $10,307 million.

4. Net fees and commission

Accounting policy

Fees and commissions charged for services provided by the Group are recognised as or when the service is completed or significant act performed.

Loan syndication fees are recognised as revenue when the syndication has been completed and the Group retained no part of the loan package for itself, or retained a part at the same effective interest rate as for the other participants.

The Group can act as trustee or in other fiduciary capacities that result in the holding or placing of assets on behalf of individuals, trusts, retirement benefit plans and other institutions. The assets and income arising thereon are excluded from these financial statements, as they are not assets and income of the Group.

The determination of the services performed for the customer, the transaction price, and when the services are completed depends on the nature of the product with the customer. The main considerations on income recognition by product are as follows:

Transaction Banking

The Group recognises fee income associated with transactional trade, cash management and custody activities at the point in time the service is provided. The Group recognises income associated with trade contingent risk exposures (such as letters of credit and guarantees) and periodic custody activities over the period in which the service is provided.

Payment of fees is usually received at the same time the service is provided. In some cases, letters of credit and guarantees issued by the Group have annual upfront premiums, which are amortised on a straight-line basis to fee income over the year.

Financial Markets and Corporate Finance

The Group recognises fee income at the point in time the service is provided. Fee income is recognised for a significant non-lending service when the transaction has been completed and the terms of the contract with the customer entitle the Group to the fee. Fees are usually received shortly after the service is provided.

Syndication fees are recognised when the syndication is complete. Fees are generally received before completion of the syndication, or within 12 months of the transaction date.

Wealth Management

Upfront consideration on bancassurance agreements is amortised straight-line over the contractual term. Commissions for bancassurance activities are recorded as they are earned through sales of third-party insurance products to customers. These commissions are received within a short time frame of the commission being earned. Target-linked fees are accrued based on a percentage of the target achieved, provided it is assessed as highly probable that the target will be met. Cash payment is received at a contractually specified date after achievement of a target has been confirmed.

Upfront and trailing commissions for managed investment placements are recorded as they are confirmed. Income from these activities is relatively even throughout the period, and cash is usually received within a short time frame after the commission is earned.

Retail Products

The Group recognises most income at the point in time the Group is entitled to the fee, since most services are provided at the time of the customer's request.

Credit card annual fees are recognised at the time the fee is received since, in most of our retail markets, there are contractual circumstances under which fees are waived, so income recognition is constrained until the uncertainties associated with the annual fee are resolved. The Group defers the fair value of reward points on its credit card reward programmes, and recognises income and costs associated with fulfilling the reward at the time of redemption.

	2019 $million	2018 $million
Fees and commissions income	4,111	4,029
Fees and commissions expense	(589)	(537)
Net fees and commission	3,522	3,492

Total fee income arising from financial instruments that are not fair valued through profit or loss is $1,495 million (31 December 2018: $1,478 million) and arising from trust and other fiduciary activities is $166 million (31 December 2018: $144 million).

Total fee expense arising from financial instruments that are not fair valued through profit or loss is $138 million (31 December 2018: $143 million) and arising from trust and other fiduciary activities is $27 million (31 December 2018: $27 million).

	2019					
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
Transaction Banking	1,053	11	212	–	–	1,276
Trade	434	11	154	–	–	599
Cash Management	431	–	58	–	–	489
Securities Services	188	–	–	–	–	188
Financial Markets	265	–	30	–	–	295
Corporate Finance	168	–	27	2	–	197
Lending and Portfolio Management	85	–	14	–	–	99
Principal Finance	(12)	–	–	–	–	(12)
Wealth Management	–	1,132	2	216	–	1,350
Retail Products	–	362	–	5	–	367
Treasury	–	–	–	–	(22)	(22)
Others	–	–	–	–	(28)	(28)
Net fees and commission	1,559	1,505	285	223	(50)	3,522

	2018					
	Corporate & Institutional Banking $million	Retail Banking $million	Commercial Banking $million	Private Banking $million	Central & other items $million	Total $million
Transaction Banking	1,066	12	223	–	–	1,301
Trade	448	12	163	–	–	623
Cash Management	429	–	60	–	–	489
Securities Services	189	–	–	–	–	189
Financial Markets	206	–	25	–	–	231
Corporate Finance	181	–	21	–	–	202
Lending and Portfolio Management	57	–	13	–	–	70
Principal Finance	(14)	–	–	–	–	(14)
Wealth Management	–	1,167	2	190	–	1,359
Retail Products	–	403	–	2	–	405
Treasury	–	–	–	–	(22)	(22)
Others	–	(3)	–	–	(37)	(40)
Net fees and commission	1,496	1,579	284	192	(59)	3,492

Upfront bancassurance consideration amounts are amortised on a straight-line basis over the contractual period to which the consideration relates. Deferred income on the balance sheet in respect of these activities is $802 million (31 December 2018: $886 million). The income will be earned evenly over the next 9.5 years (31 December 2018: 10.5 years).

5. Net trading income

Accounting policy

Gains and losses arising from changes in the fair value of financial instruments held at fair value through profit or loss are recorded in net trading income in the period in which they arise. This includes contractual interest receivable or payable.

Income is recognised from the sale and purchase of trading positions, margins on market making and customer business and fair value changes.

	2019 $million	restated 2018[1] $million
Net trading income	3,350	2,681
Significant items within net trading income include:		
Gains on instruments held for trading	3,296	2,756
Gains on financial assets mandatorily at fair value through profit or loss	1,557	788
Gains on financial assets designated at fair value through profit or loss	31	12
Losses on financial liabilities designated at fair value through profit or loss	(1,602)	(864)

1 In 2018 the Group reported net trading income of $1,683 million. The difference between this and restated 2018 net trading income of $2,681 million is $998 million of net contractual interest receivable on financial instruments measured at fair value through profit or loss being reclassified to net trading income

Had the financial statements been prepared under the previous year's accounting policy, under which contractual interest on financial instruments measured at fair value through profit or loss (except for fair value elected structured notes and structured deposits) was recorded in net interest income, net trading income in the current period would have been $1,730 million.

6. Other operating income

Accounting policy

Operating lease income is recognised on a straight-line basis over the period of the lease unless another systematic basis is more appropriate.

Dividends on equity instruments are recognised when the Group's right to receive payment is established.

On disposal of fair value through other comprehensive income debt instruments, the cumulative gain or loss recognised in other comprehensive income is recycled to the profit or loss in other operating income/expense.

When the Group loses control of the subsidiary or disposal group, the difference between the consideration received and the carrying amount of the subsidiary or disposal group is recognised as a gain or loss on sale of the business.

	2019 $million	2018 $million
Other operating income includes:		
Rental income from operating lease assets	540	573
Gains less losses on disposal of fair value through other comprehensive income debt instruments	170	(31)
Gains less losses on amortised cost financial assets	(12)	–
Net gain on sale of businesses	–	9
Dividend income	17	25
Gain on sale of aircrafts	71	74
Gains arising on repurchase of senior and subordinated liabilities[1]	–	69
Other	92	102
	878	821

1 On 14 June 2018, Standard Chartered PLC repurchased in part, £245.7 million of its £750 million 4.375 per cent senior debt 2038 and £372.5 million of its £900 million 5.125 per cent subordinated debt 2034. On the same date, Standard Chartered Bank repurchased in part, £95.1 million of its £200 million 7.75 per cent subordinated notes (callable 2022). This activity resulted in an overall gain of $69 million for the Group

7. Operating expenses

Accounting policy

Short-term employee benefits: salaries and social security expenses are recognised over the period in which the employees provide the service. Variable compensation is included within share-based payments costs and wages and salaries. Further details are disclosed in the Annual Report.

Pension costs: contributions to defined contribution pension schemes are recognised in profit or loss when payable. For defined benefit plans, net interest expense, service costs and expenses are recognised in the income statement. Further details are provided in Note 30.

Share-based compensation: the Group operates equity-settled and cash-settled share-based payment compensation plans. The fair value of the employee services (measured by the fair value of the options granted) received in exchange for the grant of the options is recognised as an expense. Further details are provided in Note 31.

	2019 $million	2018 $million
Staff costs:		
Wages and salaries	5,508	5,439
Social security costs	180	171
Other pension costs (Note 30)	372	365
Share-based payment costs	166	166
Other staff costs	896	933
	7,122	7,074

Other staff costs include redundancy expenses of $173 million (31 December 2018: $153 million). Further costs in this category include training, travel costs and other staff-related costs.

The following table summarises the number of employees within the Group:

	2019			2018[1]		
	Business	Support services	Total	Business	Support services	Total
At 31 December	45,469	38,929	84,398	47,401	38,001	85,402
Average for the year	45,816	38,122	83,938	48,815	37,453	86,268

1 Prior year headcount has been re-presented due to a change in management view of segments

The Company employed nil staff as at 31 December 2019 (31 December 2018: nil) and it incurred costs of $32 million (31 December 2018: $5 million).

Details of directors' pay, benefits, pensions and interests in shares are disclosed in the Annual Report.

Transactions with directors, officers and other related parties are disclosed in Note 36.

	2019 $million	2018 $million
Premises and equipment expenses:		
Rental of premises[1]	31	374
Other premises and equipment costs	372	395
Rental of computers and equipment	17	21
	420	790
General administrative expenses:		
UK bank levy	347	324
Provision for regulatory matters	226	900
Other general administrative expenses	1,638	1,702
	2,211	2,926
Depreciation and amortisation:		
Property, plant and equipment:		
Premises[1]	360	86
Equipment	112	94
Operating lease assets	263	304
	735	484
Intangibles:		
Software	436	363
Acquired on business combinations	9	10
	1,180	857
Total operating expenses	10,933	11,647

1 As a result of IFRS 16, rental expenses of premises has decreased and has been replaced by depreciation on premises (being the right-of-use asset) and interest expenses (on the lease liability)

The UK bank levy is applied on the chargeable equities and liabilities on the Group's consolidated balance sheet. Key exclusions from chargeable equities and liabilities include Tier 1 capital, insured or guaranteed retail deposits, repos secured on certain sovereign debt and liabilities subject to netting. The rate of the levy for 2019 is 0.15 per cent for chargeable short-term liabilities, with a lower rate of 0.075 per cent generally applied to chargeable equity and long-term liabilities (i.e. liabilities with a remaining maturity greater than one year). The rates will reduce in 2020 and from 1 January 2021 they will be 0.10 per cent for short-term liabilities and 0.05 per cent for long-term liabilities. In addition, the scope of the bank levy will be restricted to the balance sheet of UK operations only from that date.

8. Credit impairment

Accounting policy

Significant accounting estimates and judgements

The Group's expected credit loss (ECL) calculations are outputs of complex models with a number of underlying assumptions.

The significant judgements in determining expected credit loss include:

- The Group's criteria for assessing if there has been a significant increase in credit risk; and
- Development of expected credit loss models, including the choice of inputs relating to macroeconomic variables

The calculation of credit impairment provisions also involves expert credit judgement to be applied by the credit risk management team based upon counterparty information they receive from various sources, including relationship managers and on external market information. Details on the approach for determining expected credit loss can be found in the credit risk section, under IFRS 9 Methodology.

Estimates of forecasts of key macroeconomic variables underlying the expected credit loss calculation can be found within the Risk review, Key assumptions and judgements in determining expected credit loss.

Expected credit losses

Expected credit losses are determined for all financial debt instruments that are classified at amortised cost or fair value through other comprehensive income, undrawn commitments and financial guarantees.

An expected credit loss represents the present value of expected cash shortfalls over the residual term of a financial asset, undrawn commitment or financial guarantee.

A cash shortfall is the difference between the cash flows that are due in accordance with the contractual terms of the instrument and the cash flows that the Group expects to receive over the contractual life of the instrument.

Measurement

Expected credit losses are computed as unbiased, probability-weighted amounts which are determined by evaluating a range of reasonably possible outcomes, the time value of money, and considering all reasonable and supportable information, including that which is forward-looking.

For material portfolios, the estimate of expected cash shortfalls is determined by multiplying the probability of default (PD) with the loss given default (LGD) with the expected exposure at the time of default (EAD). There may be multiple default events over the lifetime of an instrument. Further details on the components of PD, LGD and EAD are disclosed in the Credit Risk section. For less material Retail Banking loan portfolios, the Group has adopted less sophisticated approaches based on historical roll rates or loss rates.

Forward-looking economic assumptions are incorporated into the PD, LGD and EAD where relevant and where they influence credit risk, such as GDP growth rates, interest rates, house price indices and commodity prices, among others. These assumptions are incorporated using the Group's most likely forecast for a range of macroeconomic assumptions. These forecasts are determined using all reasonable and supportable information, which includes both internally developed forecasts and those available externally, and are consistent with those used for budgeting, forecasting and capital planning.

To account for the potential non-linearity in credit losses, multiple forward-looking scenarios are incorporated into the range of reasonably possible outcomes for all material portfolios. For example, where there is a greater risk of downside credit losses than upside gains, multiple forward-looking economic scenarios are incorporated into the range of reasonably possible outcomes, both in respect of determining the PD (and where relevant, the LGD and EAD) and in determining the overall expected credit loss amounts. These scenarios are determined using a Monte Carlo approach, centred around the Group's most likely forecast of macroeconomic assumptions.

The period over which cash shortfalls are determined is generally limited to the maximum contractual period for which the Group is exposed to credit risk. However, for certain revolving credit facilities, which include credit cards or overdrafts, the Group's exposure to credit risk is not limited to the contractual period. For these instruments, the Group estimates an appropriate life based on the period that the Group is exposed to credit risk, which includes the effect of credit risk management actions such as the withdrawal of undrawn facilities.

For credit-impaired financial instruments, the estimate of cash shortfalls may require the use of expert credit judgement.

The estimate of expected cash shortfalls on a collateralised financial instrument reflects the amount and timing of cash flows that are expected from foreclosure on the collateral less the costs of obtaining and selling the collateral, regardless of whether foreclosure is deemed probable.

Cash flows from unfunded credit enhancements held are included within the measurement of expected credit losses if they are part of, or integral to, the contractual terms of the instrument (this includes financial guarantees, unfunded risk participations and other non-derivative credit insurance). Although non-integral credit enhancements do not impact the measurement of expected credit losses, a reimbursement asset is recognised to the extent of the expected credit losses recorded.

Cash shortfalls are discounted using the effective interest rate (or credit-adjusted effective interest rate for purchased or originated credit-impaired instruments (POCI)) on the financial instrument as calculated at initial recognition or if the instrument has a variable interest rate, the current effective interest rate determined under the contract.

Instruments	Location of expected credit loss provisions
Financial assets held at amortised cost	Loss provisions: netted against gross carrying value[1]
Financial assets held FVOCI – Debt instruments	Other comprehensive income (FVOCI expected credit loss reserve)[2]
Loan commitments	Provisions for liabilities and charges[3]
Financial guarantees	Provisions for liabilities and charges[3]

1 Purchased or originated credit-impaired assets do not attract an expected credit loss provision on initial recognition. An expected credit loss provision will be recognised only if there is an increase in expected credit losses from that considered at initial recognition

2 Debt and treasury securities classified as fair value through other comprehensive income (FVOCI) are held at fair value on the face of the balance sheet. The expected credit loss attributed to these instruments is held as a separate reserve within other comprehensive income (OCI) and is recycled to the profit and loss account along with any fair value measurement gains or losses held within FVOCI when the applicable instruments are derecognised

3 Expected credit loss on loan commitments and financial guarantees is recognised as a liability provision. Where a financial instrument includes both a loan (i.e. financial asset component) and an undrawn commitment (i.e. loan commitment component), and it is not possible to separately identify the expected credit loss on these components, expected credit loss amounts on the loan commitment are recognised together with expected credit loss amounts on the financial asset. To the extent the combined expected credit loss exceeds the gross carrying amount of the financial asset, the expected credit loss is recognised as a liability provision

Recognition

12 months expected credit losses (stage 1)

Expected credit losses are recognised at the time of initial recognition of a financial instrument and represent the lifetime cash shortfalls arising from possible default events up to 12 months into the future from the balance sheet date. Expected credit losses continue to be determined on this basis until there is either a significant increase in the credit risk of an instrument or the instrument becomes credit-impaired. If an instrument is no longer considered to exhibit a significant increase in credit risk, expected credit losses will revert to being determined on a 12-month basis.

Significant increase in credit risk (stage 2)

If a financial asset experiences a significant increase in credit risk (SICR) since initial recognition, an expected credit loss provision is recognised for default events that may occur over the lifetime of the asset.

Significant increase in credit risk is assessed by comparing the risk of default of an exposure at the reporting date to the risk of default at origination (after taking into account the passage of time). Significant does not mean statistically significant nor is it assessed in the context of changes in expected credit loss. Whether a change in the risk of default is significant or not is assessed using a number of quantitative and qualitative factors, the weight of which depends on the type of product and counterparty. Financial assets that are 30 or more days past due and not credit-impaired will always be considered to have experienced a significant increase in credit risk. For less material portfolios where a loss rate or roll rate approach is applied to compute expected credit loss, significant increase in credit risk is primarily based on 30 days past due.

Quantitative factors include an assessment of whether there has been significant increase in the forward-looking probability of default (PD) since origination. A forward-looking PD is one that is adjusted for future economic conditions to the extent that these are correlated to changes in credit risk. We compare the residual lifetime PD at the balance sheet date to the residual lifetime PD that was expected at the time of origination for the same point in the term structure and determine whether both the absolute and relative change between the two exceeds predetermined thresholds. To the extent that the differences between the measures of default outlined exceed the defined thresholds, the instrument is considered to have experienced a significant increase in credit risk.

Qualitative factors assessed include those linked to current credit risk management processes, such as lending placed on non-purely precautionary early alert (and subject to closer monitoring).

A non-purely precautionary early alert account is one which exhibits risk or potential weaknesses of a material nature requiring closer monitoring, supervision, or attention by management. Weaknesses in such a borrower's account, if left uncorrected, could result in deterioration of repayment prospects and the likelihood of being downgraded. Indicators could include a rapid erosion of position within the industry, concerns over management's ability to manage operations, weak/deteriorating operating results, liquidity strain and overdue balances among other factors.

Credit-impaired (or defaulted) exposures (stage 3)
Financial assets that are credit-impaired (or in default) represent those that are at least 90 days past due in respect of principal and/or interest. Financial assets are also considered to be credit-impaired where the obligors are unlikely to pay on the occurrence of one or more observable events that have a detrimental impact on the estimated future cash flows of the financial asset. It may not be possible to identify a single discrete event but instead the combined effect of several events may cause financial assets to become credit-impaired.

Evidence that a financial asset is credit-impaired includes observable data about the following events:

- Significant financial difficulty of the issuer or borrower
- Breach of contract such as default or a past due event
- For economic or contractual reasons relating to the borrower's financial difficulty, the lenders of the borrower have granted the borrower concession/s that lenders would not otherwise consider. This would include forbearance actions
- Pending or actual bankruptcy or other financial reorganisation to avoid or delay discharge of the borrower's obligation/s
- The disappearance of an active market for the applicable financial asset due to financial difficulties of the borrower
- Purchase or origination of a financial asset at a deep discount that reflects incurred credit losses

Lending commitments to a credit-impaired obligor that have not yet been drawn down are included to the extent that the commitment cannot be withdrawn. Loss provisions against credit-impaired financial assets are determined based on an assessment of the recoverable cash flows under a range of scenarios, including the realisation of any collateral held where appropriate. The loss provisions held represent the difference between the present value of the expected cash shortfalls, discounted at the instrument's original effective interest rate, and the gross carrying value (including contractual interest due but not paid) of the instrument prior to any credit impairment. The Group's definition of default is aligned with the regulatory definition of default as set out in European Capital Requirements Regulation (CRR178) and related guidelines.

Expert credit judgement
For Corporate & Institutional, Commercial and Private Banking, borrowers are graded by credit risk management on a credit grading (CG) scale from CG1 to CG14. Once a borrower starts to exhibit credit deterioration, it will move along the credit grading scale in the performing book and, when it is classified as CG12, the credit assessment and oversight of the loan will normally be performed by Group Special Assets Management (GSAM).

Borrowers graded CG12 exhibit well-defined weaknesses in areas such as management and/or performance but there is no current expectation of a loss of principal or interest. Where the impairment assessment indicates that there will be a loss of principal on a loan, the borrower is graded a CG14 while borrowers of other credit-impaired loans are graded CG13. Instruments graded CG13 or CG14 are regarded as stage 3.

For individually significant financial assets within stage 3, GSAM will consider all judgements that have an impact on the expected future cash flows of the asset. These include: the business prospects, industry and geopolitical climate of the customer, quality of realisable value of collateral, the Group's legal position relative to other claimants and any renegotiation/ forbearance/ modification options. The future cash flow calculation involves significant judgements and estimates. As new information becomes available and further negotiations/ forbearance measures are taken, the estimates of the future cash flows will be revised, and will have an impact on the future cash flow analysis.

For financial assets which are not individually significant, such as the Retail Banking portfolio or small business loans, which comprise a large number of homogenous loans that share similar characteristics, statistical estimates and techniques are used, as well as credit scoring analysis.

Retail Banking clients are considered credit-impaired where they are more 90 days past due. Retail Banking products are also considered credit-impaired if the borrower files for bankruptcy or other forbearance programme, the borrower is deceased or the business is closed in the case of a small business, or if the borrower surrenders the collateral, or there is an identified fraud on the account. Additionally, if the account is unsecured and the borrower has other credit accounts with the Group that are considered credit-impaired, the account may be also be credit-impaired.

Techniques used to compute impairment amounts use models which analyse historical repayment and default rates over a time horizon. Where various models are used, judgement is required to analyse the available information provided and select the appropriate model or combination of models to use.

Expert credit judgement is also applied to determine whether any post-model adjustments are required for credit risk elements which are not captured by the models.

Modified financial instruments
Where the original contractual terms of a financial asset have been modified for credit reasons and the instrument has not been derecognised (an instrument is derecognised when a modification results in a change in cash flows that the Group would consider substantial), the resulting modification loss is recognised within credit impairment in the income statement with a corresponding decrease in the gross carrying value of the asset. If the modification involved a concession that the bank would not otherwise consider, the instrument is considered to be credit-impaired and is considered forborne.

Expected credit loss for modified financial assets that have not been derecognised and are not considered to be credit-impaired will be recognised on a 12-month basis, or a lifetime basis, if there is a significant increase in credit risk. These assets are assessed (by comparison to the origination date) to determine whether there has been a significant increase in credit risk subsequent to the modification. Although loans may be modified for non-credit reasons, a significant increase in credit risk may occur. In addition to the recognition of modification gains and losses, the revised carrying value of modified financial assets will impact the calculation of expected credit losses, with any increase or decrease in expected credit loss recognised within impairment.

Forborne loans
Forborne loans are those loans that have been modified in response to a customer's financial difficulties. Forbearance strategies assist clients who are temporarily in financial distress and are unable to meet their original contractual repayment terms. Forbearance can be initiated by the client, the Group or a third party including government sponsored programmes or a conglomerate of credit institutions. Forbearance may include debt restructuring such as new repayment schedules, payment deferrals, tenor extensions, interest-only payments, lower interest rates, forgiveness of principal, interest or fees, or relaxation of loan covenants.

Forborne loans that have been modified (and not derecognised) on terms that are not consistent with those readily available in the market and/or where we have granted a concession compared with the original terms of the loans are considered credit-impaired if there is a detrimental impact on cash flows. The modification loss (see Classification and measurement – Modifications) is recognised in the profit or loss within credit impairment and the gross carrying value of the loan reduced by the same amount. The modified loan is disclosed as 'Loans subject to forbearance – credit-impaired'.

Loans that have been subject to a forbearance modification, but which are not considered credit-impaired (not classified as CG13 or CG14), are disclosed as 'Forborne – not credit-impaired'. This may include amendments to covenants within the contractual terms.

Write-offs of credit-impaired instruments and reversal of impairment
To the extent a financial debt instrument is considered irrecoverable, the applicable portion of the gross carrying value is written off against the related loan provision. Such loans are written off after all the necessary procedures have been completed, it is decided that there is no realistic probability of recovery and the amount of the loss has been determined. Subsequent recoveries of amounts previously written off decrease the amount of the provision for credit impairment in the income statement. If, in a subsequent period, the amount of the credit impairment loss decreases and the decrease can be related objectively to an event occurring after the credit impairment was recognised (such as an improvement in the debtor's credit rating), the previously recognised credit impairment loss is reversed by adjusting the provision account. The amount of the reversal is recognised in the income statement.

Loss provisions on purchased or originated credit-impaired instruments (POCI)
The Group measures expected credit loss on a lifetime basis for POCI instruments throughout the life of the instrument. However, expected credit loss is not recognised in a separate loss provision on initial recognition for POCI instruments as the lifetime expected credit loss is inherent within the gross carrying amount of the instruments. The Group recognises the change in lifetime expected credit losses arising subsequent to initial recognition in the income statement and the cumulative change as a loss provision. Where lifetime expected credit losses on POCI instruments are less than those at initial recognition, then the favourable differences are recognised as impairment gains in the income statement (and as impairment loss where the expected credit losses are greater).

Improvement in credit risk/curing
A period may elapse from the point at which instruments enter lifetime expected credit losses (stage 2 or stage 3) and are reclassified back to 12-month expected credit losses (stage 1). For financial assets that are credit-impaired (stage 3), a transfer to stage 2 or stage 1 is only permitted where the instrument is no longer considered to be credit-impaired. An instrument will no longer be considered credit-impaired when there is no shortfall of cash flows compared to the original contractual terms. When a previously credit-impaired asset transfers to stage 2 or stage 1, recoveries of any residual contractual interest earned while the asset was in stage 3 are recognised within the credit impairment line in the income statement.

For financial assets within stage 2, these can only be transferred to stage 1 when they are no longer considered to have experienced a significant increase in credit risk.

Where significant increase in credit risk was determined using quantitative measures, the instruments will automatically transfer back to stage 1 when the original PD based transfer criteria are no longer met. Where instruments were transferred to stage 2 due to an assessment of qualitative factors, the issues that led to the reclassification must be cured before the instruments can be reclassified to stage 1. This includes instances where management actions led to instruments being classified as stage 2, requiring that action to be resolved before loans are reclassified to stage 1.

A forborne loan can only be removed from being disclosed as forborne if the loan is performing (stage 1 or 2) and a further two-year probation period is met.

In order for a forborne loan to become performing, the following criteria have to be satisfied:

- At least a year has passed with no default based upon the forborne contract terms
- The customer is likely to repay its obligations in full without realising security
- The customer has no accumulated impairment against amount outstanding (except for ECL)

Subsequent to the criteria above, a further two-year probation period has to be fulfilled, whereby regular payments are made by the customer and none of the exposures to the customer are more than 30 days past due.

	2019 $million	2018 $million
Net credit impairment on loans and advances to banks and customers	856	607
Net credit impairment on debt securities	9	7
Net credit impairment relating to financial guarantees and loan commitments	35	39
Net credit impairment relating to other financial assets	8	–
Credit impairment[1]	908	653

1 No material POCI assets

9. Other impairment

Accounting policy

Refer to the below referenced notes for the relevant accounting policy.

	2019 $million	2018 $million
Impairment of goodwill (Note 17)	27	–
Impairment of fixed assets (Note 18)	122	150
Impairment of other intangible assets (Note 17)	12	46
Other	2	(14)
Other impairment	136	182
	163	182

10. Taxation

Accounting policy

Income tax payable on profits is based on the applicable tax law in each jurisdiction and is recognised as an expense in the period in which profits arise.

Deferred tax is provided on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. Deferred tax is determined using tax rates (and laws) that have been enacted or substantively enacted as at the balance sheet date, and that are expected to apply when the related deferred tax asset is realised or the deferred income tax liability is settled.

Deferred tax assets are recognised where it is probable that future taxable profit will be available against which the temporary differences can be utilised. Where permitted, deferred tax assets and liabilities are offset on an entity basis and not by component of deferred taxation.

Current and deferred tax relating to items which are charged or credited directly to equity, is credited or charged directly to equity and is subsequently recognised in the income statement together with the current or deferred gain or loss.

Significant accounting estimates and judgements

- Determining the Group's tax charge for the year involves estimation and judgement, which includes an interpretation of local tax laws and an assessment of whether the tax authorities will accept the position taken. These judgements take account of external advice where appropriate, and the Group's view on settling with the relevant tax authorities
- The Group provides for current tax liabilities at the best estimate of the amount that is expected to be paid to the tax authorities where an outflow is probable. In making its estimates, the Group assumes that the tax authorities will examine all the amounts reported to them and have full knowledge of all relevant information

The recoverability of the Group's deferred tax assets is based on management's judgement of the availability of future taxable profits against which the deferred tax assets will be utilised

The following table provides analysis of taxation charge in the year:

	2019 $million	2018 $million
The charge for taxation based upon the profit for the year comprises:		
Current tax:		
United Kingdom corporation tax at 19 per cent (2018: 19 per cent):		
Current tax charge on income for the year	–	1
Adjustments in respect of prior years (including double tax relief)	(6)	49
Foreign tax:		
Current tax charge on income for the year	1,427	1,109
Adjustments in respect of prior years	1	(105)
	1,422	1,054
Deferred tax:		
Origination/reversal of temporary differences	22	254
Adjustments in respect of prior years	(71)	131
	(49)	385
Tax on profits on ordinary activities	1,373	1,439
Effective tax rate	37.0%	56.5%

The tax charge for the year of $1,373 million (31 December 2018: $1,439 million) on a profit before tax of $3,713 million (31 December 2018: $2,548 million) reflects the impact of capital gains tax arising on internal restructuring to establish the Hong Kong hub, non-deductible expenses and the impact of countries with tax rates higher or lower than the UK, the most significant of which is India. The 2018 charge reflected the impact of non-deductible regulatory provisions and other non-deductible expenses, non-creditable withholding taxes and the impact of countries with tax rates higher or lower than the UK, the most significant of which is India.

Foreign tax includes current tax of $206 million (31 December 2018: $169 million) on the profits assessable in Hong Kong. Deferred tax includes origination or reversal of temporary differences of $(1) million (31 December 2018: $17 million) provided at a rate of 16.5 per cent (31 December 2018: 16.5 per cent) on the profits assessable in Hong Kong.

Tax rate: The tax charge for the year is higher than the charge at the rate of corporation tax in the UK, 19 per cent. The differences are explained below:

	2019 $million	2018 $million
Profit on ordinary activities before tax	3,713	2,548
Tax at 19 per cent (2018: 19 per cent)	705	484
Lower tax rates on overseas earnings	(89)	(66)
Higher tax rates on overseas earnings	316	354
Non-creditable withholding taxes	144	158
Tax-free income	(138)	(113)
Share of associates and joint ventures	(51)	(39)
Non-deductible expenses	288	322
Provision for regulatory matters	27	164
Bank levy	66	62
Non-taxable losses on investments	9	79
Payments on financial instruments in reserves	(67)	(68)
Capital gains tax on internal restructuring	179	–
Goodwill impairment	5	–
Deferred tax not recognised	41	2
Deferred tax assets written-off	30	–
Deferred tax rate changes	(6)	–
Adjustments to tax charge in respect of prior years	(76)	75
Other items	(10)	25
Tax on profit on ordinary activities	1,373	1,439

Factors affecting the tax charge in future years: The Group's tax charge, and effective tax rate in future years could be affected by several factors including acquisitions, disposals and restructuring of our businesses, the mix of profits across jurisdictions with different statutory tax rates, changes in tax legislation and tax rates and resolution of uncertain tax positions.

The evaluation of uncertain tax positions involves an interpretation of local tax laws which could be subject to challenge by a tax authority, and an assessment of whether the tax authorities will accept the position taken. The Group does not currently consider that assumptions or judgements made in assessing tax liabilities have a significant risk of resulting in a material adjustment within the next financial year.

	2019			2018		
Tax recognised in other comprehensive income	Current tax $million	Deferred tax $million	Total $million	Current tax $million	Deferred tax $million	Total $million
Items that will not be reclassified to income statement	15	27	42	9	(38)	(29)
Own credit adjustment	17	35	52	9	(45)	(36)
Equity instruments at fair value through other comprehensive income	5	(10)	(5)	–	1	1
Retirement benefit obligations	(7)	2	(5)	–	6	6
Items that may be reclassed subsequently to income statement	2	(50)	(48)	–	14	14
Debt instruments at fair value through other comprehensive income	2	(44)	(42)	–	20	20
Cash flow hedges	–	(6)	(6)	–	(6)	(6)
Total tax credit/(charge) recognised in equity	17	(23)	(6)	9	(24)	(15)

Current tax: The following are the movements in current tax during the year:

Current tax comprises:	2019 $million	2018 $million
Current tax assets	492	491
Current tax liabilities	(676)	(376)
Net current tax opening balance before transition	(184)	115
IFRS 9 transition	–	11
Net current tax opening balance after transition	(184)	126
Movements in income statement	(1,422)	(1,054)
Movements in other comprehensive income	17	9
Taxes paid	1,421	770
Other movements	4	(35)
Net current tax balance as at 31 December	(164)	(184)
Current tax assets	539	492
Current tax liabilities	(703)	(676)
Total	(164)	(184)

Deferred tax: The following are the major deferred tax liabilities and assets recognised by the Group and movements thereon during the year:

	At 1 January 2019 $million	Exchange & other adjustments $million	(Charge)/credit to profit $million	(Charge)/credit to equity $million	At 31 December 2019 $million
Deferred tax comprises:					
Accelerated tax depreciation	(494)	(5)	(27)	–	(526)
Impairment provisions on loans and advances	961	(13)	9	–	957
Tax losses carried forward	266	–	(3)	–	263
Fair value through other comprehensive income assets	3	1	1	(54)	(49)
Cash flow hedges	(7)	–	–	(6)	(13)
Own credit adjustment	(33)	–	–	35	2
Retirement benefit obligations	40	(3)	(8)	2	31
Share-based payments	15	–	1	–	16
Other temporary differences	(267)	4	76	–	(187)
Net deferred tax assets	484	(16)	49	(23)	494

	At 1 January 2018 $million	Exchange & other adjustments $million	(Charge)/credit to profit $million	(Charge)/credit to equity $million	At 31 December 2018 $million
Deferred tax comprises:					
Accelerated tax depreciation	(413)	4	(85)	–	(494)
Impairment provisions on loans and advances	1,206	(99)	(146)	–	961
Tax losses carried forward	290	(4)	(20)	–	266
Fair value through other comprehensive income assets	(21)	4	(1)	21	3
Cash flow hedges	(2)	1	–	(6)	(7)
Own credit adjustment	11	1	–	(45)	(33)
Retirement benefit obligations	38	(2)	(2)	6	40
Share-based payments	16	–	(1)	–	15
Other temporary differences	(190)	53	(130)	–	(267)
Net deferred tax assets	935	(42)	(385)	(24)	484

Deferred tax comprises assets and liabilities as follows:

	2019			2018		
	Total $million	Asset $million	Liability $million	Total $million	Asset $million	Liability $million
Deferred tax comprises:						
Accelerated tax depreciation	(526)	(9)	(517)	(494)	7	(501)
Impairment provisions on loans and advances	957	956	1	961	938	23
Tax losses carried forward	263	137	126	266	126	140
Fair value through other comprehensive income	(49)	(40)	(9)	3	(2)	5
Cash flow hedges	(13)	6	(19)	(7)	(12)	5
Own credit adjustment	2	4	(2)	(33)	(18)	(15)
Retirement benefit obligations	31	20	11	40	40	–
Share-based payments	16	14	2	15	15	–
Other temporary differences	(187)	17	(204)	(267)	(47)	(220)
	494	1,105	(611)	484	1,047	(563)

At 31 December 2019, the Group has net deferred tax assets of $494 million (31 December 2018: $484 million). The recoverability of the Group's deferred tax assets is based on management's judgement of the availability of future taxable profits against which the deferred tax assets will be utilised.

Of the Group's total deferred tax assets, $263 million relates to tax losses carried forward. These tax losses have arisen in individual legal entities and will be offset as future taxable profits arise in those entities.

- $108 million of the deferred tax assets relating to losses has arisen in Ireland, where there is no expiry date for unused tax losses. These losses relate to aircraft leasing and are expected to be fully utilised over the useful economical life of the assets, being up to 18 years
- $52 million of the deferred tax assets relating to losses has arisen in Korea. These losses have no expiry date, and there is a defined profit stream against which they are forecast to be utilised
- $69 million of the deferred tax assets relating to losses has arisen in the US. Management forecasts show that the losses are expected to be fully utilised over a period of nine years. The tax losses expire after 20 years

The remaining deferred tax assets of $34 million relating to losses has arisen in other jurisdictions and is expected to be recovered in less than 10 years.

	2019 $million	2018 $million
No account has been taken of the following potential deferred tax assets/(liabilities):		
Withholding tax on unremitted earnings from overseas subsidiaries	(230)	(281)
Tax losses	1,297	1,283
Held over gains on incorporation of overseas branches	(410)	(413)
Other temporary differences	83	79

11. Dividends

Accounting policy

Dividends on ordinary shares and preference shares classified as equity are recognised in equity in the year in which they are declared.

Dividends on ordinary equity shares are recorded in the year in which they are declared and, in respect of the final dividend, have been approved by the shareholders.

The Board considers a number of factors prior to dividend declaration which includes the rate of recovery in the Group's financial performance, the macroeconomic environment, and opportunities to further invest in our business and grow profitably in our markets.

At half year the Board decided to adopt a formulaic approach to setting the interim dividend for 2019, being one-third of the prior year full-year dividend per share.

Ordinary equity shares

	2019		2018[1]	
	Cents per share	$million	Cents per share	$million
2018/2017 final dividend declared and paid during the year	15	495	11	363
2019/2018 interim dividend declared and paid during the year	7	225	6	198

1 The amounts are gross of scrip adjustments

Dividends on ordinary equity shares are recorded in the period in which they are declared and, in respect of the final dividend, have been approved by the shareholders. Accordingly, the final ordinary equity share dividends set out above relate to the respective prior years. The 2018 final dividend of 15 cents per ordinary share ($495 million) was paid to eligible shareholders on 16 May 2019 and the 2019 interim dividend of seven cents per ordinary share ($225 million) was paid to eligible shareholders on 21 October 2019.

2019 recommended final ordinary equity share dividend

The 2019 ordinary equity share dividend recommended by the Board is 20 cents per share. The financial statements for the year ended 31 December 2019 do not reflect this dividend as this will be accounted for in shareholders' equity as an appropriation of retained profits in the year ending 31 December 2020.

The dividend will be paid in either pounds sterling, Hong Kong dollars or US dollars on 14 May 2020 to shareholders on the UK register of members at the close of business in the UK on 6 March 2020. The dividend will be paid in Indian rupees on 14 May 2020 to Indian Depository Receipt holders on the Indian register at the close of business in India on 6 March 2020.

Preference shares and Additional Tier 1 securities

Dividends on these preference shares and securities classified as equity are recorded in the period in which they are declared.

		2019 $million	2018 $million
Non-cumulative redeemable preference shares:	7.014 per cent preference shares of $5 each	53	53
	6.409 per cent preference shares of $5 each	30	26
		83	79
Additional Tier 1 securities: $5 billion fixed rate resetting perpetual subordinated contingent convertible securities		365	357
		448	436
Dividends on these preference shares are treated as interest expense and accrued accordingly.			
Non-cumulative irredeemable preference shares:	7 3/8 per cent preference shares of £1 each	9	9
	8 1/4 per cent preference shares of £1 each	11	10
		20	19

12. Earnings per ordinary share

Accounting policy

The Group measures earnings per share on an underlying basis. This differs from earnings defined in IAS 33 Earnings per share. Underlying earnings is profit/(loss) attributable to ordinary shareholders adjusted for profits or losses of a capital nature; amounts consequent to investment transactions driven by strategic intent; and other infrequent and/or exceptional transactions that are significant or material in the context of the Group's normal business earnings for the period.

The table below provides the basis of underlying earnings.

	2019 $million	2018 $million
Profit for the year attributable to equity holders	2,340	1,109
Non-controlling interests	(37)	(55)
Dividend payable on preference shares and AT1 classified as equity	(448)	(436)
Profit for the year attributable to ordinary shareholders	1,855	618
Items normalised:		
Provision for regulatory matters	226	900
Restructuring	254	478
Profit from joint venture	(48)	–
Gains arising on repurchase of subordinated liabilities	–	(69)
Goodwill impairment (Note 9)	27	–
Tax on normalised items[1]	152	104
Underlying profit	2,466	2,031
Basic – Weighted average number of shares (millions)	3,256	3,306
Diluted – Weighted average number of shares (millions)	3,290	3,340
Basic earnings per ordinary share (cents)	57.0	18.7
Diluted earnings per ordinary share (cents)	56.4	18.5
Underlying basic earnings per ordinary share (cents)	75.7	61.4
Underlying diluted earnings per ordinary share (cents)	75.0	60.8

1 No tax is included in respect of the impairment of goodwill as no tax relief is available

13. Financial instruments

Classification and measurement

Accounting policy

The Group classifies its financial assets into the following measurement categories: amortised cost; fair value through other comprehensive income; and fair value through profit or loss. Financial liabilities are classified as either amortised cost, or held at fair value through profit or loss. Management determines the classification of its financial assets and liabilities at initial recognition of the instrument or, where applicable, at the time of reclassification.

Financial assets held at amortised cost and fair value through other comprehensive income

Debt instruments held at amortised cost or held at fair value through other comprehensive income (FVOCI) have contractual terms that give rise to cash flows that are solely payments of principal and interest (SPPI characteristics). Principal is the fair value of the financial asset at initial recognition but this may change over the life of the instrument as amounts are repaid. Interest consists of consideration for the time value of money, for the credit risk associated with the principal amount outstanding during a particular period and for other basic lending risks and costs, as well as a profit margin.

In assessing whether the contractual cash flows have SPPI characteristics, the Group considers the contractual terms of the instrument. This includes assessing whether the financial asset contains a contractual term that could change the timing or amount of contractual cash flows such that it would not meet this condition. In making the assessment, the Group considers:

- Contingent events that would change the amount and timing of cash flows
- Leverage features
- Prepayment and extension terms
- Terms that limit the Group's claim to cash flows from specified assets (e.g. non-recourse asset arrangements)
- Features that modify consideration of the time value of money – e.g. periodical reset of interest rates

Whether financial assets are held at amortised cost, FVTPL or at FVOCI depends on the objectives of the business models under which the assets are held. A business model refers to how the Group manages financial assets to generate cash flows.

The Group makes an assessment of the objective of a business model in which an asset is held at the individual product business line, and where applicable, within business lines depending on the way the business is managed and information is provided to management. Factors considered include:

- How the performance of the product business line is evaluated and reported to the Group's management
- How managers of the business model are compensated, including whether management is compensated based on the fair value of assets or the contractual cash flows collected
- The risks that affect the performance of the business model and how those risks are managed
- The frequency, volume and timing of sales in prior periods, the reasons for such sales and expectations about future sales activity

The Group's business model assessment is as follows:

Business model	Business objective	Characteristics	Businesses	Products
Hold to collect	Intent is to originate financial assets and hold them to maturity, collecting the contractual cash flows over the term of the instrument	• Providing financing and originating assets to earn interest income as primary income stream • Performing credit risk management activities • Costs include funding costs, transaction costs and impairment losses	• Corporate Lending • Corporate Finance • Transaction Banking • Retail Lending • Treasury Markets (Loans and Borrowings) • Financial Markets (selected)	• Loans and advances • Debt securities
Hold to collect and sell	Business objective met through both hold to collect and by selling financial assets	• Portfolios held for liquidity needs; or where a certain interest yield profile is maintained; or that are normally rebalanced to achieve matching of duration of assets and liabilities • Income streams come from interest income, fair value changes, and impairment losses	• Treasury Markets	• Debt securities
Fair value through profit or loss	All other business objectives, including trading and managing financial assets on a fair value basis	• Assets held for trading • Assets that are originated, purchased, and sold for profit taking or underwriting activity • Performance of the portfolio is evaluated on a fair value basis • Income streams are from fair value changes or trading gains or losses	• All other business lines	• Derivatives • Trading portfolios • Financial Markets reverse repos

Financial assets which have SPPI characteristics and that are held within a business model whose objective is to hold financial assets to collect contractual cash flows ('hold to collect') are recorded at amortised cost. Conversely, financial assets which have SPPI characteristics but are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets ('hold to collect and sell') are classified as held at FVOCI.

Both hold to collect business and a hold to collect and sell business models involve holding financial assets to collect the contractual cash flows. However, the business models are distinct by reference to the frequency and significance that asset sales play in meeting the objective under which a particular group of financial assets is managed. Hold to collect business models are characterised by asset sales that are incidental to meeting the objectives under which a group of assets is managed. Sales of assets under a hold to collect business model can be made to manage increases in the credit risk of financial assets but sales for other reasons should be infrequent or insignificant.

Cash flows from the sale of financial assets under a hold to collect and sell business model by contrast are integral to achieving the objectives under which a particular group of financial assets are managed. This may be the case where frequent sales of financial assets are required to manage the Group's daily liquidity requirements or to meet regulatory requirements to demonstrate liquidity of financial instruments. Sales of assets under hold to collect and sell business models are therefore both more frequent and more significant in value than those under the hold to collect model.

Equity instruments designated as held at FVOCI

Non-trading equity instruments acquired for strategic purposes rather than capital gain may be irrevocably designated at initial recognition as held at FVOCI on an instrument by instrument basis. Dividends received are recognised in profit or loss. Gains and losses arising from changes in the fair value of these instruments, including foreign exchange gains and losses, are recognised directly in equity and are never reclassified to profit or loss, even on derecognition.

Financial assets and liabilities held at fair value through profit or loss

Financial assets which are not held at amortised cost or that are not held at fair value through other comprehensive income are held at fair value through profit or loss. Financial assets and liabilities held at fair value through profit or loss are either mandatorily classified fair value through profit or loss or irrevocably designated at fair value through profit or loss at initial recognition.

Mandatorily classified at fair value through profit or loss

Financial assets and liabilities which are mandatorily held at fair value through profit or loss are split between two subcategories as follows:

Trading, including:

- Financial assets and liabilities held for trading, which are those acquired principally for the purpose of selling in the short-term; and
- Derivatives

Non-trading mandatorily at fair value through profit or loss, including:

- Instruments in a business which has a fair value business model (see the Group's business model assessment) which are not trading or derivatives
- Hybrid financial assets that contain one or more embedded derivatives
- Financial assets that would otherwise be measured at amortised cost or FVOCI but which do not have SPPI characteristics
- Equity instruments that have not been designated as held at FVOCI
- Financial liabilities that constitute contingent consideration in a business combination

Designated at fair value through profit or loss

Financial assets and liabilities may be designated at fair value through profit or loss when the designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise from measuring assets or liabilities on a different basis ('accounting mismatch').

Interest rate swaps have been acquired by the Group with the intention of significantly reducing interest rate risk on certain debt securities with fixed rates of interest. To significantly reduce the accounting mismatch between assets and liabilities and measurement bases, these debt securities have been designated at fair value through profit or loss.

Similarly, to reduce accounting mismatches, the Group has designated certain financial liabilities at fair value through profit or loss where the liabilities either:

- Have fixed rates of interest and interest rate swaps or other interest rate derivatives have been entered with the intention of significantly reducing interest rate risk; or
- Are exposed to foreign currency risk and derivatives have been acquired with the intention of significantly reducing exposure to market changes; or
- Have been acquired to fund trading asset portfolios or assets

Financial liabilities may also be designated at fair value through profit or loss where they are managed on a fair value basis or have a embedded derivative where the Group is not able to bifurcate and separately value the embedded derivative component.

Financial liabilities held at amortised cost

Financial liabilities that are not financial guarantees or loan commitments and that are not classified as financial liabilities held at fair value through profit or loss are classified as financial liabilities held at amortised cost.

Preference shares which carry a mandatory coupon that represents a market rate of interest at the issue date, or which are redeemable on a specific date or at the option of the shareholder are classified as financial liabilities and are presented in other borrowed funds. The dividends on these preference shares are recognised in the income statement as interest expense on an amortised cost basis using the effective interest method.

Financial guarantee contracts and loan commitments

The Group issues financial guarantee contracts and loan commitments in return for fees. Under a financial guarantee contract, the Group undertakes to meet a customer's obligations under the terms of a debt instrument if the customer fails to do so. Loan commitments are firm commitments to provide credit under prespecified terms and conditions. Financial guarantee contracts and loan commitments issued at below market interest rates are initially recognised as liabilities at fair value, while financial guarantees and loan commitments issued at market rates are recorded off-balance sheet. Subsequently, these instruments are measured at the higher of the expected credit loss provision, and the amount initially recognised less the cumulative amount of income recognised in accordance with the principles of IFRS 15 Revenue from Contracts with Customers. Refer to the Annual Report for expected credit loss on loan commitments and financial guarantees.

Fair value of financial assets and liabilities

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 in the principal market for the asset or liability, or in the absence of a principal market, the most advantageous market to which the Group has access at the date. The fair value of a liability includes the risk that the bank will not be able to honour its obligations.

The fair value of financial instruments is generally measured on the basis of the individual financial instrument. However, when a group of financial assets and financial liabilities is managed on the basis of its net exposure to either market risk or credit risk, the fair value of the group of financial instruments is measured on a net basis.

The fair values of quoted financial assets and liabilities in active markets are based on current prices. A market is regarded as active if transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis. If the market for a financial instrument, and for unlisted securities, is not active, the Group establishes fair value by using valuation techniques.

Initial recognition

Purchases and sales of financial assets and liabilities held at fair value through profit or loss, and debt securities classified as financial assets held at fair value through other comprehensive income are initially recognised on the trade-date (the date on which the Group commits to purchase or sell the asset). Loans and advances and other financial assets held at amortised cost are recognised on the settlement date (the date on which cash is advanced to the borrowers).

All financial instruments are initially recognised at fair value, which is normally the transaction price, plus directly attributable transaction costs for financial assets which are not subsequently measured at fair value through profit or loss.

In certain circumstances, the initial fair value may be based on a valuation technique which may lead to the recognition of profits or losses at the time of initial recognition. However, these profits or losses can only be recognised when the valuation technique used is based solely on observable market data. In those cases where the initially recognised fair value is based on a valuation model that uses unobservable inputs, the difference between the transaction price and the valuation model is not recognised immediately in the income statement but is amortised or released to the income statement as the inputs become observable, or the transaction matures or is terminated.

Subsequent measurement

Financial assets and financial liabilities held at amortised cost

Financial assets and financial liabilities held at amortised cost are subsequently carried at amortised cost using the effective interest method (see Interest income and expense). Foreign exchange gains and losses are recognised in the income statement.

Where a financial instrument carried at amortised cost is the hedged item in a qualifying fair value hedge relationship, its carrying value is adjusted by the fair value gain or loss attributable to the hedged risk.

Financial assets held at FVOCI

Debt instruments held at FVOCI are subsequently carried at fair value, with all unrealised gains and losses arising from changes in fair value recognised in other comprehensive income and accumulated in a separate component of equity. Interest income, impairment and foreign exchange gains and losses are recognised in profit or loss when they occur, with changes in expected credit losses accumulated in equity. On derecognition, the cumulative fair value gains or losses, net of the cumulative expected credit loss reserve, are transferred to the profit or loss.

Equity investments designated at FVOCI are subsequently carried at fair value with all unrealised gains and losses arising from changes in fair value (including any related foreign exchange gains or losses) recognised in other comprehensive income and accumulated in a separate component of equity. On derecognition, the cumulative reserve is transferred to retained earnings and is not recycled to profit or loss.

Financial assets and liabilities held at fair value through profit or loss

Financial assets and liabilities mandatorily held at fair value through profit or loss and financial assets designated at fair value through profit or loss are subsequently carried at fair value, with gains and losses arising from changes in fair value, including contractual interest income or expense, recorded in the net trading income line in the profit or loss unless the instrument is part of a cash flow hedging relationship.

Financial liabilities designated at fair value through profit or loss

Financial liabilities designated at fair value through profit or loss are held at fair value, with changes in fair value recognised in the net trading income line in the profit or loss, other than that attributable to changes in credit risk. Fair value changes attributable to credit risk are recognised in other comprehensive income and recorded in a separate category of reserves unless this is expected to create or enlarge an accounting mismatch, in which case the entire change in fair value of the financial liability designated at fair value through profit or loss is recognised in profit or loss.

Derecognition of financial instruments

Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or where the Group has transferred substantially all risks and rewards of ownership. If substantially all the risks and rewards have been neither retained nor transferred and the Group has retained control, the assets continue to be recognised to the extent of the Group’s continuing involvement.

Where financial assets have been modified, the modified terms are assessed on a qualitative and quantitative basis to determine whether a fundamental change in the nature of the instrument has occurred, such as whether the derecognition of the pre-existing instrument and the recognition of a new instrument is appropriate.

On derecognition of a financial asset, the difference between the carrying amount of the asset (or the carrying amount allocated to the portion of the asset derecognised) and the sum of the consideration received (including any new asset obtained, less any new liability assumed) and any cumulative gain or loss that had been recognised in other comprehensive income is recognised in profit or loss except for equity instruments elected FVOCI (see above) and cumulative fair value adjustments attributable to the credit risk of a liability that are held in other comprehensive income.

Financial liabilities are derecognised when they are extinguished. A financial liability is extinguished when the obligation is discharged, cancelled or expires and this is evaluated both qualitatively and quantitatively. However, where a financial liability has been modified, it is derecognised if the difference between the modified cash flows and the original cash flows is more than 10 per cent, or if less than 10 per cent, the Group will perform a qualitative assessment to determine whether the terms of the two instruments are substantially different.

If the Group purchases its own debt, it is derecognised and the difference between the carrying amount of the liability and the consideration paid is included in 'Other income' except for the cumulative fair value adjustments attributable to the credit risk of a liability that are held in other comprehensive income which are never recycled to the profit or loss.

Modified financial instruments

Financial assets and financial liabilities whose original contractual terms have been modified, including those loans subject to forbearance strategies, are considered to be modified instruments. Modifications may include changes to the tenor, cash flows and or interest rates, among other factors.

Where derecognition of financial assets is appropriate (see Derecognition), the newly recognised residual loans are assessed to determine whether the assets should be classified as purchased or originated credit-impaired assets (POCI).

Where derecognition is not appropriate, the gross carrying amount of the applicable instruments is recalculated as the present value of the renegotiated or modified contractual cash flows discounted at the original effective interest rate (or credit adjusted effective interest rate for POCI financial assets). The difference between the recalculated values and the pre-modified gross carrying values of the instruments are recorded as a modification gain or loss in the profit or loss.

Gains and losses arising from modifications for credit reasons are recorded as part of 'Credit Impairment' (see Credit impairment policy). Modification gains and losses arising for non-credit reasons are recognised either as part of 'Credit impairment' or within income, depending on whether there has been a change in the credit risk on the financial asset subsequent to the modification. Modification gains and losses arising on financial liabilities are recognised within income. The movements in the applicable expected credit loss loan positions are disclosed in further detail in Risk review.

Reclassifications

Financial liabilities are not reclassified subsequent to initial recognition. Reclassifications of financial assets are made when, and only when, the business model for those assets changes. Such changes are expected to be infrequent and arise as a result of significant external or internal changes such as the termination of a line of business or the purchase of a subsidiary whose business model is to realise the value of pre-existing held for trading financial assets through a hold to collect model.

Financial assets are reclassified at their fair value on the date of reclassification and previously recognised gains and losses are not restated. Moreover, reclassifications of financial assets between financial assets held at amortised cost and financial assets held at fair value through other comprehensive income do not affect effective interest rate or expected credit loss computations.

Reclassified from amortised cost

Where financial assets held at amortised cost are reclassified to financial assets held at fair value through profit or loss, the difference between the fair value of the assets at the date of reclassification and the previously recognised amortised cost is recognised in profit or loss.

For financial assets held at amortised cost that are reclassified to fair value through other comprehensive income, the difference between the fair value of the assets at the date of reclassification and the previously recognised gross carrying value is recognised in other comprehensive income. Additionally, the related cumulative expected credit loss amounts relating to the reclassified financial assets are reclassified from loan loss provisions to a separate reserve in other comprehensive income at the date of reclassification.

Reclassified from fair value through other comprehensive income

Where financial assets held at fair value through other comprehensive income are reclassified to financial assets held at fair value through profit or loss, the cumulative gain or loss previously recognised in other comprehensive income is transferred to the profit or loss.

For financial assets held at fair value through other comprehensive income that are reclassified to financial assets held at amortised cost, the cumulative gain or loss previously recognised in other comprehensive income is adjusted against the fair value of the financial asset such that the financial asset is recorded at a value as if it had always been held at amortised cost. In addition, the related cumulative expected credit losses held within other comprehensive income are reversed against the gross carrying value of the reclassified assets at the date of reclassification.

Reclassified from fair value through profit or loss

Where financial assets held at fair value through profit or loss are reclassified to financial assets held at fair value through other comprehensive income or financial assets held at amortised cost, the fair value at the date of reclassification is used to determine the effective interest rate on the financial asset going forward. In addition, the date of reclassification is used as the date of initial recognition for the calculation of expected credit losses. Where financial assets held at fair value through profit or loss are reclassified to financial assets held at amortised cost, the fair value at the date of reclassification becomes the gross carrying value of the financial asset.

The Group's classification of its financial assets and liabilities is summarised in the following tables.

		Assets at fair value							
Assets	Notes	Trading $million	Derivatives held for hedging $million	Non-trading mandatorily at fair value through profit or loss $million	Designated at fair value through profit or loss $million	Fair value through other comprehensive income $million	Total financial assets at fair value $million	Assets held at amortised cost $million	Total $million
Cash and balances at central banks		–	–	–	–	–	–	52,728	52,728
Financial assets held at fair value through profit or loss									
Loans and advances to banks[1]		198	–	3,330	–	–	3,528	–	3,528
Loans and advances to customers[1]		2,886	–	4,010	–	–	6,896	–	6,896
Reverse repurchase agreements and other similar secured lending	16	–	–	57,604	–	–	57,604	–	57,604
Debt securities, alternative tier one and other eligible bills		21,877	–	166	278	–	22,321	–	22,321
Equity shares		2,208	–	152	109	–	2,469	–	2,469
		27,169	–	65,262	387	–	92,818	–	92,818
Derivative financial instruments	14	46,424	788	–	–	–	47,212	–	47,212
Loans and advances to banks[1]	15	–	–	–	–	–	–	53,549	53,549
Of which: reverse repurchase agreements and other similar secured lending	16	–	–	–	–	–	–	1,341	1,341
Loans and advances to customers[1]	15	–	–	–	–	–	–	268,523	268,523
Of which: reverse repurchase agreements and other similar secured lending	16	–	–	–	–	–	–	1,469	1,469
Investment securities									
Debt securities, alternative tier one and other eligible bills		–	–	–	–	129,471	129,471	13,969	143,440
Equity shares		–	–	–	–	291	291	–	291
		–	–	–	–	129,762	129,762	13,969	143,731
Other assets	20	–	–	–	–	–	–	36,161	36,161
Assets held for sale	21	–	–	87	243	–	330	90	420
Total as at 31 December 2019		73,593	788	65,349	630	129,762	270,122	425,020	695,142

1 Further analysed in Risk review and Capital review

Assets	Notes	Assets at fair value: Trading $million	Assets at fair value: Derivatives held for hedging $million	Assets at fair value: Non-trading mandatorily at fair value through profit or loss $million	Assets at fair value: Designated at fair value through profit or loss $million	Assets at fair value: Fair value through other comprehensive income $million	Assets at fair value: Total financial assets at fair value $million	Assets held at amortised cost $million	Total $million
Cash and balances at central banks		–	–	–	–	–	–	57,511	57,511
Financial assets held at fair value through profit or loss									
Loans and advances to banks[1]		146	–	3,622	–	–	3,768	–	3,768
Loans and advances to customers[1]		1,074	–	3,854	–	–	4,928	–	4,928
Reverse repurchase agreements and other similar secured lending	16	–	–	54,769	–	–	54,769	–	54,769
Debt securities, alternative tier one and other eligible bills		21,246	–	393	337	–	21,976	–	21,976
Equity shares		1,347	–	233	111	–	1,691	–	1,691
		23,813	–	62,871	448	–	87,132	–	87,132
Derivative financial instruments	14	45,108	513	–	–	–	45,621	–	45,621
Loans and advances to banks[1]	15	–	–	–	–	–	–	61,414	61,414
Of which: reverse repurchase agreements and other similar secured lending	16	–	–	–	–	–	–	3,815	3,815
Loans and advances to customers[1]	15	–	–	–	–	–	–	256,557	256,557
Of which: reverse repurchase agreements and other similar secured lending	16	–	–	–	–	–	–	3,151	3,151
Investment securities									
Debt securities, alternative tier one and other eligible bills		–	–	–	–	116,335	116,335	9,303	125,638
Equity shares		–	–	–	–	263	263	–	263
		–	–	–	–	116,598	116,598	9,303	125,901
Other assets	20	–	–	–	–	–	–	32,678	32,678
Assets held for sale	21	78	–	358	451	–	887	135	1,022
Total as at 31 December 2018		68,999	513	63,229	899	116,598	250,238	417,598	667,836

1 Further analysed in Risk review and Capital review

Liabilities	Notes	Liabilities at fair value Trading $million	 Derivatives held for hedging $million	 Designated at fair value through profit or loss $million	 Total financial liabilities at fair value $million	Amortised cost $million	Total $million
Financial liabilities held at fair value through profit or loss							
Deposits by banks		–	–	1,081	1,081	–	1,081
Customer accounts		–	–	6,947	6,947	–	6,947
Repurchase agreements and other similar secured borrowing	16	–	–	46,283	46,283	–	46,283
Debt securities in issue	22	–	–	8,510	8,510	–	8,510
Short positions		4,153	–	–	4,153	–	4,153
		4,153	–	62,821	66,974	–	66,974
Derivative financial instruments	14	46,906	1,578	–	48,484	–	48,484
Deposits by banks		–	–	–	–	28,562	28,562
Customer accounts		–	–	–	–	405,357	405,357
Repurchase agreements and other similar secured borrowing	16	–	–	–	–	1,935	1,935
Debt securities in issue	22	–	–	–	–	53,025	53,025
Other liabilities	23	–	–	–	–	41,149	41,149
Subordinated liabilities and other borrowed funds	27	–	–	–	–	16,207	16,207
Total as at 31 December 2019		51,059	1,578	62,821	115,458	546,235	661,693

Liabilities	Notes	Liabilities at fair value Trading $million	 Derivatives held for hedging $million	 Designated at fair value through profit or loss $million	 Total financial liabilities at fair value $million	Amortised cost $million	Total $million
Financial liabilities held at fair value through profit or loss							
Deposits by banks		–	–	318	318	–	318
Customer accounts		–	–	6,751	6,751	–	6,751
Repurchase agreements and other similar secured borrowing	16	–	–	43,000	43,000	–	43,000
Debt securities in issue	22	–	–	7,405	7,405	–	7,405
Short positions		3,226	–	–	3,226	–	3,226
		3,226	–	57,474	60,700	–	60,700
Derivative financial instruments	14	45,580	1,629	–	47,209	–	47,209
Deposits by banks		–	–	–	–	29,715	29,715
Customer accounts		–	–	–	–	391,013	391,013
Repurchase agreements and other similar secured borrowing	16	–	–	–	–	1,401	1,401
Debt securities in issue	22	–	–	–	–	46,454	46,454
Other liabilities	23	–	–	–	–	37,945	37,945
Subordinated liabilities and other borrowed funds	27	–	–	–	–	15,001	15,001
Liabilities included in disposal groups held for sale	21	198	–	–	198	–	198
Total as at 31 December 2018		49,004	1,629	57,474	108,107	521,529	629,636

Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount reported in the balance sheet when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis, or to realise the asset and settle the liability simultaneously.

In practice, for credit mitigation, the Group is able to offset assets and liabilities which do not meet the IAS 32 netting criteria set out above. Such arrangements include master netting arrangements for derivatives and global master repurchase agreements for repurchase and reverse repurchase transactions. These agreements generally allow that all outstanding transactions with a particular counterparty can be offset but only in the event of default or other predetermined events.

In addition, the Group also receives and pledges readily realisable collateral for derivative transactions to cover net exposure in the event of a default. Under repurchase and reverse repurchase agreements the Group pledges (legally sells) and obtains (legally purchases) respectively, highly liquid assets which can be sold in the event of a default.

The following tables set out the impact of netting on the balance sheet. This comprises derivative transactions settled through an enforceable netting agreement where we have the intent and ability to settle net and which are offset on the balance sheet.

	2019					
	Gross amounts of recognised financial instruments $million	Impact of offset in the balance sheet $million	Net amounts of financial instruments presented in the balance sheet $million	Related amount not offset in the balance sheet		Net amount $million
				Financial instruments $million	Financial collateral $million	
Assets						
Derivative financial instruments	63,854	(16,642)	47,212	(28,659)	(7,824)	10,729
Reverse repurchase agreements and other similar secured lending	63,535	(3,121)	60,414	–	(60,414)	–
As at 31 December 2019	127,389	(19,763)	107,626	(28,659)	(68,238)	10,729
Liabilities						
Derivative financial instruments	65,126	(16,642)	48,484	(28,659)	(9,169)	10,656
Repurchase agreements and other similar secured borrowing	51,339	(3,121)	48,218	–	(48,218)	–
As at 31 December 2019	116,465	(19,763)	96,702	(28,659)	(57,387)	10,656

	2018					
	Gross amounts of recognised financial instruments $million	Impact of offset in the balance sheet $million	Net amounts of financial instruments presented in the balance sheet $million	Related amount not offset in the balance sheet		Net amount $million
				Financial instruments $million	Financial collateral $million	
Assets						
Derivative financial instruments	55,274	(9,653)	45,621	(32,283)	(9,259)	4,079
Reverse repurchase agreements and other similar secured lending	65,191	(3,456)	61,735	–	(61,735)	–
As at 31 December 2018	120,465	(13,109)	107,356	(32,283)	(70,994)	4,079
Liabilities						
Derivative financial instruments	56,862	(9,653)	47,209	(32,283)	(10,323)	4,603
Repurchase agreements and other similar secured borrowing	47,857	(3,456)	44,401	–	(44,401)	–
As at 31 December 2018	104,719	(13,109)	91,610	(32,283)	(54,724)	4,603

Related amounts not offset in the balance sheet comprises:

- Financial instruments not offset in the balance sheet but covered by an enforceable netting arrangement. This comprises master netting arrangements held against derivative financial instruments and excludes the effect of over-collateralisation
- Financial instruments where we may not have sought or been able to obtain a legal opinion evidencing enforceability of the right of offset
- Financial collateral – This comprises cash collateral pledged and received for derivative financial instruments and collateral bought and sold for reverse repurchase and repurchase agreements respectively and excludes the effect of over-collateralisation

Financial liabilities designated at fair value through profit or loss (restated)

	2019 $million	2018 $million
Carrying balance aggregate fair value	62,821	57,474
Amount contractually obliged to repay at maturity	62,505	57,974
Difference between aggregate fair value and contractually obliged to repay at maturity	316	(500)
Cumulative change in fair value accredited to Credit Risk difference	17	476

The net fair value loss on financial liabilities designated at fair value through profit or loss was $1,602 million for the year (31 December 2018: net loss of $864 million). Further details of the Group's own credit adjustment (OCA) valuation technique is described later in this Note. The net fair value loss on financial liabilities designated at fair value through profit or loss now includes contractual interests, refer to Note 1 Accounting policies.

Valuation of financial instruments

The fair values of quoted financial assets and liabilities in active markets are based on current prices. A market is regarded as active if transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis. Wherever possible, fair values have been calculated using unadjusted quoted market prices in active markets for identical instruments held by the Group. Where quoted market prices are not available, or are unreliable because of poor liquidity, fair values have been determined using valuation techniques which, to the extent possible, use market observable inputs, but in some cases use non-market observable inputs. Valuation techniques used include discounted cash flow analysis and pricing models and, where appropriate, comparison with instruments that have characteristics similar to those of the instruments held by the Group.

The Valuation Control function is responsible for independent price verification, oversight of fair value and appropriate value adjustments and escalation of valuation issues. Independent price verification is the process of determining that the valuations incorporated into the financial statements are validated independent of the business area responsible for the product. The Valuation Control function has oversight of the fair value adjustments to ensure that the financial instruments are priced to exit. These are key controls in ensuring the material accuracy of the valuations incorporated in the financial statements. The market data used for price verification may include data sourced from recent trade data involving external counterparties or third parties such as Bloomberg, Reuters, brokers and consensus pricing providers. Valuation Control performs a semi-annual review of the suitability of the market data used for price testing. Price verification uses independently sourced data that is deemed most representative of the market the instruments trade in. To determine the quality of the market data inputs, factors such as independence, relevance, reliability, availability of multiple data sources and methodology employed by the pricing provider are taken into consideration.

The Valuation and Benchmarks Committee (VBC) is the valuation governance forum consisting of representatives from Group Market Risk, Product Control, Valuation Control and the business, which meets monthly to discuss and approve the independent valuations of the inventory. For Principal Finance, the Investment Committee meeting is held on a quarterly basis to review investments and valuations.

Significant accounting estimates and judgements

The Group evaluates the significance of financial instruments and material accuracy of the valuations incorporated in the financial statements as they involve a high degree of judgement and estimation uncertainty in determining the carrying values of financial assets and liabilities at the balance sheet date.

- Fair value of financial instruments is determined using valuation techniques and estimates (see below) which, to the extent possible, use market observable inputs, but in some cases use non-market observable inputs. Changes in the observability of significant valuation inputs can materially affect the fair values of financial instruments
- When establishing the exit price of a financial instrument using a valuation technique, the Group estimates valuation adjustments in determining the fair value
- In determining the valuation of financial instruments, the Group makes judgements on the amounts reserved to cater for model and valuation risks, which cover both Level 2 and Level 3 assets, and the significant valuation judgements in respect of Level 3 instruments

Where the estimated measurement of fair value is more judgemental in respect of Level 3 assets, these are valued based on models that use a significant degree of non-market-based unobservable inputs

Valuation techniques

Refer to the fair value hierarchy explanation – Level 1, 2 and 3

- Financial instruments held at fair value
  - Debt securities – asset-backed securities: Asset-backed securities are valued based on external prices obtained from consensus pricing providers, broker quotes, recent trades, arrangers' quotes, etc. Where an observable price is available for a given security, it is classified as Level 2. In instances where third-party prices are not available or reliable, the security is classified as Level 3. The fair value of Level 3 securities is estimated using market standard cash flow models with input parameter assumptions which include prepayment speeds, default rates, discount margins derived from comparable securities with similar vintage, collateral type, and credit ratings
  - Debt securities in issue: These debt securities relate to structured notes issued by the Group. Where independent market data is available through pricing vendors and broker sources, these positions are classified as Level 2. Where such liquid external prices are not available, valuations of these debt securities are implied using input parameters such as bond spreads and credit spreads, and are classified as Level 3. These input parameters are determined with reference to the same issuer (if available) or proxies from comparable issuers or assets

- Derivatives: Derivative products are classified as Level 2 if the valuation of the product is based upon input parameters which are observable from independent and reliable market data sources. Derivative products are classified as Level 3 if there are significant valuation input parameters which are unobservable in the market, such as products where the performance is linked to more than one underlying variable. Examples are foreign exchange basket options, equity options based on the performance of two or more underlying indices and interest rate products with quanto payouts. In most cases these unobservable correlation parameters cannot be implied from the market, and methods such as historical analysis and comparison with historical levels or other benchmark data must be employed
- Equity shares – private equity: The majority of private equity unlisted investments are valued based on earning multiples – Price-to-Earnings (P/E) or enterprise value to earnings before income tax, depreciation and amortisation (EV/EBITDA) ratios – of comparable listed companies. The two primary inputs for the valuation of these investments are the actual or forecast earnings of the investee companies and earning multiples for the comparable listed companies. To ensure comparability between these unquoted investments and the comparable listed companies, appropriate adjustments are also applied (for example, liquidity and size) in the valuation. In circumstances where an investment does not have direct comparables or where the multiples for the comparable companies cannot be sourced from reliable external sources, alternative valuation techniques (for example, discounted cash flow models), which use predominantly unobservable inputs or Level 3 inputs, may be applied. Even though earning multiples for the comparable listed companies can be sourced from third-party sources (for example, Bloomberg), and those inputs can be deemed Level 2 inputs, all unlisted investments (excluding those where observable inputs are available, for example, over-the-counter (OTC) prices) are classified as Level 3 on the basis that the valuation methods involve judgements ranging from determining comparable companies to discount rates where the discounted cash flow method is applied
- Loans and advances: These primarily include loans in the global syndications business which were not syndicated as of the balance sheet date and other financing transactions within Financial Markets and loans and advances including reverse repurchase agreements that do not have SPPI cash flows or are managed on a fair value basis. These loans are generally bilateral in nature and, where available, their valuation is based on observable clean sales transactions prices or market observable spreads. If observable credit spreads are not available, proxy spreads based on comparable loans with similar credit grade, sector and region, are used. Where observable credit spreads and market standard proxy methods are available, these loans are classified as Level 2. Where there are no recent transactions or comparable loans, these loans are classified as Level 3
- Other debt securities: These debt securities include convertible bonds, corporate bonds, credit and structured notes. Where quoted prices are available through pricing vendors, brokers or observable trading activities from liquid markets, these are classified as Level 2 and valued using such quotes. Where there are significant valuation inputs which are unobservable in the market, due to illiquid trading or the complexity of the product, these are classified as Level 3. The valuations of these debt securities are implied using input parameters such as bond spreads and credit spreads. These input parameters are determined with reference to the same issuer (if available) or proxied from comparable issuers or assets

• Financial instruments held at amortised cost

The following sets out the Group's basis for establishing fair values of amortised cost financial instruments and their classification between Levels 1, 2 and 3. As certain categories of financial instruments are not actively traded, there is a significant level of management judgement involved in calculating the fair values:

- Cash and balances at central banks: The fair value of cash and balances at central banks is their carrying amounts
- Debt securities in issue, subordinated liabilities and other borrowed funds: The aggregate fair values are calculated based on quoted market prices. For those notes where quoted market prices are not available, a discounted cash flow model is used based on a current market related yield curve appropriate for the remaining term to maturity
- Deposits and borrowings: The estimated fair value of deposits with no stated maturity is the amount repayable on demand. The estimated fair value of fixed interest-bearing deposits and other borrowings without quoted market prices is based on discounted cash flows using the prevailing market rates for debts with a similar Credit Risk and remaining maturity

– Investment securities: For investment securities that do not have directly observable market values, the Group utilises a number of valuation techniques to determine fair value. Where available, securities are valued using input proxies from the same or closely related underlying (for example, bond spreads from the same or closely related issuer) or input proxies from a different underlying (for example, a similar bond but using spreads for a particular sector and rating). Certain instruments cannot be proxies as set out above, and in such cases the positions are valued using non-market observable inputs. This includes those instruments held at amortised cost and predominantly relates to asset-backed securities. The fair value for such instruments is usually proxies from internal assessments of the underlying cash flows

– Loans and advances to banks and customers: For loans and advances to banks, the fair value of floating rate placements and overnight deposits is their carrying amounts. The estimated fair value of fixed interest-bearing deposits is based on discounted cash flows using the prevailing money market rates for debts with a similar Credit Risk and remaining maturity. The Group's loans and advances to customers' portfolio is well diversified by geography and industry. Approximately a quarter of the portfolio re-prices within one month, and approximately half re-prices within 12 months. Loans and advances are presented net of provisions for impairment. The fair value of loans and advances to customers with a residual maturity of less than one year generally approximates the carrying value. The estimated fair value of loans and advances with a residual maturity of more than one year represents the discounted amount of future cash flows expected to be received, including assumptions relating to prepayment rates and Credit Risk. Expected cash flows are discounted at current market rates to determine fair value. The Group has a wide range of individual instruments within its loans and advances portfolio and, as a result, providing quantification of the key assumptions used to value such instruments is impractical

– Other assets: Other assets comprise primarily of cash collateral and trades pending settlement. The carrying amount of these financial instruments is considered to be a reasonable approximation of fair value as they are either short-term in nature or re-price to current market rates frequently

Fair value adjustments

When establishing the exit price of a financial instrument using a valuation technique, the Group considers adjustments to the modelled price which market participants would make when pricing that instrument. The main valuation adjustments (described further below) in determining fair value for financial assets and financial liabilities are as follows:

	01.01.19 $million	Movement during the year $million	31.12.19 $million	01.01.18 $million	Movement during the year $million	31.12.18 $million
Bid-offer valuation adjustment	67	12	79	82	(15)	67
Credit valuation adjustment	196	(60)	136	229	(33)	196
Debit valuation adjustment	(143)	100	(43)	(66)	(77)	(143)
Model valuation adjustment	6	1	7	6	–	6
Funding valuation adjustment	60	(34)	26	79	(19)	60
Other fair value adjustments	59	(14)	45	65	(6)	59
Total	245	5	250	395	(150)	245
Income deferrals						
Day 1 and other deferrals	100	3	103	83	17	100
Total	100	3	103	83	17	100

Note: Bracket represents an asset and credit to the income statement

- Bid-offer valuation adjustment: Generally, market parameters are marked on a mid-market basis in the revaluation systems, and a bid-offer valuation adjustment is required to quantify the expected cost of neutralising the business' positions through dealing away in the market, thereby bringing long positions to bid and short positions to offer. The methodology to calculate the bid-offer adjustment for a derivative portfolio involves netting between long and short positions and the grouping of risk by strike and tenor based on the hedging strategy where long positions are marked to bid and short positions marked to offer in the systems

- Credit valuation adjustment (CVA): The Group accounts for CVA against the fair value of derivative products. CVA is an adjustment to the fair value of the transactions to reflect the possibility that our counterparties may default and we may not receive the full market value of the outstanding transactions. It represents an estimate of the adjustment a market participant would include when deriving a purchase price to acquire our exposures. CVA is calculated for each subsidiary, and within each entity for each counterparty to which the entity has exposure and takes account of any collateral we may hold. The Group calculates the CVA by using estimates of future positive exposure, market-implied probability of default (PD) and recovery rates. Where market-implied data is not readily available, we use market-based proxies to estimate the PD. Wrong-way risk occurs when the exposure to a counterparty is adversely correlated with the credit quality of that counterparty, and the Group has implemented a model to capture this impact for key wrong-way exposures. The Group also captures the uncertainties associated with wrong-way risk in the Group's Prudential Valuation Adjustments framework
- Debit valuation adjustment (DVA): The Group calculates DVA adjustments on its derivative liabilities to reflect changes in its own credit standing. The Group's DVA adjustments will increase if its credit standing worsens and conversely, decrease if its credit standing improves. For derivative liabilities, a DVA adjustment is determined by applying the Group's probability of default to the Group's negative expected exposure against the counterparty. The Group's probability of default and loss expected in the event of default is derived based on bond and CDS spreads associated with the Group's issuances and market standard recovery levels. The expected exposure is modelled based on the simulation of the underlying risk factors over the expected life of the deal. This simulation methodology incorporates the collateral posted by the Group and the effects of master netting agreements
- Model valuation adjustment: Valuation models may have pricing deficiencies or limitations that require a valuation adjustment. These pricing deficiencies or limitations arise due to the choice, implementation and calibration of the pricing model
- Funding valuation adjustment (FVA): The Group makes FVA adjustments against derivative products. FVA reflects an estimate of the adjustment to its fair value that a market participant would make to incorporate funding costs or benefits that could arise in relation to the exposure. FVA is calculated by determining the net expected exposure at a counterparty level and then applying a funding rate to those exposures that reflect the market cost of funding. The FVA for uncollateralised (including partially collateralised) derivatives incorporates the estimated present value of the market funding cost or benefit associated with funding these transactions
- Other fair value adjustments: The Group calculates the fair value on the interest rate callable products by calibrating to a set of market prices with differing maturity, expiry and strike of the trades
- Day one and other deferrals: In certain circumstances the initial fair value may be based on a valuation technique which may lead to the recognition of profits or losses at the time of initial recognition. However, these profits or losses can only be recognised when the valuation technique used is based primarily on observable market data. In those cases where the initially recognised fair value is based on a valuation model that uses inputs which are not observable in the market, the difference between the transaction price and the valuation model is not recognised immediately in the income statement. The difference is amortised to the income statement until the inputs become observable, or the transaction matures or is terminated. Other deferrals primarily represent adjustments taken to reflect the specific terms and conditions of certain derivative contracts which affect the termination value at the measurement date

In addition, the Group calculates OCA on its issued debt designated at fair value, including structured notes, in order to reflect changes in its own credit standing. The Group's OCA reserve will increase if its credit standing worsens and conversely, decrease if its credit standing improves. The Group's OCA reserve will reverse over time as its liabilities mature. For issued debt and structured notes designated at fair value, an OCA adjustment is determined by discounting the contractual cash flows using a yield curve adjusted for market observed secondary senior unsecured credit spreads. The OCA as at 31 December 2019 is $17 million, other comprehensive income loss $462 million (31 December 2018: $476 million, other comprehensive income gain $394 million).

Fair value hierarchy – financial instruments held at fair value

Assets and liabilities carried at fair value or for which fair values are disclosed have been classified into three levels according to the observability of the significant inputs used to determine the fair values. Changes in the observability of significant valuation inputs during the reporting period may result in a transfer of assets and liabilities within the fair value hierarchy. The Group recognises transfers between levels of the fair value hierarchy when there is a significant change in either its principal market or the level of observability of the inputs to the valuation techniques as at the end of the reporting period.

- Level 1: Fair value measurements are those derived from unadjusted quoted prices in active markets for identical assets or liabilities
- Level 2: Fair value measurements are those 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: Fair value measurements are those where inputs which could have a significant effect on the instrument's valuation are not based on observable market data

The following tables show the classification of financial instruments held at fair value into the valuation hierarchy:

Assets	Level 1 $million	Level 2 $million	Level 3 $million	Total $million
Financial instruments held at fair value through profit or loss				
Loans and advances to banks	–	3,163	365	3,528
Loans and advances to customers	–	6,453	443	6,896
Reverse repurchase agreements and other similar secured lending	–	57,604	–	57,604
Debt securities, alternative tier one and other eligible bills	5,963	16,158	200	22,321
Of which:				
Government bonds and treasury bills	5,656	7,898	–	13,554
Issued by corporates other than financial institutions[1]	7	5,090	200	5,297
Issued by financial institutions[1]	300	3,170	–	3,470
Equity shares	2,241	–	228	2,469
Derivative financial instruments	466	46,729	17	47,212
Of which:				
Foreign exchange	69	25,929	8	26,006
Interest rate	28	19,342	4	19,374
Credit	–	1,231	1	1,232
Equity and stock index options	–	23	4	27
Commodity	369	204	–	573
Investment securities				
Debt securities, alternative tier one and other eligible bills	73,699	55,734	38	129,471
Of which:				
Government bonds and treasury bills	54,637	19,664	33	74,334
Issued by corporates other than financial institutions[1]	11,667	14,505	5	26,177
Issued by financial institutions[1]	7,395	21,565	–	28,960
Equity shares	30	4	257	291
Total financial instruments as at 31 December 2019[2]	82,399	185,845	1,548	269,792
Liabilities				
Financial instruments held at fair value through profit or loss				
Deposits by banks	–	1,025	56	1,081
Customer accounts	–	6,907	40	6,947
Repurchase agreements and other similar secured borrowing	–	46,283	–	46,283
Debt securities in issue	–	8,100	410	8,510
Short positions	2,499	1,654	–	4,153
Derivative financial instruments	515	47,912	57	48,484
Of which:				
Foreign exchange	97	26,824	5	26,926
Interest rate	31	18,891	9	18,931
Credit	–	1,892	23	1,915
Equity and stock index options	–	76	20	96
Commodity	387	229	–	616
Total financial instruments as at 31 December 2019[2]	3,014	111,881	563	115,458

1 Includes covered bonds of $3,499 million, securities issued by Multilateral Development Banks/International Organisations of $5,977 million and State-owned agencies and development banks of $13,411 million

2 The above table does not include held for sale assets of $330 million and liabilities of $nil. These are reported in Note 21 together with their fair value hierarchy

There were no significant changes to valuation or levelling approaches in 2019.

There were no significant transfers of financial assets and liabilities measured at fair value between Level 1 and Level 2 during the year.

Assets	Level 1 $million	restated Level 2 $million	restated Level 3 $million	Total $million
Financial instruments held at fair value through profit or loss				
Loans and advances to banks	–	3,136[3]	632[3]	3,768
Loans and advances to customers	–	4,436	492	4,928
Reverse repurchase agreements and other similar secured lending	–	54,769	–	54,769
Debt securities, alternative tier one and other eligible bills	8,097	13,562	317	21,976
Of which:				
Government bonds and treasury bills	6,699	6,851	–	13,550
Issued by corporates other than financial institutions[1]	178	3,241	317	3,736
Issued by financial institutions[1]	1,220	3,470	–	4,690
Equity shares	1,364	–	327	1,691
Derivative financial instruments	907	44,702	12	45,621
Of which:				
Foreign exchange	149	31,242	7	31,398
Interest rate	4	12,237	5	12,246
Credit	–	252	–	252
Equity and stock index options	–	89	–	89
Commodity	754	882	–	1,636
Investment securities				
Debt securities, alternative tier one and other eligible bills	67,624	48,299	412	116,335
Of which:				
Government bonds and treasury bills	52,329	17,928	412	70,669
Issued by corporates other than financial institutions[1]	8,366	9,839	–	18,205
Issued by financial institutions[1]	6,929	20,532	–	27,461
Equity shares	29	4	230	263
Total financial instruments as at 31 December 2018[2]	78,021	168,908	2,422	249,351
Liabilities				
Financial instruments held at fair value through profit or loss				
Deposits by banks	–	314	4	318
Customer accounts	–	6,751	–	6,751
Repurchase agreements and other similar secured borrowing	–	43,000	–	43,000
Debt securities in issue	–	6,966	439	7,405
Short positions	1,999	1,227	–	3,226
Derivative financial instruments	809	46,335[3]	65[3]	47,209
Of which:				
Foreign exchange	137	32,655	7	32,799
Interest rate	15	12,923[3]	15[3]	12,953
Credit	–	273	8	281
Equity and stock index options	–	32	35	67
Commodity	657	452	–	1,109
Total financial instruments as at 31 December 2018[2]	2,808	104,593	508	107,909

1 Includes covered bonds of $5,466 million, securities issued by Multilateral Development Banks/International Organisations of $7,432 million and State-owned agencies and development banks of $7,549 million. The above table does not include held for sale assets of $887 million and liabilities of $198 million
2 The above table does not include held for sale assets of $887 million and liabilities of $198 million. These are reported in Note 21 together with their fair value hierarchy
3 Prior year balances have been restated due to review of observability parameters. The impact was to reclassify $632 million from Level 2 loans and advances to banks to Level 3 and $340 million from Level 3 interest rate derivative financial instruments liabilities to Level 2

There were no significant transfers of financial assets and liabilities measured at fair value between Level 1 and Level 2 during the year.

Fair value hierarchy – financial instruments measured at amortised cost

The following table shows the carrying amounts and incorporates the Group's estimate of fair values of those financial assets and liabilities not presented on the Group's balance sheet at fair value. These fair values may be different from the actual amount that will be received or paid on the settlement or maturity of the financial instrument. For certain instruments, the fair value may be determined using assumptions for which no observable prices are available.

		Fair value			
	Carrying value $million	Level 1 $million	Level 2 $million	Level 3 $million	Total $million
Assets					
Cash and balances at central banks[1]	52,728	–	52,728	–	52,728
Loans and advances to banks	53,549	–	53,431	–	53,431
Of which – reverse repurchase agreements and other similar secured lending	1,341	–	1,356	–	1,356
Loans and advances to customers	268,523	–	22,829	246,632	269,461
Of which – reverse repurchase agreements and other similar secured lending	1,469	–	1,341	130	1,471
Investment securities[2]	13,969	–	13,107	20	13,127
Other assets[1]	36,161	–	36,161	–	36,161
Assets held for sale	90	–	70	20	90
As at 31 December 2019	425,020	–	178,326	246,672	424,998
Liabilities					
Deposits by banks	28,562	–	28,577	–	28,577
Customer accounts	405,357	–	405,361	–	405,361
Repurchase agreements and other similar secured borrowing	1,935	–	1,935	–	1,935
Debt securities in issue	53,025	20,031	33,269	–	53,300
Subordinated liabilities and other borrowed funds	16,207	15,986	803	–	16,789
Other liabilities[1]	41,149	–	41,149	–	41,149
As at 31 December 2019	546,235	36,017	511,094	–	547,111

		Fair value			
	Carrying value $million	Level 1 $million	Level 2 $million	Level 3 $million	Total $million
Assets					
Cash and balances at central banks[1]	57,511	–	57,511	–	57,511
Loans and advances to banks	61,414	–	61,357	–	61,357
Of which – reverse repurchase agreements and other similar secured lending	3,815	–	3,842	–	3,842
Loans and advances to customers	256,557	–	18,514	238,797	257,311
Of which – reverse repurchase agreements and other similar secured lending	3,151	–	2,409	744	3,153
Investment securities[2]	9,303	–	8,953	8	8,961
Other assets[1]	32,678	–	32,673	–	32,673
Assets held for sale	135	–	135	–	135
As at 31 December 2018	417,598	–	179,143	238,805	417,948
Liabilities					
Deposits by banks	29,715	–	29,715	–	29,715
Customer accounts	391,013	–	391,018	–	391,018
Repurchase agreements and other similar secured borrowing	1,401	–	1,401	–	1,401
Debt securities in issue	46,454	17,009	29,195	–	46,204
Subordinated liabilities and other borrowed funds	15,001	14,505	23	–	14,528
Other liabilities[1]	37,945	–	37,945	–	37,945
As at 31 December 2018	521,529	31,514	489,297	–	520,811

1 The carrying amount of these financial instruments is considered to be a reasonable approximation of fair value as they are short-term in nature or reprice to current market rates frequently

2 Includes Government bonds and Treasury bills of $5,973 million as at 31 December 2019 and $4,716 million as at 31 December 2018

Loans and advances to customers by client segment[1]

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	2019					
	Carrying value			Fair value		
	Stage 3 $million	Stage 1 and stage 2 $million	Total $million	Stage 3 $million	Stage 1 and stage 2 $million	Total $million
Corporate & Institutional Banking	1,193	110,006	111,199	1,244	109,996	111,240
Retail Banking	472	105,896	106,368	482	106,939	107,421
Commercial Banking	510	25,607	26,117	541	25,463	26,004
Private Banking	219	14,522	14,741	219	14,471	14,690
Central & other items	–	10,098	10,098	–	10,106	10,106
As at 31 December 2019	2,394	266,129	268,523	2,486	266,975	269,461

	2018					
	Carrying value			Fair value		
	Stage 3 $million	Stage 1 and stage 2 $million	Total $million	Stage 3 $million	Stage 1 and stage 2 $million	Total $million
Corporate & Institutional Banking	1,758	102,919	104,677	1,818	102,791	104,609
Retail Banking	436	100,799	101,235	447	101,810	102,257
Commercial Banking	539	26,220	26,759	652	25,989	26,641
Private Banking	135	13,481	13,616	134	13,442	13,576
Central & other items	–	10,270	10,270	–	10,228	10,228
As at 31 December 2018	2,868	253,689	256,557	3,051	254,260	257,311

1 Loans and advances includes reverse repurchase agreements and other similar secured lending: carrying value $1,469 million and fair value $1,471 million (31 December 2018: $3,151 million and $3,153 million respectively)

Fair value of financial instruments

Level 3 Summary and significant unobservable inputs

The following table presents the Group's primary Level 3 financial instruments which are held at fair value. The table also presents the valuation techniques used to measure the fair value of those financial instruments, the significant unobservable inputs, the range of values for those inputs and the weighted average of those inputs:

	Value as at 31 December 2019					
Instrument	Assets $million	Liabilities $million	**Principal valuation technique**	**Significant unobservable inputs**	Range[1]	Weighted average[2]
Loans and advances to banks	365	-	Discounted cash flows	Price/yield	1.0 – 15.6%	10.8%
Loans and advances to customers	443	–	Discounted cash flows	Price/yield	0.5% – 6.9%	4.2%
				Recovery rates	18.9% – 100%	92.1%
Debt securities, alternative tier one and other eligible securities	184	–	Discounted cash flows	Price/Yield	3.8% – 18.7%	11.6%
Government bonds and treasury bills	33	–	Discounted cash flows	Price/Yield	2.9% – 5.5%	3.7%
Asset-backed securities	21	–	Discounted cash flows	Price/Yield	1.4% – 3.2%	2.7%
Equity shares (includes private equity investments)[3]	485	–	Comparable pricing/yield	EV/EBITDA multiples	3.5x – 7.3x	4.6x
				P/E multiples	17.4x	17.4x
				P/B multiples	0.6x – 1.0x	0.9x
				P/S multiples	N/A	N/A
				Liquidity discount	10.0% – 20.0%	15.9%
			Discounted cash flows	Discount rates	8.4% – 16.2%	9.5%
Derivative financial instruments of which:						
Foreign exchange	8	5	Option Pricing Model	Foreign Exchange Option Implied Volatility	4.4% – 18.9%	16.7%
			Discounted cash flows	Foreign Exchange Curves	7.8% – 8.0%	7.9%
Interest rate	4	9	Discounted cash flows	Interest rate curves	5.3% – 19.6%	8.6%
			Option Pricing Model	Bond Option Implied Volatility	17.0% – 28.0%	24.0%
Credit	1	23	Discounted cash flows	Credit spreads	1.0% – 7.9%	1.1%
Equity and stock index	4	20	Internal pricing model	Equity Correlation	1.0% – 90.0%	58.0%
				Equity-FX Correlation	(80.0)% – 70.0%	(29.0)%
Deposits by banks	–	56	Discounted cash flows	Credit Spreads	1.0% – 1.8%	1.4%
Customer accounts	–	40	Discounted cash flows	Credit Spreads	1.0% – 5.8%	2.7%
Debt securities in issue	–	410	Discounted cash flows	Credit Spreads	0.1% – 1.4%	0.9%
			Internal Pricing Model	Equity Correlation	1.0% – 90.0%	58.0%
				Equity-FX Correlation	(80.0)% – 70.0%	(29.0)%
Total	1,548	563				

1 The ranges of values shown in the above table represent the highest and lowest levels used in the valuation of the Group's Level 3 financial instruments as at 31 December 2019. The ranges of values used are reflective of the underlying characteristics of these Level 3 financial instruments based on the market conditions at the balance sheet date. However, these ranges of values may not represent the uncertainty in fair value measurements of the Group's Level 3 financial instruments

2 Weighted average for non-derivative financial instruments has been calculated by weighting inputs by the relative fair value. Weighted average for derivatives has been provided by weighting inputs by the risk relevant to that variable. N/A has been entered for the cases where weighted average is not a meaningful indicator

3 The Group has an equity investment in the Series B preferred shares of Ripple Labs, Inc., which owns a digital currency (XRP) and is being carried at a fair value based on the shares' initial offering price

Instrument	Value as at 31 December 2018 Assets $million	Liabilities $million	Principal valuation technique	Significant unobservable inputs	restated Range[1]	restated Weighted average[2]
Loans and advances to banks	632	–	Comparable pricing/yield	Price/yield	1.0% – 28.5%[4]	17.7%[4]
Loans and advances to customers	492	–	Comparable pricing/yield	Price/yield	N/A	N/A
			Discounted cash flows	Recovery rates	25.5% – 100%	94.7%
Debt securities, alternative tier one and other eligible securities	73	–	Comparable pricing/yield	Price/yield	5.4% – 6.3%	5.6%
Government bonds and treasury bills	412	–	Discounted cash flows	Price/yield	2.9% – 38.1%	11.2%
Asset-backed securities	244	–	Discounted cash flows	Price/yield	1.0% – 11.0%	3.4%
Equity shares (includes private equity investments)[3]	557	–	Comparable pricing/yield	EV/EBITDA multiples	5.2x – 9.1x	8.5x
				P/E multiples	14.5x	14.5x
				P/B multiples	0.6x – 1.0x	1.0x
				P/S multiples	N/A	N/A
				Liquidity discount	10.0% – 20.0%	14.8%
			Discounted cash flows	Discount rates	7.3% – 13.2%	9.6%
Derivative financial instruments of which:						
Foreign exchange	7	7	Option pricing model	Foreign exchange option implied volatility	5.2% – 5.4%	5.4%
			Discounted cash flows	Foreign exchange curves	(0.4)% – 3.7%	0.4%
Interest rate	5	15	Discounted cash flows	Interest rate curves	6.4% – 16.8%	8.3%
Credit	–	8	Discounted cash flows	Credit spreads	0.4% – 2.8%[4]	0.8%[4]
Equity and stock index	–	35	Internal pricing model	Equity correlation	4.5% – 89.5%	N/A
				Equity-FX correlation	(80.0)%– 80.0%	N/A
Deposits by banks	–	4	Discounted cash flows	Credit spreads	1.0% – 1.0%	1.0%
Debt securities in issue		439	Discounted cash flows	Credit spreads	0.4% – 4.0%	1.4%
			Internal pricing model	Equity correlation	4.5% – 89.5%	N/A
				Equity FX correlation	(80.0)% –80.0%	N/A
Total	2,422	508				

1 The ranges of values shown in the above table represent the highest and lowest levels used in the valuation of the Group's Level 3 financial instruments as at 31 December 2018. The ranges of values used are reflective of the underlying characteristics of these Level 3 financial instruments based on the market conditions at the balance sheet date. However, these ranges of values may not represent the uncertainty in fair value measurements of the Group's Level 3 financial instruments

2 Weighted average for non-derivative financial instruments has been calculated by weighting inputs by the relative fair value. Weighted average for derivatives has been provided by weighting inputs by the risk relevant to that variable. N/A has been entered for the cases where weighted average is not a meaningful indicator

3 The Group has an equity investment in the Series B preferred shares of Ripple Labs, Inc., which owns a digital currency (XRP) and is being carried at a fair value based on the shares' initial offering price

4 Prior year input ranges and weighted averages have been recalculated due to the prior year restatement of fair value hierarchy balances

The following section describes the significant unobservable inputs identified in the valuation technique table:

- Comparable price/yield is a valuation methodology in which the price of a comparable instrument is used to estimate the fair value where there are no direct observable prices. Yield is the interest rate that is used to discount the future cash flows in a discounted cash flow model. Valuation using comparable instruments can be done by calculating an implied yield (or spread over a liquid benchmark) from the price of a comparable instrument, then adjusting that yield (or spread) to derive a value for the instrument. The adjustment should account for relevant differences in the financial instruments such as maturity and/or credit quality. Alternatively, a price-to-price basis can be assumed between the comparable instrument and the instrument being valued in order to establish the value of the instrument (for example, deriving a fair value for a junior unsecured bond from the price of a senior secured bond). An increase in price, in isolation, would result in a favourable movement in the fair value of the asset. An increase in yield, in isolation, would result in an unfavourable movement in the fair value of the asset
- Correlation is the measure of how movement in one variable influences the movement in another variable. An equity correlation is the correlation between two equity instruments while an interest rate correlation refers to the correlation between two swap rates
- Credit spread represents the additional yield that a market participant would demand for taking exposure to the Credit Risk of an instrument
- Discount rate refers to the rate of return used to convert expected cash flows into present value

- Equity-FX correlation is the correlation between equity instrument and foreign exchange instrument
- EV/EBITDA ratio multiples is the ratio of Enterprise Value (EV) to Earnings Before Interest, Taxes, Depreciation and Amortisation (EBITDA). EV is the aggregate market capitalisation and debt minus the cash and cash equivalents. An increase in EV/EBITDA multiples in isolation, will result in a favourable movement in the fair value of the unlisted firm
- Foreign exchange curves is the term structure for forward rates and swap rates between currency pairs over a specified period
- Interest rate curves is the term structure of interest rates and measure of future interest rates at a particular point in time
- Liquidity discounts in the valuation of unlisted investments primarily applied to the valuation of unlisted firms' investments to reflect the fact that these stocks are not actively traded. An increase in liquidity discount will result in unfavourable movement in the fair value of the unlisted firm
- Price-Earnings (P/E) multiples is the ratio of the Market Capitalisation to the net income after tax. The multiples are determined from multiples of listed comparables, which are observable. An increase in P/E multiple will result in a favourable movement in the fair value of the unlisted firm
- Price-Book (P/B) multiple is the ratio of the market value of equity to the book value of equity. An increase in P/B multiple will result in a favourable movement in the fair value of the unlisted firm
- Price-Sales (P/S) multiple is the ratio of the market value of equity to sales. An increase in P/S multiple will result in a favourable movement in the fair value of the unlisted firm
- Recovery rates are the expectation of the rate of return resulting from the liquidation of a particular loan. As the probability of default increases for a given instrument, the valuation of that instrument will increasingly reflect its expected recovery level, assuming default. An increase in the recovery rate, in isolation, would result in a favourable movement in the fair value of the loan
- Volatility represents an estimate of how much a particular instrument, parameter or index will change in value over time. Generally, the higher the volatility, the more expensive the option will be

Level 3 movement tables – financial assets

The table below analyses movements in Level 3 financial assets carried at fair value.

	Held at fair value through profit or loss					Investment securities		
Assets	Loans and advances to banks $million	Loans and advances to customers $million	Debt securities, alternative tier one and other eligible bills $million	Equity shares $million	Derivative financial instruments $million	Debt securities, alternative tier one and other eligible bills $million	Equity shares $million	Total $million
As at 1 January 2019	632	492	317	327	12	412	230	2,422
Total (losses)/gains recognised in income statement	(25)	(31)	(14)	(26)	(15)	2	–	(109)
Net trading income	(25)	(31)	(14)	(26)	(15)	–	–	(111)
Other operating income	–	–	–	–	–	2	–	2
Total (losses)/gains recognised in other comprehensive income (OCI)	–	–	–	–	–	(341)	5	(336)
Fair value through OCI reserve	–	–	–	–	–	(4)	12	8
Exchange difference	–	–	–	–	–	(337)	(7)	(344)
Purchases	826	133	106	139	109	156	26	1,495
Sales	–	(8)	(248)	(153)	(26)	(1)	(7)	(443)
Settlements	(1,068)	(253)	(3)	–	(5)	(34)	–	(1,363)
Transfers out[1]	–	(6)	(86)	(134)	(75)	(161)	–	(462)
Transfers in[2]	–	116	128	75	17	5	3	344
As at 31 December 2019	365	443	200	228	17	38	257	1,548
Total unrealised losses recognised in the income statement, within net trading income, relating to change in fair value of assets held as at 31 December 2019	–	–	(1)	–	(1)	–	–	(2)

1 Transfers out include debt securities, alternative tier one and other eligible bills, equity shares, derivative financial instruments and loans and advances where the valuation parameters became observable during the year and were transferred to Level 1 and Level 2. Transfers out further relates to $74 million equity shares held for sale

2 Transfers in primarily relate to debt securities, alternative tier one and other eligible bills, loans and advances, equity shares and derivative financial instruments where the valuation parameters become unobservable during the year

The table below analyses movements in Level 3 financial assets carried at fair value.

Assets	Held at fair value through profit or loss						Investment securities		
	restated Loans and advances to banks $million	Loans and advances to customers $million	Reverse repurchase agreements and other similar secured lending $million	Debt securities, alternative tier one and other eligible bills $million	Equity shares $million	Derivative financial instruments $million	Debt securities, alternative tier one and other eligible bills $million	Equity shares $million	restated Total $million
As at 1 January 2018	71	717	–	431	1,100	40	318	150	2,827
Total gains/(losses) recognised in income statement	1[3]	13	–	(44)	(10)	(3)	22	–	(21)
Net trading income	1	13	–	(44)	(10)	(3)	–	–	(43)
Other operating income	–	–	–	–	–	–	22	–	22
Total (losses)/gains recognised in other comprehensive income (OCI)	–	–	–	–	–	–	(2)	40	38
Fair value through OCI reserve	–	–	–	–	–	–	–	41	41
Exchange difference	–	–	–	–	–	–	(2)	(1)	(3)
Purchases	532[3]	328	55	120	143	70	445	38	1,731
Sales	–	(254)	–	(215)	(176)	(40)	–	(5)	(690)
Settlements	(71)	(261)	–	(6)	–	(14)	(210)	–	(562)
Transfers out[1]	–[3]	(112)	(55)	(8)	(743)	(43)	(161)	(1)	(1,123)
Transfers in[2]	99	61	–	39	13	2	–	8	222
As at 31 December 2018	632	492	–	317	327	12	412	230	2,422
Total unrealised (losses)/gains recognised in the income statement, within net trading income, relating to change in fair value of assets held as at 31 December 2018	-	(2)	-	-	22	(3)	-	-	17

1 Transfers out include equity shares, debt securities, alternative tier one and other eligible bills, loans and advances, reverse repurchase agreements, and derivative financial instruments where the valuation parameters became observable during the year, and were transferred to Level 1 and Level 2. Transfers out further relates to $743 million equity shares held for sale

2 Transfers in primarily relate to loans and advances, debt securities, alternative tier one and other eligible bills, equity shares and derivative financial instruments where the valuation parameters become unobservable during the year

3 Prior year movements have been restated due to the prior year restatement of fair value hierarchy balances

Level 3 movement tables – financial liabilities

	2019				
	Deposits by banks $million	Customer accounts $million	Debt securities in issue $million	Derivative financial instruments $million	Total $million
As at 1 January 2019	4	–	439	65	508
Total (gains)/losses recognised in income statement – net trading income	(1)	(2)	22	45	64
Issues	53	41	592	436	1,122
Settlements	–	–	(522)	(561)	(1,083)
Transfers out[1]	–	–	(121)	(13)	(134)
Transfers in[2]	–	1	–	85	86
As at 31 December 2019	56	40	410	57	563
Total unrealised (gains)/losses recognised in the income statement, within net trading income, relating to change in fair value of liabilities held as at 31 December 2019	–	(2)	16	2	16

	2018			
	Deposits by banks $million	Debt securities in issue $million	restated Derivative financial instruments $million	restated Total $million
As at 1 January 2018	69	442	25	536
Total losses/(gains) recognised in income statement – net trading income	1	(22)	8[3]	(13)
Issues	4	167	21[3]	192
Settlements	(70)	(148)	(3)[3]	(221)
Transfers out[1]	–	–	(2)	(2)
Transfers in[2]	–	–	16	16
As at 31 December 2018	4	439	65	508
Total unrealised (gains)/losses recognised in the income statement, within net trading income, relating to change in fair value of liabilities held as at 31 December 2018	–	(5)	8	3

1 Transfers out during the year primarily relate to debt securities in issue and derivative financial instruments where the valuation parameters became observable during the year and were transferred to Level 2 financial liabilities
2 Transfers in during the year primarily relate to derivative financial instruments and customer accounts where the valuation parameters become unobservable during the year
3 Prior year movements have been restated due to the prior year restatement of fair value hierarchy balances

Sensitivities in respect of the fair values of Level 3 assets and liabilities

Sensitivity analysis is performed on products with significant unobservable inputs. The Group applies a 10 per cent increase or decrease on the values of these unobservable inputs, to generate a range of reasonably possible alternative valuations. The percentage shift is determined by statistical analysis performed on a set of reference prices based on the composition of the Group's Level 3 inventory as the measurement date. Favourable and unfavourable changes (which show the balance adjusted for input change) are determined on the basis of changes in the value of the instrument as a result of varying the levels of the unobservable parameters. The Level 3 sensitivity analysis assumes a one-way market move and does not consider offsets for hedges.

	Held at fair value through profit or loss			Fair value through other comprehensive income		
	Net exposure $million	Favourable changes $million	Unfavourable changes $million	Net exposure $million	Favourable changes $million	Unfavourable changes $million
Financial instruments held at fair value						
Loans and advances	808	820	787	–	–	–
Asset backed securities	21	21	21	–	–	–
Debt securities, alternative tier one and other eligible bills	179	189	170	38	38	38
Equity shares	228	255	201	257	283	231
Derivative financial instruments	(40)	(34)	(46)	–	–	–
Customer accounts	(40)	(40)	(40)	–	–	–
Deposits by banks	(56)	(56)	(56)	–	–	–
Debt securities in issue	(410)	(379)	(441)	–	–	–
As at 31 December 2019	690	776	596	295	321	269
Financial instruments held at fair value						
Loans and advances	1,124[1]	1,149[1]	1,095[1]	–	–	–
Asset backed securities[2]	244	246	242	–	–	–
Debt securities, alternative tier one and other eligible bills	73	78	68	412	415	409
Equity shares	327	360	294	230	253	207
Derivative financial instruments	(53)[1]	(40)[1]	(66)[1]	–	–	–
Deposits by banks	(4)	(4)	(4)	–	–	–
Debt securities in issue	(439)	(417)	(461)	–	–	–
As at 31 December 2018	1,272	1,372	1,168	642	668	616

1 Prior year sensitivities have been recalculated due to the prior year restatement of fair value hierarchy balances
2 Asset backed securities are now presented separately. In the prior year these were included in debt securities and other eligible bills

Reasonably possible alternatives could have increased or decreased the fair values of financial instruments held at fair value through profit or loss and those classified as fair value through other comprehensive income by the amounts disclosed below.

Financial instruments	Fair value changes	2019 $million	2018 $million
Held at fair value through profit or loss	Possible increase	86	100
	Possible decrease	(94)	(104)
Fair value through other comprehensive income	Possible increase	26	26
	Possible decrease	(26)	(26)

14. Derivative financial instruments

Accounting policy

Derivatives are financial instruments that derive their value in response to changes in interest rates, financial instrument prices, commodity prices, foreign exchange rates, credit risk and indices. Derivatives are categorised as trading unless they are designated as hedging instruments.

Derivatives are initially recognised and subsequently measured at fair value, with revaluation gains recognised in profit or loss (except where cash flow or net investment hedging has been achieved, in which case the effective portion of changes in fair value is recognised within other comprehensive income).

Fair values may be obtained from quoted market prices in active markets, recent market transactions, and valuation techniques, including discounted cash flow models and option pricing models, as appropriate. Where the initially recognised fair value of a derivative contract is based on a valuation model that uses inputs which are not observable in the market, it follows the same initial recognition accounting policy as for other financial assets and liabilities. All derivatives are carried as assets when fair value is positive and as liabilities when fair value is negative.

Hedge accounting

Under certain conditions, the Group may designate a recognised asset or liability, a firm commitment, highly probable forecast transaction or net investment of a foreign operation into a formal hedge accounting relationship with a derivative that has been entered to manage interest rate and/or foreign exchange risks present in the hedged item. The Group continues to apply the hedge accounting requirements of IAS 39 Financial Instruments: Recognition and Measurement, and has early adopted the amendments to IAS 39 in respect of interest rate benchmark reform. There are three categories of hedge relationships:

- Fair value hedge: to manage the fair value of interest rate and/or foreign currency risks of recognised assets or liabilities or firm commitments
- Cash flow hedge: to manage interest rate or foreign exchange risk of highly probable future cash flows attributable to a recognised asset or liability, or a forecasted transaction
- Net investment hedge: to manage the structural foreign exchange risk of an investment in a foreign operation

The Group formally documents at the inception of the transaction the relationship between hedging instruments and hedged items, as well as its risk management objective and strategy for undertaking hedge transactions. This is described in more detail in the categories of hedges below.

The Group assesses, both at hedge inception and on a quarterly basis, whether the derivatives designated in hedge relationships are highly effective in offsetting changes in fair values or cash flows of hedged items. Hedges are considered to be highly effective if all the following criteria are met:

- At inception of the hedge and throughout its life, the hedge is prospectively expected to be highly effective in achieving offsetting changes in fair value or cash flows attributable to the hedged risk
- Actual results of the hedge are within a range of 80–125 per cent. This is tested using regression analysis
- The regression co-efficient (R squared), which measures the correlation between the variables in the regression, is at least 80 per cent
- In the case of the hedge of a forecast transaction, the transaction must have a high probability of occurring and must present an exposure to variations in cash flows that are expected to affect reported profit or loss. The Group assumes that any interest rate benchmarks on which hedged item cash flows are based are not altered by IBOR reform

The Group discontinues hedge accounting in any of the following circumstances:

- The hedging instrument is not, or has ceased to be, highly effective as a hedge
- The hedging instrument has expired, is sold, terminated or exercised
- The hedged item matures, is sold or repaid
- The forecast transaction is no longer deemed highly probable
- The Group elects to discontinue hedge accounting voluntarily

For interest rate benchmarks deemed in scope of IBOR reform, if the actual result of a hedge is outside the 80-125 per cent range, but it can be demonstrated that this is caused by interest rate benchmark uncertainty and the hedge passes the prospective assessment, then the Group will not de-designate the hedge relationship.

Fair value hedge
Changes in the fair value of derivatives that are designated and qualify as fair value hedging instruments are recorded in net trading income, together with any changes in the fair value of the hedged asset or liability that are attributable to the hedged risk. If the hedge no longer meets the criteria for hedge accounting, the adjustment to the carrying amount of a hedged item for which the effective interest method is used is amortised to the income statement over the remaining term to maturity of the hedged item. If the hedged item is sold or repaid, the unamortised fair value adjustment is recognised immediately in the income statement. For financial assets classified as fair value through other comprehensive income, the hedge accounting adjustment is included in other comprehensive income.

Cash flow hedge
The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedging instruments are initially recognised in other comprehensive income, accumulating in the cash flow hedge reserve within equity. These amounts are subsequently recycled to the income statement in the periods when the hedged item affects profit or loss. Both the derivative fair value movement and any recycled amount are recorded in the 'Cashflow hedges' line item in other comprehensive income.

The Group assesses hedge effectiveness using the hypothetical derivative method, which creates a derivative instrument to serve as a proxy for the hedged transaction. The terms of the hypothetical derivative match the critical terms of the hedged item and it has a fair value of zero at inception. The hypothetical derivative and the actual derivative are regressed to establish the statistical significance of the hedge relationship. Any ineffective portion of the gain or loss on the hedging instrument is recognised in the net trading income immediately.

For interest rate benchmarks deemed in scope of IBOR reform, the Group will retain the cumulative gain or loss in the cash flow hedge reserve for designated cash flow hedges, even though there is uncertainty arising from these reforms with respect to the timing and amount of the cash flows of the hedged items. Should the Group consider that the hedged future cash flows are no longer expected to occur due to reasons other than IBOR reform, the cumulative gain or loss will be immediately reclassified to profit or loss.

Net investment hedge
Hedges of net investments are accounted for in a similar manner to cash flow hedges, with gains and losses arising on the effective portion of the hedges recorded in the line 'Exchange differences on translation of foreign operations' in other comprehensive income, accumulating in the translation reserve within equity. These amounts remain in equity until the net investment is disposed of. The ineffective portion of the hedges is recognised in the net trading income immediately.

The tables below analyse the notional principal amounts and the positive and negative fair values of derivative financial instruments. Notional principal amounts are the amounts of principal underlying the contract at the reporting date.

Derivatives

s	2019 Notional principal amounts $million	2019 Assets $million	2019 Liabilities $million	2018 Notional principal amounts $million	2018 Assets $million	2018 Liabilities $million
Foreign exchange derivative contracts:						
Forward foreign exchange contracts	2,290,781	16,281	16,396	2,080,513	16,457	17,264
Currency swaps and options	806,226	9,725	10,530	856,660	14,941	15,535
	3,097,007	26,006	26,926	2,937,173	31,398	32,799
Interest rate derivative contracts:						
Swaps	4,046,209	34,011	33,351	3,693,897	20,378	20,909
Forward rate agreements and options	284,973	1,826	2,061	489,943	1,400	1,586
Exchange traded futures and options	359,031	179	161	775,518	121	111
	4,690,213	36,016	35,573	4,959,358	21,899	22,606
Credit derivative contracts	80,972	1,232	1,915	39,343	252	281
Equity and stock index options	3,412	27	96	2,960	89	67
Commodity derivative contracts	79,458	573	616	69,601	1,636	1,109
Gross total derivatives	7,951,062	63,854	65,126	8,008,435	55,274	56,862
Offset	–	(16,642)	(16,642)	–	(9,653)	(9,653)
Total derivatives	7,951,062	47,212	48,484	8,008,435	45,621	47,209

The Group limits exposure to credit losses in the event of default by entering into master netting agreements with certain market counterparties. As required by IAS 32, exposures are only presented net in these accounts where they are subject to legal right of offset and intended to be settled net in the ordinary course of business.

The Group may enter into economic hedges that do not qualify for IAS 39 hedge accounting treatment, including derivative such as interest rate swaps, interest rate futures and cross currency swaps to manage interest rate and currency risks of the Group. These derivatives are measured at fair value, with fair value changes recognised in net trading income: refer to Market Risk.

The Derivatives and Hedging sections of the Risk review and Capital review explain the Group's risk management of derivative contracts and application of hedging.

Derivatives held for hedging

The Group enters into derivative contracts for the purpose of hedging interest rate, currency and structural foreign exchange risks inherent in assets, liabilities and forecast transactions. The table below summarises the notional principal amounts and carrying values of derivatives designated in hedge accounting relationships at the reporting date.

	2019 Notional principal amounts $million	2019 Assets $million	2019 Liabilities $million	2018 Notional principal amounts $million	2018 Assets $million	2018 Liabilities $million
Derivatives designated as fair value hedges:						
Interest rate swaps	69,121	617	589	63,675	306	573
Currency swaps	8,405	47	774	8,963	30	942
	77,526	664	1,363	72,638	336	1,515
Derivatives designated as cash flow hedges:						
Interest rate swaps	9,277	53	74	10,733	59	67
Forward foreign exchange contracts	289	6	20	184	–	18
Currency swaps	5,254	34	51	2,701	57	22
	14,820	93	145	13,618	116	107
Derivatives designated as net investment hedges:						
Forward foreign exchange contracts	5,103	31	70	5,200	61	7
Total derivatives held for hedging	97,449	788	1,578	91,456	513	1,629

Fair value hedges

The Group issues various long-term fixed rate debt issuances that are measured at amortised cost, including some denominated in foreign currency, such as unsecured senior and subordinated debt (see Notes 22 and 27). The Group also holds various fixed rate debt securities such as government and corporate bonds, including some denominated in foreign currency (see Note 13). These assets and liabilities held are exposed to changes in fair value due to movements in market interest and foreign currency rates.

The Group uses interest rate swaps to exchange fixed rates for floating rates on funding to match floating rates received on assets, or exchange fixed rates on assets to match floating rates paid on funding. The Group further uses cross currency swaps to match the currency of the issued debt or held asset with that of the entity's functional currency.

Hedge ineffectiveness from fair value hedges is driven by cross currency basis risk. The amortisation of fair value hedge adjustments for hedged items no longer designated is recognised in net trading income. In future periods hedge relationships linked to an interest rate benchmark deemed in scope of benchmark reform may experience ineffectiveness due to market participants' expectations for when the change from the existing IBOR benchmark to an alternative risk-free rate will occur, since the transition may occur at different times for the hedged item and hedging instrument.

As at 31 December 2019 the Group held the following interest rate and cross currency swaps as hedging instruments in fair value hedges of interest and currency risk.

Hedging instruments and ineffectiveness

	2019				
		Carrying amount			
Interest rate and currency risk[1]	Notional $million	Asset $million	Liability $million	Change in fair value used to calculate hedge ineffectiveness $million	Ineffectiveness gain/(loss) recognised in net trading income $million
Interest rate swaps – issued notes	22,029	559	44	511	–
Cross currency swaps – subordinated notes issued	5,451	17	751	32	6
Interest rate swaps – loans and advances	1,410	1	24	(22)	(1)
Interest rate swaps – debt securities and other eligible bills	45,682	57	521	(589)	12
Cross currency swaps – debt securities and other eligible bills	2,954	30	23	(18)	1
Total as at 31 December 2019	77,526	664	1,363	(86)	18

1 Interest rate swaps are designated in hedges of the fair value of interest rate risk attributable to the hedged item. Cross currency swaps are used to hedge both interest rate and currency risks. All of the hedging instruments are derivatives, with changes in fair value, including hedge ineffectiveness recorded within net trading income

	2018				
		Carrying amount			
Interest rate and currency risk[1]	Notional $million	Asset $million	Liability $million	Change in fair value used to calculate hedge ineffectiveness $million	Ineffectiveness gain/(loss) recognised in net trading income $million
Interest rate swaps – issued notes	19,112	270	310	(73)	–
Cross currency swaps – subordinated notes issued	7,349	–	938	(622)	(93)
Interest rate swaps – loans and advances	1,757	4	7	(6)	–
Interest rate swaps – debt securities and other eligible bills	42,806	32	256	(164)	(3)
Cross currency swaps – debt securities and other eligible bills	1,614	30	4	14	1
Total as at 31 December 2018	72,638	336	1,515	(851)	(95)

1 Interest rate swaps are designated in hedges of the fair value of interest rate risk attributable to the hedged item. Cross currency swaps are used to hedge both interest rate and currency risks. All of the hedging instruments are derivatives, with changes in fair value, including hedge ineffectiveness recorded within net trading income

Hedged items in fair value hedges

	2019					
	Carrying amount		Accumulated amount of fair value hedge adjustments included in the carrying amount		Change in fair value used for calculating hedge ineffectiveness	Cumulative balance of fair value adjustments from de-designated hedge relationships[1]
	Asset $million	Liability $million	Asset $million	Liability $million	$million	$million
Issued notes	–	27,921	–	271	(537)	611
Debt securities and other eligible bills	49,190	–	373	–	620	(120)
Loans and advances to customers	1,431	–	22	–	21	–
Total as at 31 December 2019	50,621	27,921	395	271	104	491

	2018					
	Carrying amount		Accumulated amount of fair value hedge adjustments included in the carrying amount		Change in fair value used for calculating hedge ineffectiveness	Cumulative balance of fair value adjustments from de-designated hedge relationships[1]
	Asset $million	Liability $million	Asset $million	Liability $million	$million	$million
Issued notes	–	26,646	–	982	602	443
Debt securities and other eligible bills	44,885	–	129	–	155	37
Loans and advances to customers	1,147	–	5	–	1	7
Total as at 31 December 2018	46,032	26,646	134	982	758	487

1 This represents a credit/(debit) to the balance sheet value

Income statement impact of fair value hedges

	2019 Income/(expense) $million	2018 Income/(expense) $million
Change in fair value of hedging instruments	(86)	(851)
Change in fair value of hedged risks attributable to hedged items	104	758
Net ineffectiveness gain/(loss) to net trading income	18	(93)
Amortisation (loss)/gain to net interest income	(5)	27

Cash flow hedges

The Group has exposure to market movements in future interest cash flows on portfolios of customer accounts, debt securities and loans and advances to customers. The amounts and timing of future cash flows, representing both principal and interest flows, are projected on the basis of contractual terms and other relevant factors, including estimates of prepayments and defaults.

The hedging strategy of the Group involves using interest rate swaps to manage the variability in future cash flows on assets and liabilities that have floating rates of interest by exchanging the floating rates for fixed rates. It also uses foreign exchange contracts and currency swaps to manage the variability in future exchange rates on its assets and liabilities and costs in foreign currencies. This is done on both a micro basis whereby a single interest rate or cross currency swap is designated in a separate relationship with a single hedged item (such as a floating rate loan to a customer), and on a portfolio basis whereby each hedging instrument is designated against a group of hedged items that share the same risk (such as a group of customer accounts).

The hedged risk is determined as the variability of future cash flows arising from changes in the designated benchmark interest rate, e.g. one-month or three-month LIBOR.

Hedging instruments and ineffectiveness

	2019						
		Carrying amount					
	Notional $million	Asset $million	Liability $million	Change in fair value used to calculate hedge ineffectiveness $million	Gain/(loss) recognised in OCI $million	Ineffectiveness gain/(loss) recognised in net trading income $million	Amount reclassified from reserves to income $million
Interest rate risk							
Interest rate swaps	9,277	53	74	(87)	(87)	–	–
Currency risk							
Forward foreign exchange contracts	289	6	20	6	6	–	–
Cross currency swaps	5,254	34	51	(5)	(5)	–	(2)
Total as at 31 December 2019	14,820	93	145	(86)	(86)	–	(2)

	2018						
		Carrying amount					
	Notional $million	Asset $million	Liability $million	Change in fair value used to calculate hedge ineffectiveness $million	Gain/(loss) recognised in OCI $million	Ineffectiveness gain/(loss) recognised in net trading income $million	Amount reclassified from reserves to income $million
Interest rate risk							
Interest rate swaps	10,733	59	67	17	17	–	(1)
Currency risk							
Forward foreign exchange contracts	184	–	18	9	9	–	–
Cross currency swaps	2,701	57	22	57	57	–	8
Total as at 31 December 2018	13,618	116	107	83	83	–	7

Hedged items in cash flow hedges

	2019		
	Change in fair value used for calculating hedge ineffectiveness $million	Cash flow hedge reserve $million	Cumulative balance in the cash flow hedge reserve from de-designated hedge relationships $million
Customer accounts	86	(58)	(4)
Debt securities and other eligible bills	(3)	1	–
Loans and advances to customers	(28)	(10)	(4)
Forecast cashflow currency hedge	40	–	–
Intragroup lending currency hedge	(9)	(6)	–
Total as at 31 December 2019	86	(73)	(8)

	2018		
	Change in fair value used for calculating hedge ineffectiveness $million	Cash flow hedge reserve $million	Cumulative balance in the cash flow hedge reserve from de-designated hedge relationships $million
Customer accounts	(66)	18	33
Debt securities and other eligible bills	(9)	(3)	(1)
Loans and advances to customers	(9)	(39)	(12)
Total as at 31 December 2018	(84)	(24)	20

Impact of cash flow hedges on profit and loss and other comprehensive income

	2019 Income/(expense) $million	2018 Income/(expense) $million
Cash flow hedge reserve balance as at 1 January	(10)	(45)
(Loss)/gain recognised in other comprehensive income on effective portion of changes in fair value of hedging instruments	(64)	34
Gain transferred to net trading income on hedging instruments no longer in a hedging relationship	10	8
Gain/(loss) reclassified to income statement when hedged item affected net profit	11	(1)
Taxation charge relating to cash flow hedges	(6)	(6)
Cash flow hedge reserve balance as at 31 December	(59)	(10)

Net investment hedges

Foreign currency exposures arise from investments in subsidiaries that have a different functional currency from that of the presentation currency of the Group. This risk arises from the fluctuation in spot exchange rates between the functional currency of the subsidiaries and the Group's presentation currency, which causes the value of the investment to vary.

The Group's policy is to hedge these exposures only when not doing so would be expected to have a significant impact on the regulatory ratios of the Group and its banking subsidiaries. The Group uses foreign exchange forwards to manage the effect of exchange rates on its net investments in foreign subsidiaries.

Hedging instruments and ineffectiveness

	2019						
		Carrying amount					
	Notional $million	Asset $million	Liability $million	Change in fair value used to calculate hedge ineffectiveness $million	Gain recognised in OCI $million	Ineffectiveness gain/(loss) recognised in net trading income $million	Amount reclassified from reserves to income $million
Forward foreign exchange contracts[1]	5,103	31	70	98	98	–	–

	2018						
		Carrying amount					
	Notional $million	Asset $million	Liability $million	Change in fair value used to calculate hedge ineffectiveness $million	Gain recognised in OCI $million	Ineffectiveness gain/(loss) recognised in net trading income $million	Amount reclassified from reserves to income $million
Forward foreign exchange contracts[1]	5,200	61	7	54	54	–	–

1 These derivative forward currency contracts have a maturity of less than one year. The hedges are rolled on a periodic basis

Hedged items in net investment hedges

	2019		
	Change in fair value used for calculating hedge ineffectiveness $million	Translation reserve $million	Balances remaining in the translation reserve from de-designated hedge relationships $million
Net investments	(98)	98	–

	2018		
	Change in fair value used for calculating hedge ineffectiveness $million	Translation reserve $million	Balances remaining in the translation reserve from de-designated hedge relationships $million
Net investments	(54)	54	–

Impact of net investment hedges on other comprehensive income

	2019 Income/(expense) $million	2018 Income/(expense) $million
Gains recognised in other comprehensive income	191	282

Maturity of hedging instruments

		2019			
Fair value hedges		Less than one month	More than one month and less than one year	One to five years	More than five years
Interest rate swap					
Notional	$million	433	12,032	46,229	10,427
Average fixed interest rate	USD	2.78%	2.50%	2.47%	4.05%
Cross currency swap					
Notional	$million	92	4,267	3,379	667
Average fixed interest rate (to USD)	EUR	–	4.00%	2.61%	–
	GBP	–	5.38%	4.71%	4.38%
	JPY	(0.16)%	(0.17)%	–	–
Average exchange rate	EUR/USD	–	0.74	0.77	–
	GBP/USD	–	0.55	0.63	0.62
	JPY/USD	107.90	109.90	–	–

Cash flow hedges					
Interest rate swap					
Notional	$million	193	4,440	3,891	753
Average fixed interest rate	HKD	1.91%	1.95%	1.80%	–
	USD	–	2.72%	1.65%	2.46%
Cross currency swap					
Notional	$million	403	4,121	730	–
Average fixed interest rate	CNY[1]	3.22%	3.49%	3.94%	–
	HKD	–	2.52%	–	–
	INR[1]	–	4.32%	3.85%	–
	KRW[1]	–	1.25%	–	–
Average exchange rate	CNY[1]/USD	6.86	6.93	7.08	–
	HKD/USD	–	7.84	–	–
	INR[1]/USD	–	69.43	68.85	–
	KRW[1]/USD	–	1,201.23	–	–
Forward foreign exchange contracts					
Notional	$million	196	93	–	–
Average exchange rate	INR[1]/USD	81.20	–	–	–
	INR/USD	81.01	–	–	–
	GBP/USD	0.80	0.79	–	–

Net investment hedges					
Foreign exchange derivatives					
Notional	$million	5,103	–	–	–
Average exchange rate	CNY/USD	6.90	–	–	–
	KRW/USD	1,188.90	–	–	–
	TWD/USD	30.56	–	–	–

1 Offshore currency

Fair value hedges		Less than one month (2018)	More than one month and less than one year (2018)	One to five years (2018)	More than five years (2018)
Interest rate swap					
Notional	$million	323	15,692	40,698	6,962
Average fixed interest rate	EUR	–	–	0.38%	1.16%
	GBP	0.71%	0.97%	1.67%	1.50%
	USD	2.00%	2.53%	3.09%	4.37%
Cross currency swap					
Notional	$million	1,030	1,451	4,550	1,932
Average fixed interest rate (to USD)	EUR	4.13%	–	3.10%	3.13%
	GBP	–	–	5.44%	4.69%
	JPY	–	(0.10)%	–	–
Average exchange rate	EUR/USD	0.79	–	0.75	0.80
	JPY/USD	–	110.54	–	–
	GBP/USD	–	–	0.57	0.61

Cash flow hedges					
Interest rate swap					
Notional	$million	–	6,549	2,811	1,373
Average fixed interest rate	HKD	–	1.92%	2.64%	–
	USD	–	2.62%	1.86%	2.42%
Cross currency swap					
Notional	$million	400	2,220	81	–
Average fixed interest rate	CNY[1]	4.01%	3.87%	–	–
	TWD	–	(0.45)%	–	–
	KRW	1.10%	1.70%	0.89%	–
Average exchange rate	CNY[1]/USD	6.45	6.62	–	–
	KRW[1]/USD	1,064.68	1,151.14	1,165.30	–
	TWD[1]/USD	–	30.72	–	–
Foreign exchange derivatives					
Notional	$million	–	–	184	–
Average exchange rate	INR[1]/USD	–	–	81.20	–
	INR/USD	–	–	81.03	–

Net investment hedges					
Foreign exchange derivatives					
Notional	$million	5,200	–	–	–
Average exchange rate	CNY/USD	6.72	–	–	–
	INR/USD	70.26	–	–	–
	KRW/USD	1,111.10	–	–	–
	TWD/USD	30.14	–	–	–

1 Offshore currency

Interest rate benchmark reform

As explained in Note 1, the Group has early adopted the 'Interest Rate Benchmark Reform Amendments to IFRS 9, IAS 39 and IFRS 7' which allow the Group to assume that the interest rate benchmark on which cash flows for the hedged item and/or hedging instrument are based is are altered as a result of IBOR reform for the following activities:

- Prospective hedge assessment
- Determining whether a cash flow or forecast transaction for a cash flow hedge is highly probable. However, the Group otherwise assesses whether the cash flows are considered highly probable
- Determining when cumulative balances in the cash flow hedge reserve from de-designated hedges should be recycled to the income statement

For retrospective hedge assessment, the Group will not de-designate a hedge relationship if the actual result is outside the required 80-125% range, but it can be demonstrated that this is solely caused by interest rate benchmark uncertainty and the hedge passes the prospective assessment. Any hedge ineffectiveness continues to be recorded in net trading income.

For hedges of non-contractually specified benchmark portions of an interest rate (such as fair value hedges of interest rate risk on fixed rate debt instruments) the Group only assesses whether the designated benchmark is separately identifiable at hedge inception. The choice of designated benchmark is not revisited for existing hedge relationships.

In applying these amendments the Group has made the following key assumptions for the period end, to be reviewed on an ongoing basis:

- The interest rate benchmarks applicable to the Group that are in scope of the IFRS amendments are USD LIBOR, GBP LIBOR, JPY LIBOR and Singapore Swap Offer Rate (SGD SOR), which is dependent on USD LIBOR and expected to be replaced by the Singapore Overnight Rate Average (SORA) for derivative financial instruments
- EURIBOR is not in scope of the IFRS amendments because its revised methodology incorporates market transaction data, hence the benchmark is expected to continue to exist in future reporting periods
- The Group believes it is too early to reliably estimate when interest rate benchmark uncertainty will be resolved for all benchmarks assumed
  to be in scope of the amendments. It therefore assumes that the uncertainty arising from interest rate benchmark reform will be present until 31 December 2021, at which time the amendments to IFRS no longer apply

The Group has established an IBOR Transition Programme that is overseen by the Group's Chief Operating Officer, and updates a number of committees including the Board Risk Committee and Group Risk Committee regularly updated. The programme comprises a series of business and function workstreams, with oversight and coordination of the specific areas and risks provided by a central project team. The key objectives of these workstreams include identifying all contracts in scope of benchmark reform, upgrading internal systems to support business in the alternative RFR product suite, identifying and communicating to customers with whom repricing and/or re-papering IBOR-referenced contracts is required and executing the necessary change in contracts. Workstreams actively participate in industry-wide working groups to ensure they are kept informed of the latest developments and are consistent with the approaches of other market participants.

As at 31 December 2019, the following populations of derivative instruments designated in fair value or cash flow hedge accounting relationships were linked to IBOR reference rates:

	Fair value hedges		Cash flow hedges			
	Notional designated up to 31 December 2021 $million	Notional designated beyond 31 December 2021 $million	Notional designated up to 31 December 2021 $million	Notional designated beyond 31 December 2021 $million	Total $million	Weighted average exposure $million
Interest rate swaps						
USD LIBOR	26,159	25,622	950	2,559	55,290	2.7
GBP LIBOR	613	4,049	–	–	4,662	5.5
JPY LIBOR	1,429	569	–	–	1,998	2.4
SGD SOR	563	132	–	–	695	1.7
	28,764	30,372	950	2,559	62,645	2.9
Cross currency swaps						
USD LIBOR vs Fixed rate foreign currency	6,216	2,189	–	–	8,405	2.7
Total notional of hedging instruments in scope of IFRS amendments	34,980	32,561	950	2,559	71,050	2.9

The Group's primary exposure is to USD LIBOR due to the extent of fixed rate debt security assets and issued notes denominated in USD that are designated in fair value hedge relationships. Where fixed rate instruments are in other currencies, cross currency swaps are used to achieve an equivalent floating USD exposure.

15. Loans and advances to banks and customers

Accounting policy

Refer to Note 13 Financial instruments for the relevant accounting policy.

	2019 $million	2018 $million
Loans and advances to banks	53,558	61,420
Expected credit loss	(9)	(6)
	53,549	61,414
Loans and advances to customers	274,306	262,985
Expected credit loss	(5,783)	(6,428)
	268,523	256,557
Total loans and advances to banks and customers	322,072	317,971

The Group has outstanding residential mortgage loans to Korea residents of $17.8 billion (31 December 2018: $16.9 billion) and Hong Kong residents of $29.9 billion (31 December 2018: $27.8 billion).

Analysis of loans and advances to customers by geographic region and client segments and related impairment provisions is set out within the Risk review and Capital review.

16. Reverse repurchase and repurchase agreements including other similar secured lending and borrowing

Accounting policy

The Group purchases securities (a reverse repurchase agreement – 'reverse repo') typically with financial institutions subject to a commitment to resell or return the securities at a predetermined price. These securities are not included in the balance sheet as the Group does not acquire the risks and rewards of ownership; however, they are recorded off-balance sheet as collateral received. Consideration paid (or cash collateral provided) is accounted for as a loan asset at amortised cost, unless it is managed on a fair value basis or designated at fair value through profit or loss. In the majority of cases through the contractual terms of a reverse repo arrangement, the Group as the transferee of the security collateral has the right to sell or repledge the asset concerned.

The Group also sells securities (a repurchase agreement – 'repo') subject to a commitment to repurchase or redeem the securities at a predetermined price. The securities are retained on the balance sheet as the Group retains substantially all the risks and rewards of ownership and these securities are disclosed as pledged collateral. Consideration received (or cash collateral received) is accounted for as a financial liability at amortised cost, unless it is either mandatorily classified as fair value through profit or loss or irrevocably designated at fair value through profit or loss at initial recognition.

Financial assets are pledged as collateral as part of sales and repurchases, securities borrowing and securitisation transactions under terms that are usual and customary for such activities. The Group is obliged to return equivalent securities.

Repo and reverse repo transactions typically entitle the Group and its counterparties to have recourse to assets similar to those provided as collateral in the event of a default. Securities sold subject to repos, either by way of a Global Master Repurchase Agreement (GMRA), or through a securities sale and Total Return Swap (TRS) continue to be recognised on the balance sheet as the Group retains substantially the associated risks and rewards of the securities (the TRS is not recognised). The counterparty liability is included in deposits by banks or customer accounts, as appropriate. Assets sold under repurchase agreements are considered encumbered as the Group cannot pledge these to obtain funding.

Reverse repurchase agreements and other similar secured lending

	2019 $million	2018 $million
Banks	19,610	20,698
Customers	40,804	41,037
	60,414	61,735
Of which:		
Fair value through profit or loss	57,604	54,769
Banks	18,269	16,883
Customers	39,335	37,886
Held at amortised cost	2,810	6,966
Banks	1,341	3,815
Customers	1,469	3,151

Under reverse repurchase and securities borrowing arrangements, the Group obtains securities on terms which permit it to repledge or resell the securities to others. Amounts on such terms are:

	2019 $million	2018 $million
Securities and collateral received (at fair value)	86,308	84,557
Securities and collateral which can be repledged or sold (at fair value)	85,415	82,534
Amounts repledged/transferred to others for financing activities, to satisfy liabilities under sale and repurchase agreements (at fair value)	44,530	40,552

Repurchase agreements and other similar secured borrowing

	2019 $million	2018 $million
Banks	7,789	4,984
Customers	40,429	39,417
	48,218	44,401
Of which:		
Fair value through profit or loss	46,283	43,000
Banks	7,401	4,777
Customers	38,882	38,223
Held at amortised cost	1,935	1,401
Banks	388	207
Customers	1,547	1,194

The tables below set out the financial assets provided as collateral for repurchase and other secured borrowing transactions:

	2019				
Collateral pledged against repurchase agreements	Fair value through profit or loss $million	Fair value through other comprehensive income $million	Amortised cost $million	Off-balance sheet $million	Total $million
On-balance sheet					
Debt securities, alternative tier one and other eligible bills	1,036	2,137	1,023	–	4,196
Off-balance sheet					
Repledged collateral received	–	–	–	44,530	44,530
As at 31 December 2019	1,036	2,137	1,023	44,530	48,726

	2018				
Collateral pledged against repurchase agreements	Fair value through profit or loss $million	Fair value through other comprehensive income $million	Amortised cost $million	Off-balance sheet $million	Total $million
On-balance sheet					
Debt securities, alternative tier one and other eligible bills	2,060	1,974	49	–	4,083
Off-balance sheet					
Repledged collateral received	–	–	–	40,552	40,552
As at 31 December 2018	2,060	1,974	49	40,552	44,635

17. Goodwill and intangible assets

Accounting policy

Goodwill

Goodwill represents the excess of the cost of an acquisition over the fair value of the Group's share of the identifiable net assets and contingent liabilities of the acquired subsidiary, associate or joint venture at the date of acquisition. Goodwill on acquisitions of subsidiaries is included in intangible assets. Goodwill on acquisitions of associates is included in Investments in associates. Goodwill included in intangible assets is assessed at each balance sheet date for impairment and carried at cost less any accumulated impairment losses. Gains and losses on the disposal of an entity include the carrying amount of goodwill relating to the entity sold. Detailed calculations are performed based on discounting expected cash flows of the relevant cash generating units (CGUs) and discounting these at an appropriate discount rate, the determination of which requires the exercise of judgement. Goodwill is allocated to CGUs for the purpose of impairment testing. CGUs represent the lowest level within the Group which generate separate cash inflows and at which the goodwill is monitored for internal management purposes. These are equal to or smaller than the Group's reportable segments (as set out in Note 2) as the Group views its reportable segments on a global basis. The major CGUs to which goodwill has been allocated are set out in the CGU table.

Significant accounting estimates and judgements
The carrying amount of goodwill is based on the application of judgements including the basis of goodwill impairment calculation assumptions. Judgement is also applied in determination of cash generating units.

Estimates include forecasts used for determining cash flows for CGUs and discount rates which factor in country risk-free rates and applicable risk premiums. The Group undertakes an annual assessment to evaluate whether the carrying value of goodwill on-balance sheet is impaired. The estimation of future cash flows and the level to which they are discounted is inherently uncertain and requires significant judgement and is subject to potential change over time.

Acquired intangibles
At the date of acquisition of a subsidiary or associate, intangible assets which are deemed separable and that arise from contractual or other legal rights are capitalised and included within the net identifiable assets acquired. These intangible assets are initially measured at fair value, which reflects market expectations of the probability that the future economic benefits embodied in the asset will flow to the entity, and are amortised on the basis of their expected useful lives (4 to 16 years). At each balance sheet date, these assets are assessed for indicators of impairment. In the event that an asset's carrying amount is determined to be greater than its recoverable amount, the asset is written down immediately.

Computer software
Acquired computer software licences are capitalised on the basis of the costs incurred to acquire and bring to use the specific software.

Internally generated software represents substantially all of the total software capitalised. Direct costs of the development of separately identifiable internally generated software are capitalised where it is probable that future economic benefits attributable to the asset will flow from its use (internally generated software). These costs include salaries and wages, materials, service providers and contractors, and directly attributable overheads. Costs incurred in the ongoing maintenance of software are expensed immediately when incurred. Internally generated software is amortised over a three to five year time period. On an annual basis, software assets' residual values and useful lives are reviewed, including assessing for indicators of impairment. Indicators of impairment include loss of business relevance, obsolescence of asset, exit of the business to which the software relates, technological changes, change in use of the asset, reduction in useful life, plans to reduce usage or scope.

For capitalised software, judgement is required to determine which costs relate to research (and are therefore expensed) and which costs relate to development (capitalised). Further judgement is required to determine the technical feasibility of completing the software such that it will be available for use. Estimates are used to determine how the software will generate probable future economic benefits. These estimates include: cost savings, income increases, balance sheet improvements, improved functionality or improved asset safeguarding.

	2019				2018			
	Goodwill $million	Acquired intangibles $million	Computer software $million	Total $million	Goodwill $million	Acquired intangibles $million	Computer software $million	Total $million
Cost								
At 1 January	3,116	510	2,835	6,461	3,252	578	2,529	6,359
Exchange translation differences	(10)	(5)	26	11	(105)	(24)	(67)	(196)
Additions	–	1	753	754	–	1	695	696
Disposals	–	(1)	(3)	(4)	–	–	–	–
Impairment	(27)	–	–	(27)	–	–	–	–
Amounts written off	–	(44)	(372)	(416)	–	(5)	(322)	(327)
Classified as held for sale	–	–	–	–	(31)	(40)	–	(71)
At 31 December	3,079	461	3,239	6,779	3,116	510	2,835	6,461
Provision for amortisation								
At 1 January	–	458	947	1,405	–	470	876	1,346
Exchange translation differences	–	(5)	6	1	–	(22)	(21)	(43)
Amortisation	–	9	436	445	–	10	363	373
Impairment charge	–	–	12	12	–	–	46	46
Disposals	–	(1)	–	(1)	–	–	–	–
Amounts written off	–	(30)	(343)	(373)	–	–	(317)	(317)
At 31 December	–	431	1,058	1,489	–	458	947	1,405
Net book value	3,079	30	2,181	5,290	3,116	52	1,888	5,056

At 31 December 2019, accumulated goodwill impairment losses incurred from 1 January 2005 amounted to $2,828 million (31 December 2018: $2,801 million), of which $27 million was recognised in 2019 (31 December 2018: nil).

Goodwill

CGU structure

During the year, the Group reviewed its CGU structure. In determining the level at which management monitor goodwill and level at which independent cash flows are generated, the Group determined that CIB as a global business segment should be a single CGU and combined the prior period Corporate Finance and Transaction Banking product level CGUs. As a result of the change, CIB and Private Banking are considered global CGUs which are managed on a Global basis, while Retail Banking, Commercial Banking, Central, including Treasury Market activities are managed on a country basis.

Testing of goodwill for impairment

An annual assessment is made as to whether the current carrying value of goodwill is impaired. For the purposes of impairment testing, goodwill is allocated at the date of acquisition to a CGU. Goodwill is considered to be impaired if the carrying amount of the relevant CGU exceeds its recoverable amount. Indicators of impairment include changes in the economic performance and outlook of the region, including geopolitical changes, changes in market value of regional investments, large credit defaults and strategic decisions to exit certain regions. The recoverable amounts for all the CGUs were measured based on value-in-use (ViU). The calculation of ViU for each CGU is calculated using five-year cash flow projections and an estimated terminal value based on a perpetuity value after year five. The cash flow projections are based on forecasts approved by management up to 2024. The perpetuity terminal value amount is calculated using year five cash flows using long-term GDP growth rates. All cash flows are discounted using discount rates which reflect market rates appropriate to the CGU.

The goodwill allocated to each CGU and key assumptions used in determining the recoverable amounts are set out below and are solely estimates for the purposes of assessing impairment of acquired goodwill.

	2019			restated 2018		
Cash generating unit	Goodwill $million	Pre-tax discount rate per cent	Long-term forecast GDP growth rates per cent	Goodwill $million	Pre-tax discount rate per cent	Long-term forecast GDP growth rates per cent
Country CGUs						
Greater China & North Asia	900			887		
Hong Kong	358	10.6	2.4	357	13.2	3.0
Taiwan	542	13.2	2.0	530	13.0	2.1
Africa & Middle East	512			520		
Pakistan	188	31.4	4.0	194	22.8	3.4
UAE	204	8.5	2.5	204	9.0	3.3
Others (5)[1]	120	8.9–16.6	2.5–4.9	122	10.6–19.0	2.6–5.3
ASEAN & South Asia	706			734		
India	259	23.2	7.3	262	19.9	7.7
Singapore	342	12.2	1.9	339	15.9	2.7
Others (6)[2]	105	13.8–17.3	3.3–7.3	133	15.4–20.5	4.4–7.0
Global CGUs	961			975		
Global Private Banking	84	11.4	3.5	84	10.3	3.6
Global Corporate & Institutional Banking[3]	877	11.9	3.5	891	10.3	3.6
	3,079			3,116		

1 Bahrain, Ghana, Jordan, Oman and Qatar
2 Bangladesh, Brunei, Indonesia, Nepal, Sri Lanka and Vietnam
3 Global Corporate Finance and Global Transaction Banking CGUs are now combined into a single Global Corporate & Institutional Banking CGU

Three country CGUs; Sri Lanka, Nepal and Oman have had all of the goodwill allocated to them written off, totalling $27 million. This was a result of insufficient cash flows in the ViU calculation such that the carrying amount of each CGU, which included goodwill, was greater than the recoverable amount.

The Group has performed sensitivity analysis on the key assumptions for each CGU's recoverable amount. The following CGUs are considered sensitive to the key variables and any individual movements on the estimates (cashflow, discount rate and GDP growth rate) up to the levels disclosed below would eliminate the current headroom.

	2019				
	Goodwill $million	Headroom $million	Cash flow reduction per cent	Discount rate increase per cent	GDP growth rate decline per cent
Taiwan	542	63	4	1	1
India	259	11	1	1	1
Pakistan	188	16	6	1	2

Acquired intangibles

These primarily comprise those items recognised as part of the acquisitions of Union Bank (now amalgamated into Standard Chartered Bank (Pakistan) Limited), Hsinchu (now amalgamated into Standard Chartered Bank (Taiwan) Limited), Pembroke, American Express Bank and ABSA's custody business in Africa. Maintenance intangible assets represent the value in the difference between the contractual right under acquired leases to receive aircraft in a specified maintenance condition at the end of the lease and the actual physical condition of the aircraft at the date of acquisition.

The acquired intangibles are amortised over periods from four years to a maximum of 16 years. The constituents are as follows:

	2019 $million	2018 $million
Acquired intangibles comprise:		
Aircraft maintenance	10	24
Core deposits	1	2
Customer relationships	12	19
Licences	7	7
Net book value	30	52

18. Property, plant and equipment

Accounting policy

All property, plant and equipment is stated at cost less accumulated depreciation and impairment losses. Cost includes expenditure that is directly attributable to the acquisition of the assets. Subsequent costs are included in the asset's carrying amount or are recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably.

At each balance sheet date the assets' residual values and useful lives are reviewed, and adjusted if appropriate, including assessing for indicators of impairment. In the event that an asset's carrying amount is determined to be greater than its recoverable amount, the asset is written down to the recoverable amount. Gains and losses on disposals are included in the income statement.

Repairs and maintenance are charged to the income statement during the financial period in which they are incurred.

Land and buildings comprise mainly branches and offices. Freehold land is not depreciated although it is subject to impairment testing.

Depreciation on other assets is calculated using the straight-line method to allocate their cost to their residual values over their estimated useful lives, as follows:

- Buildings: up to 50 years
- Leasehold improvements life of lease: up to 50 years
- Equipment and motor vehicles: three to 15 years
- Aircraft: up to 18 years
- Ships: up to 15 years

Where the Group is a lessee of a right-of-use asset, the leased assets are capitalised and included in Property, plant and equipment with a corresponding liability to the lessor recognised in Other liabilities, in accordance with the Group's leased assets accounting policy in Note 19.

All other repairs and maintenance are charged to the income statement during the financial period in which they are incurred.

	2019					
	Premises $million	Equipment $million	Operating lease assets $million	Leased premises assets[3] $million	Leased equipment assets[3] $million	Total $million
Cost or valuation						
At 1 January	2,070	766	6,323	1,408	13	10,580
Exchange translation differences	(31)	(17)	(5)	(35)	–	(88)
Additions	96[1]	123[1]	299	128	10	656
Disposals and fully depreciated assets written off	(62)[2]	(72)[2]	(694)	(8)	–	(836)
Transfers to assets held for sale	(15)	–	(1,462)	–	–	(1,477)
As at 31 December	2,058	800	4,461	1,493	23	8,835
Depreciation						
Accumulated at 1 January	706	494	1,469	–	1	2,670
Exchange translation differences	(7)	(10)	(5)	7	–	(15)
Charge for the year	77	106	263	283	6	735
Impairment (release)/charge	1	–	121	–	–	122
Attributable to assets sold, transferred or written off	(35)[2]	(72)[2]	(155)	(4)	–	(266)
Transfers to assets held for sale	(5)	–	(626)	–	–	(631)
Accumulated at 31 December	737	518	1,067	286	7	2,615
Net book amount at 31 December	1,321	282	3,394	1,207	16	6,220

1 Refer to the cash flow statement under cash flows from investing activities section for the purchase of property, plant and equipment during the year of $219 million
2 Disposals for property, plant and equipment during the year of $119 million in the cash flow statement would include the gains and losses incurred as part of other operating income (Note 6) on disposal of assets during the year and the net book value disposed
3 Leased premises assets and leased equipment assets were newly recognised on 1 January 2019 due to the adoption of IFRS 16 Leases (refer to Note 1). The Group applied the modified retrospective transition approach, such that the right-of-use asset recognised equals the lease liability, adjusted for prepayments and accruals recognised under IAS 17 as of 31 December 2018

	2018			
	Premises $million	Equipment $million	Operating lease assets $million	Total $million
Cost or valuation				
At 1 January	2,216	767	7,000	9,983
Exchange translation differences	(80)	(38)	(8)	(126)
Additions	46[1]	125[1]	866	1,037
Disposals and fully depreciated assets written off	(92)[2]	(87)[2]	(1,244)	(1,423)
Transfers to assets held for sale	(20)	(1)	(291)	(312)
As at 31 December	2,070	766	6,323	9,159
Depreciation				
Accumulated at 1 January	753	513	1,506	2,772
Exchange translation differences	(25)	(26)	(9)	(60)
Charge for the year	86	94	304	484
Impairment (release)/charge	(5)	–	155	150
Attributable to assets sold, transferred or written off	(91)[2]	(86)[2]	(358)	(535)
Transfers to assets held for sale	(12)	(1)	(129)	(142)
Accumulated at 31 December	706	494	1,469	2,669
Net book amount at 31 December	1,364	272	4,854	6,490

1 Refer to the cash flow statement under cash flows from investing activities section for the purchase of property, plant and equipment during the year of $171 million
2 Disposals for property, plant and equipment during the year of $85 million in the cash flow statement would include the gains and losses incurred as part of other operating income (Note 6) on disposal of assets during the year and the net book value disposed

Operating lease assets

Assets leased to customers under operating leases consist of commercial aircraft which is included within property, plant and equipment. The leases are classified as operating leases as they do not transfer substantially all the risks and rewards incidental to the ownership of the assets, and rental income from operating lease assets is disclosed in Note 6. At 31 December 2019, these assets had a net book value of $3,394 million (31 December 2018: $4,854 million).

	2019 Minimum lease receivables under operating leases falling due: $million	2018 Minimum lease receivables under operating leases falling due: $million
Within one year	473	527
One to two years	451	499
Two to three years	403	467
Three to four years	337	405
Four to five years	82	341
After five years	789	997
	2,535	3,236

19. Leased assets

Accounting policy

The Group assesses whether a contract is a lease in scope of this policy by determining whether the contract gives it the right to use a specified underlying physical asset for a lease term greater than 12 months, unless the underlying asset is of low value.

Where the Group is a lessee and the lease is deemed in scope, it recognises a liability equal to the present value of lease payments over the lease term, discounted using the incremental borrowing rate applicable in the economic environment of the lease. The liability is recognised in 'Other liabilities'. A corresponding right-of-use asset equal to the liability, adjusted for any lease payments made at or before the commencement date, is recognised in 'Property, plant and equipment'. The lease term includes any extension options contained in the contract that the Group is reasonably certain it will exercise.

The Group subsequently depreciates the right-of-use asset using the straight-line method over the lease term and measures the lease liability using the effective interest method. Depreciation on the asset is recognised in 'Depreciation and amortisation', and interest on the lease liability is recognised in 'Interest expense'.

The judgements in determining lease balances are the determination of whether the Group is reasonably certain that it will exercise extension options present in lease contracts. On initial recognition, the Group considers a range of characteristics such as premises function, regional trends and the term remaining on the lease to determine whether it is reasonably certain that a contractual right to extend a lease will be exercised. Where a change in assumption is confirmed by the local property management team, a remeasurement is performed in the Group-managed vendor system.

The estimates were the determination of incremental borrowing rates in the respective economic environments. The Group uses third party broker quotes to estimate its USD cost of senior unsecured borrowing, then uses cross currency swap pricing information to determine the equivalent cost of borrowing in other currencies. Quotes from different brokers are compared to ensure they are reflective of prevailing market conditions.

Prior period information is not restated, i.e. it is presented, as previously reported, under IAS 17 and related interpretations in which the Group as lessee recognised lease payments in operating expenses on a straight-line basis and disclosed future minimum lease payments. The difference between operating lease commitments of $907 million disclosed in the Group's 2018 Annual Report and newly recognised lease liabilities of $1,421 million on 1 January 2019 is driven by different requirements between the old and new standard on which expected cash flows to include. IFRS 16 requires the lease term used to measure lease liabilities to include "reasonably certain" renewal options, whereas previously IAS 17 required disclosure of "non-cancellable" lease commitments. The consequences of this are:

- Under IFRS 16, for some leases the Group includes lease renewal options which it is reasonably certain will be exercised in the measurement of lease liabilities. The cash flows associated with renewal options were not included in the previous operating lease commitment disclosures

- In certain jurisdictions, the Group has a unilateral right to cancel building leases with notice of fewer than three months without incurring a significant financial penalty. In previous disclosures, the Group would exclude cash flows beyond the non-cancellable period as permitted under IAS 17, but under IFRS 16 the Group would only exclude these cashflows from lease measurement if it was reasonably certain the termination clause would be exercised

Existing lease liabilities may change in future periods due to changes in assumptions or decisions to exercise lease renewal or termination options, changes in payments due to renegotiations of market rental rates as permitted by those contracts and changes to payments due to rent being contractually linked to an inflation index. In general the remeasurement of a lease liability under these circumstances leads to an equal change to the right-of-use asset balance, with no immediate effect on the income statement.

The total cash outflow during the year for premises and equipment leases was $397 million.

The total expense during the year in respect of leases with a term less than or equal to 12 months was $20 million.

The right-of-use asset balances and depreciation charges are disclosed in Note 18. The lease liability balances are disclosed in Note 23 and the interest expense on lease liabilities is disclosed in Note 3.

Maturity analysis

The maturity profile for lease liabilities associated with leased premises and equipment assets is as follows:

	One year or less $million	Between one year and two years $million	Between two years and five years $million	More than five years $million	Total $million
Other liabilities – lease liabilities	24	53	326	892	1,295

20. Other assets

Accounting policy

Refer to Note 13 Financial instruments for the relevant accounting policy.

Commodities represent physical holdings where the Group has title and exposure to the market risk associated with the holding. Commodities are fair valued with the fair value derived from observable spot or short-term futures prices from relevant exchanges.

Other assets include:

	2019 $million	2018 $million
Financial assets held at amortised cost (Note 13)		
Hong Kong SAR Government certificates of indebtedness (Note 23)[1]	6,911	5,964
Cash collateral	9,169	10,323
Acceptances and endorsements[2]	5,518	4,923
Unsettled trades and other financial assets	14,563	11,468
	36,161	32,678
Non-financial assets:		
Commodities[3]	5,465	2,488
Other assets	396	235
	42,022	35,401

1 The Hong Kong SAR Government certificates of indebtedness are subordinated to the claims of other parties in respect of bank notes issued
2 Trade finance whereby the Group offers a guarantee of payment between trade counterparties for a fee
3 Commodities are carried at fair value and classified as Level 2

21. Assets held for sale and associated liabilities

Accounting policy

Financial instruments can be reclassified as held for sale if they are non-current assets or if they are part of a disposal group; however, the measurement provisions for the financial instruments remain governed by the requirements of IFRS 9 Financial Instruments. Refer to Note 13 Financial instruments for the relevant accounting policy.

Non-current assets are classified as held for sale and measured at the lower of their carrying amount and fair value less cost to sell when:

a) Their carrying amounts will be recovered principally through sale

b) They are available for immediate sale in their present condition

c) Their sale is highly probable

Immediately before the initial classification as held for sale, the carrying amounts of the assets are measured in accordance with the applicable accounting policies related to the asset or liability before reclassification as held for sale.

The assets below have been presented as held for sale following the approval of Group management and the transactions are expected to complete in 2020.

Following a decision by the Board of directors to exit the ship leasing business within CIB, the shipping portfolio has been moved to held for sale.

The financial assets reported below are classified under Level 1 $70 million (31 December 2018: $82 million), Level 2 nil (31 December 2018: $14 million) and Level 3 $260 million (31 December 2018: $791 million).

Assets held for sale	2019 $million	2018 $million
Debt securities	–	14
Equity shares	330	873
Financial assets held at fair value through profit or loss[1]	330	887
Loans and advances to banks	–	112
Loans and advances to customers	32	23
Debt securities held at amortised cost	58	–
Financial assets held at amortised cost	90	135
Interests in joint venture	800	–
Goodwill and intangible assets	–	71
Property, plant and equipment[2]	833	170
Others	–	65
	2,053	1,328

1 Principal Finance assets of $330 million (31 December 2018: $887 million), classified as financial assets held at fair value through profit or loss is expected to be disposed of by the end of 2020

2 Aircraft classified as held for sale by Pembroke Air Leasing Finance $50 million (31 December 2018: $162 million) and vessels classified as held for sale $769 million (31 December 2018: Nil) totalling to $819 million is included within property, plant and equipment

Interests in joint venture

	2019 $million	2018 $million
As at 1 January	717	775
Exchange translation difference	32	(49)
Expected credit loss, net[1]	–	(33)
Share of profit	48	26
Share of FVOCI and other reserves	3	(2)
As at 31 December	800	717

1 IFRS 9 transition impact from joint venture is reported here

The Group's principal joint venture is PT Bank Permata Tbk (Permata). The Group has a 44.56 per cent (31 December 2018: 44.56 per cent) equity investment in Permata. The Group has determined that it has joint control of Permata through its shareholding, which is held alongside a third party that holds the same percentage. The Group has made the judgement that, through these equity holdings, and in making decisions pertaining to Permata, that both parties require each other's unanimous consent when making decisions over the relevant activities of Permata. Permata is based in Indonesia and provides financial services to consumer and commercial banking clients. The Group's share of profit of Permata amounts to $48 million (31 December 2018: $26 million) and the Group's share of net assets was $800 million (31 December 2018: $717 million). Permata is listed on the Indonesia Stock Exchange with a share price of IDR1265 as at 30 December 2019, resulting in a share capitalisation value of the Group's investment of $1,140 million.

The following table sets out the summarised financial statements of PT Bank Permata Tbk prior to the Group's share of joint ventures being applied:

	2019 $million	2018 $million
Cash and balances at central banks	749	766
Loans and advances to banks	1,281	929
Loans and advances to customers	7,621	6,862
Other assets	1,780	1,882
Total Assets	11,431	10,439
Deposits by banks	557	171
Customer accounts	8,886	8,171
Other financial liabilities	6	8
Other liabilities	436	648
Total liabilities	9,885	8,998
Total Equity	1,546	1,441
Operating income	550	517
Of which:		
Interest income	830	779
Interest expense	(426)	(399)
Expenses	(333)	(312)
Of which:		
Depreciation and amortisation	(13)	(5)
Impairment	(72)	(117)
Operating profit	145	88
Taxation	(37)	(23)
Profit after tax	108	65
The financial statements of PT Bank Permata Tbk includes the following:		
Other comprehensive profit/(loss) for the year	6	(8)
Total comprehensive income for the year	114	57

Dividends received from PT Bank Permata Tbk were nil (2018: nil).

Reconciliation of the net assets above to the carrying amount of the investments in PT Bank Permata Tbk recognised in the consolidated financial statements:

	2019 $million	2018 $million
Net assets of PT Bank Permata Tbk	1,546	1,441
Proportion of the Group's ownership interest in joint ventures	688	642
Notional goodwill	112	108
Other adjustments[1]	–	(33)
Carrying amount of the Group's interest in PT Bank Permata Tbk	800	717

1 Relates to IFRS 9 transition adjustments

In December 2019 the Group signed a conditional share purchase agreement to sell their 44.56 per cent equity interest in Permata, subject to regulatory and purchaser shareholder approvals. The purchase price will be 1.77 times Permata's Book Value based on the most recent financial results published prior to completion. The estimated consideration payable to SCB in cash is approximately $1.3 billion. Upon completion of the transaction, SCB will cease to have any equity interest in Permata. The Group has classified its interest in the joint venture as held for sale.

Liabilities held for sale

As at 31 December 2019, there were no held for sale financial liabilities associated with the Principal Finance business (31 December 2018: $198 million).

	2019 $million	2018 $million
Derivative financial instruments	–	198[1]
Financial liabilities held at fair value through profit or loss	–	198
Other liabilities	9	48
Provisions for liabilities and charges	–	1
	9	247

1 The derivative liability was a fixed price forward sale contract to sell the Principal Finance assets, which settled during 2019

22. Debt securities in issue

Accounting policy

Refer to Note 13 Financial instruments for the relevant accounting policy.

	2019			2018		
	Certificates of deposit of $100,000 or more $million	Other debt securities in issue $million	Total $million	Certificates of deposit of $100,000 or more $million	Other debt securities in issue $million	Total $million
Debt securities in issue	22,242	30,783	53,025	20,949	25,505	46,454
Debt securities in issue included within:						
Financial liabilities held at fair value through profit or loss (Note 13)	–	8,510	8,510	–	7,405	7,405
Total debt securities in issue	22,242	39,293	61,535	20,949	32,910	53,859

In 2019, the Company issued a total of $6.1 billion senior notes for general business purposes of the Group as shown below:

Securities	$million
$1,500 million callable floating rate senior notes due 2022 (callable 2021)	1,500
$1,250 million callable fixed rate senior notes due 2022 (callable 2021)	1,250
$1,000 million callable fixed rate senior notes due 2025 (callable 2024)	1,000
$1,000 million callable fixed rate senior notes due 2030 (callable 2029)	1,000
EUR 500 million callable fixed rate senior notes due 2027 (callable 2026)	567
AUD 600 million callable fixed rate senior notes due 2025 (callable 2024)	417
AUD 400 million callable fixed rate senior notes due 2025 (callable 2024)	278
$100 million zero coupon callable bond due 2049 (callable 2024)	100
Total senior notes issued	6,112

In 2018, the Company issued a total of $4.6 billion senior notes for general business purposes of the Group as shown below:

Securities	**$million**
$1,400 million callable fixed rate senior notes due 2023 (callable 2022)	**1,400**
$1,250 million callable fixed rate senior notes due 2024 (callable 2023)	**1,250**
JPY 111 billion callable fixed rate senior notes due 2024 (callable 2023)	**1,011**
$600 million callable floating rate senior notes due 2024 (callable 2023)	**600**
JPY 18.9 billion fixed rate senior notes due 2025	**172**
$28 million fixed rate senior notes due 2026	**28**
JPY 10 billion callable fixed rate senior notes due 2029 (callable 2028)	**91**
Total senior notes issued	**4,552**

Where a debt instrument is callable, the issuer has the right to call.

23. Other liabilities

Accounting policy

Refer to Note 13 Financial instruments for the relevant accounting policy for financial liabilities, Note 19 Leased assets for the accounting policy for leases and Note 31 Share-based payments for the accounting policy for cash-settled share-based payments.

	2019 $million	2018 $million
Financial liabilities held at amortised cost (Note 13)		
Notes in circulation[1]	6,911	5,964
Acceptances and endorsements[2]	5,518	4,923
Cash collateral	7,824	9,259
Property leases[3]	1,275	–
Equipment leases[3]	20	–
Unsettled trades and other financial liabilities	19,601	17,799
	41,149	37,945
Non-financial liabilities		
Cash-settled share-based payments	50	32
Other liabilities	384	332
	41,583	38,309

1 Hong Kong currency notes in circulation of $6,911 million (31 December 2018: $5,964 million) that are secured by the Government of Hong Kong SAR certificates of indebtedness of the same amount included in other assets (Note 20)

2 Trade finance whereby the Group offers a guarantee of payment between trade counterparties for a fee

3 Other financial liabilities now include the present value of lease liabilities, as required by IFRS 16 from 1 January 2019, refer to Note 19

24. Provisions for liabilities and charges

Accounting policy

The Group recognises a provision for a present legal or constructive obligation resulting from a past event when it is more likely than not that it will be required to transfer economic benefits to settle the obligation and the amount of the obligation can be estimated reliably. Where a liability arises based on participation in a market at a specified date, the obligation is recognised in the financial statements on that date and is not accrued over the period.

Significant accounting estimates and judgements

The recognition and measurement of provisions for liabilities and charges requires significant judgement and the use of estimates about uncertain future conditions or events.

Estimates include the best estimate of the probability of outflow of economic resources, cost of settling a provision and timing of settlement. Judgements are required for inherently uncertain areas such as legal decisions (including external advice obtained), and outcome of regulator reviews.

	2019			2018		
	Provision for credit commitments $million	Other provisions $million	Total $million	Provision for credit commitments $million	Other provisions $million	Total $million
At 1 January	281	1,049	1,330	259	100	359
Exchange translation differences	5	4	9	(9)	(1)	(10)
Transfer	–	–	–	–	39	39
Charge against profit	35	239	274	39	956	995
Provisions utilised	(4)	(1,160)	(1,164)	(8)	(45)	(53)
At 31 December	317	132	449	281	1,049	1,330

Provision for credit commitment comprises those undrawn contractually committed facilities where there is doubt as to the borrowers' ability to meet their repayment obligations.

Other provisions consist mainly of provisions for regulatory settlements and legal claims, the nature of which are described in Note 26.

25. Contingent liabilities and commitments

Accounting policy

Contingent liabilities are possible obligations arising from past events, whose existence will be confirmed only by uncertain future events or present obligations arising from past events that are not recognised because either an outflow of economic benefits is not probable or the amount of the obligation cannot be reliably measured. Contingent liabilities are not recognised but information about them is disclosed unless the possibility of any outflow of economic benefits in settlement is remote.

Where the Group undertakes to make a payment on behalf of its customers for guarantees issued such as for performance bonds or as irrevocable letters of credit as part of the Group's Transaction Banking business, for which an obligation to make a payment has not arisen at the reporting date, those are included in these financial statements as contingent liabilities.

Other contingent liabilities primarily include revocable letters of credit and bonds issued on behalf of customers to customs officials, for bids or offers and as shipping guarantees.

Commitments are where the Group has confirmed its intention to provide funds to a customer or on behalf of a customer in the form of loans, overdrafts, future guarantees, whether cancellable or not, or letters of credit, and the Group has not made payments at the balance sheet date; those instruments are included in these financial statements as commitments. Commitments and contingent liabilities are generally considered on demand as the Group may have to honour them, or client may draw down at any time.

Capital commitments are contractual commitments the Group has entered into to purchase non-financial assets.

The table below shows the contract or underlying principal amounts of unmatured off-balance sheet transactions at the balance sheet date. The contract or underlying principal amounts indicate the volume of business outstanding and do not represent amounts at risk.

	2019 $million	2018 $million
Contingent liabilities		
Guarantees and irrevocable letters of credit	37,007	36,511
Other contingent liabilities	5,425	5,441
	42,432	41,952
Commitments		
Documentary credits and short-term trade-related transactions	4,282	3,982
Undrawn formal standby facilities, credit lines and other commitments to lend		
One year and over	64,450	71,467
Less than one year	34,925	37,041
Unconditionally cancellable	41,819	39,220
	145,476	151,710
Capital commitments		
Contracted capital expenditure approved by the directors but not provided for in these accounts[1]	419	450

1 Of which the Group has commitments totalling $400 million to purchase aircraft for delivery in 2020 (31 December 2018: $439 million). No pre-delivery payments have been made in respect of these commitments (2018: $5 million)

The Group's share of contingent liabilities and commitments relating to joint ventures is $251 million (31 December 2018: $205 million). As set out in Note 26, the Group has contingent liabilities in respect of certain legal and regulatory matters for which it is not practicable to estimate the financial impact as there are many factors that may affect the range of possible outcomes.

26. Legal and regulatory matters

Accounting policy

Where appropriate, the Group recognises a provision for liabilities when it is probable that an outflow of economic resources embodying economic benefits will be required and for which a reliable estimate can be made of the obligation. The uncertainties inherent in legal and regulatory matters affect the amount and timing of any potential outflows with respect to which provisions have been established. These uncertainties also mean that it is not possible to give an aggregate estimate of contingent liabilities arising from such legal and regulatory matters.

Claims and other proceedings

The Group receives legal claims against it in a number of jurisdictions and is subject to regulatory and enforcement investigations and proceedings from time to time.

Apart from the matters described below, the Group currently considers none of these claims, investigations or proceedings to be material. However, in light of the uncertainties involved in such matters there can be no assurance that the outcome of a particular matter or matters currently not considered to be material may not ultimately be material to the Group's results in a particular reporting period depending on, among other things, the amount of the loss resulting from the matter(s) and the results otherwise reported for such period.

Investigations into, and resolutions with respect to, historical sanctions and financial crime control issues

In April 2019, the Group announced that it had resolved the previously disclosed investigations by (i) the New York Department of Financial Services (NYDFS), the Board of Governors of the Federal Reserve System, the Department of Justice (DOJ), the New York County District Attorney's Office (DANY) and the Office of Foreign Assets Control (together the 'US Authorities') concerning historical violations of US sanctions laws and regulations from 2007 through to 2014 and (ii) the Financial Conduct Authority (FCA) concerning the effectiveness and governance of historical financial crime controls in the Group's UK correspondent banking business and in its UAE branches (the 2019 Resolutions). Under the terms of the 2019 Resolutions, the Group agreed to pay a total of $947 million in monetary penalties to the US Authorities and £102 million to the FCA. As part of the 2019 Resolutions, the Group's Deferred Prosecution Agreements, which were originally entered into with the DOJ and DANY (and subsequently extended) as part of settlements in 2012 with the US Authorities relating to US sanctions compliance, were further extended to 9 April 2021. The monitorship previously imposed by the DOJ expired on 31 March 2019. As of 31 December 2019, the term of the independent consultant appointed by the NYDFS terminated and the business restrictions previously imposed by the NYDFS are no longer in effect.

Other proceedings

Since November 2014, a number of lawsuits have been filed in the United States District Courts for the Southern and Eastern Districts of New York against a number of banks (including Standard Chartered Bank) on behalf of plaintiffs who are, or are relatives of, victims of various terrorist attacks in Iraq. Five of the lawsuits were filed in late December 2018. The plaintiffs allege that the defendant banks aided and abetted the unlawful conduct of US sanctioned parties in breach of the US Anti-Terrorism Act. In March and September 2019, the New York District Courts ruled in favour of the banks' motion to dismiss two lawsuits. Following those rulings, in one lawsuit the plaintiffs are seeking to amend their complaint, and in the other the plaintiffs have filed an appeal against the dismissal. Two other lawsuits will likely join in that appeal and the remaining lawsuits are still at an early procedural stage. Based on the facts currently known, it is not possible for the Group to predict the outcome of these lawsuits.

In January 2020, a shareholder derivative complaint was filed by the City of Philadelphia in the New York State Court against 45 current and former directors and senior officers of the Group. The complaint purports to be brought on behalf of all shareholders of Standard Chartered PLC (SC PLC). It is alleged that the individuals breached their duties to the Group and caused a waste of corporate assets by permitting the conduct that gave rise to the costs and losses to the Group of the 2019 Resolutions. SC PLC, Standard Chartered Holdings Limited and Standard Chartered Bank are each named as "nominal defendants" in the complaint. The case is at a very early stage, as the complaint is yet to be served.

In February 2019, the Kenyan Director of Public Prosecutions (DPP) and related agencies in Kenya commenced an investigation into five banks, including Standard Chartered Bank Kenya Limited (SCBK), in connection with the alleged theft of funds from Kenya's National Youth Service. This investigation followed fines imposed on the banks, including SCBK, by the Central Bank of Kenya regarding adequacy of controls related to the processing of the allegedly stolen funds. Following the investigation, the DPP announced that it had received recommendations from the Kenyan Directorate of Criminal Investigations that charges should be brought against the five banks, plus bank officials and other individuals. In December 2019, SCBK agreed a settlement of this matter with the DPP. Under the terms of SCBK's settlement, the DPP agreed to defer prosecution against both SCBK and any persons affiliated with SCBK and the DPP imposed a penalty of KES100 million ($964,000) on SCBK.

27. Subordinated liabilities and other borrowed funds

Accounting policy

Subordinated liabilities and other borrowed funds are classified as financial instruments. Refer to Note 13 Financial instruments for the accounting policy.

All subordinated liabilities are unsecured, unguaranteed and subordinated to the claims of other creditors including without limitation, customer deposits and deposits by banks. The Group has the right to settle these debt instruments in certain circumstances as set out in the contractual agreements. Where a debt instrument is callable, the issuer has the right to call.

	2019 $million	2018 $million
Subordinated loan capital – issued by subsidiary undertakings		
£675 million 5.375 per cent undated step up subordinated notes (callable 2020)[1]	298	296
£200 million 7.75 per cent subordinated notes (callable 2022)[1]	53	53
$750 million 5.875 per cent subordinated notes due 2020[2]	754	754
$700 million 8.0 per cent subordinated notes due 2031[1]	429	405
BWP 127.26 million 8.2 per cent subordinated notes 2022[3]	–	12
BWP 70 million floating rate subordinated notes 2021[3]	–	7
BWP 50 million floating rate notes 2022[3]	–	5
	1,534	1,532
Subordinated loan capital – issued by the Company[4]		
Primary capital floating rate notes:		
$400 million floating rate undated subordinated notes	16	16
$300 million floating rate undated subordinated notes (Series 2)	69	69
$400 million floating rate undated subordinated notes (Series 3)	50	50
$200 million floating rate undated subordinated notes (Series 4)	26	26
£150 million floating rate undated subordinated notes	16	15
£900 million 5.125 per cent subordinated notes due 2034	855	797
$2 billion 5.7 per cent subordinated notes due 2044	2,379	2,387
$2 billion 3.95 per cent subordinated notes due 2023	2,009	1,941
$1 billion 5.7 per cent subordinated notes due 2022	1,002	1,003
$1 billion 5.2 per cent subordinated notes due 2024	1,069	1,001
$750 million 5.3 per cent subordinated notes due 2043	786	787
€1.25 billion 4 per cent subordinated notes due 2025 (callable 2020)	1,421	1,472
€750 million 3.625 per cent subordinated notes due 2022	884	907
€500 million 3.125 per cent subordinated notes due 2024	585	587
SGD 700 million 4.4 per cent subordinated notes due 2026 (callable 2021)	525	516
$1.25 billion 4.3 per cent subordinated notes due 2027	1,214	1,129
$1 billion 3.516 per cent subordinated notes due 2030 (callable 2025)	996	–
$500 million 4.886 per cent subordinated notes due 2033 (callable 2028)	499	498
Other subordinated borrowings – issued by Company[5]	272	268
	14,673	13,469
Total	16,207	15,001

1 Issued by Standard Chartered Bank
2 Issued by Standard Chartered Bank (Hong Kong) Limited
3 Issued by Standard Chartered Bank Botswana Limited
4 In the balance sheet of the Company, the amount recognised is $14,588 million (2018: $13,436 million), with the difference being the effect of hedge accounting achieved on a Group basis
5 Other subordinated borrowings includes irredeemable preference shares which are classified as debt

	2019				
	USD $million	GBP $million	EUR $million	Others $million	Total $million
Fixed rate subordinated debt	11,137	1,478	2,890	525	16,030
Floating rate subordinated debt	161	16	–	–	177
Total	11,298	1,494	2,890	525	16,207

	2018				
	USD $million	GBP $million	EUR $million	Others $million	Total $million
Fixed rate subordinated debt	9,905	1,414	2,966	528	14,813
Floating rate subordinated debt	161	15	–	12	188
Total	10,066	1,429	2,966	540	15,001

Redemptions and repurchases during the year

On 27 June 2019, Standard Chartered Bank Botswana Limited exercised its right to redeem BWP 127.26 million 8.2 per cent subordinated notes 2022 (callable 2017).

On 27 March 2019, Standard Chartered Bank Botswana Limited exercised its right to redeem BWP 50 million floating rate notes 2022 (callable 2017).

On 12 February 2019, Standard Chartered Bank Botswana Limited exercised its right to redeem BWP 70 million floating rate subordinated notes 2021 (callable 2016).

Issuance during the year

On 12 November 2019, Standard Chartered PLC issued $1 billion 3.516 per cent subordinated debt 2030 (callable 2025).

28. Share capital, other equity instruments and reserves

Accounting policy

Financial instruments issued are classified as equity when there is no contractual obligation to transfer cash, other financial assets or issue available number of own equity instruments. Incremental costs directly attributable to the issue of new shares or options are shown in equity as a deduction, net of tax, from the proceeds.

Securities which carry a discretionary coupon and have no fixed maturity or redemption date are classified as other equity instruments. Interest payments on these securities are recognised, net of tax, as distributions from equity in the period in which they are paid.

Where the Company or other members of the consolidated Group purchase the Company's equity share capital, the consideration paid is deducted from the total shareholders' equity of the Group and/or of the Company as treasury shares until they are cancelled. Where such shares are subsequently sold or reissued, any consideration received is included in shareholders' equity of the Group and/or the Company.

	Number of ordinary shares millions	Ordinary share capital[1] $million	Ordinary share premium $million	Preference share premium[2] $million	Total share capital and share premium $million	Other equity instruments $million
At 1 January 2018	3,296	1,648	3,955	1,494	7,097	4,961
Capitalised on scrip dividend	2	1	(1)	–	–	–
Shares issued	10	5	9	–	14	–
At 31 December 2018	3,308	1,654	3,963	1,494	7,111	4,961
Shares issued	4	2	23	–	25	552
Cancellation of shares including share buy-back	(116)	(58)	–	–	(58)	–
At 31 December 2019	3,196	1,598	3,986	1,494	7,078	5,513

1 Issued and fully paid ordinary shares of 50 cents each
2 Includes preference share capital of $75,000

Share buy-back

On 1 May 2019, the Group commenced a share buy-back of its ordinary shares of $0.50 each up to a maximum consideration of $1 billion. This was completed on 25 September 2019.

The buy-back reduced the number of outstanding ordinary shares and was debited against the Group's retained earnings. Further, the nominal value of the shares was transferred from the share capital to the Capital Redemption Reserve account within equity. The Group repurchased 116,103,483 ordinary shares for an aggregate consideration of approximately $1 billion at a volume-weighted average price of 686.3p per ordinary share. The nominal value of ordinary shares purchased during the buy-back was $58 million. The shares were subsequently cancelled, reducing the total issued share capital by 3.5 per cent.

Month	Number of ordinary shares	Highest price paid per share £	Lowest price paid per share £	Average price paid per share £	Average GBP USD FX rate per share £	Aggregate price paid £
Share buy-back of 2019						
May – 2019	27,546,739	7.1740	6.6160	6.8586	1.2821	242,225,052
Jun – 2019	27,338,417	7.1580	6.6960	6.9581	1.2678	241,168,240
Jul – 2019	32,126,639	7.4260	6.8200	7.1412	1.2474	286,175,164
Aug – 2019	18,022,387	7.0980	5.9840	6.3264	1.2151	138,541,855
Sep – 2019	11,069,301	7.0400	6.2320	6.7076	1.2375	91,881,038
	116,103,483					999,991,349[1]

1 The aggregate price paid in pounds sterling was GBP 796,844,949

The above excludes $6m transaction costs which were taken against equity

Ordinary share capital

In accordance with the Companies Act 2006 the Company does not have authorised share capital. The nominal value of each ordinary share is 50 cents.

During the period 3,368,576 shares were issued under employee share plans at prices between nil and 620 pence.

Preference share capital

At 31 December 2019, the Company has 15,000 $5 non-cumulative redeemable preference shares in issue, with a premium of $99,995 making a paid up amount per preference share of $100,000. The preference shares are redeemable at the option of the Company and are classified in equity.

The available profits of the Company are distributed to the holders of the issued preference shares in priority to payments made to holders of
the ordinary shares and in priority to, or pari passu with, any payments to the holders of any other class of shares in issue. On a winding up, the assets of the Company are applied to the holders of the preference shares in priority to any payment to the ordinary shareholders and in priority to, or pari passu with, the holders of any other shares in issue, for an amount equal to any dividends payable (on approval of the board) and the nominal value of the shares together with any premium as determined by the Board. The redeemable preference shares are redeemable at
the paid up amount (which includes premium) at the option of the Company in accordance with the terms of the shares. The holders of the preference shares are not entitled to attend or vote at any general meeting, except where any relevant dividend due is not paid in full or where a resolution is proposed varying the rights of the preference shares.

Other equity instruments

On 2 April 2015, Standard Chartered PLC issued $2,000 million Fixed Rate Resetting Perpetual Subordinated Contingent Convertible Securities as Additional Tier 1 (AT1) securities, raising $1,987 million after issue costs. On 18 August 2016, Standard Chartered PLC issued $2,000 million Fixed Rate Resetting Perpetual Subordinated Contingent Convertible Securities as AT1 securities, raising $1,982 million after issue costs. On 18 January 2017, Standard Chartered PLC issued $1,000 million Fixed Rate Resetting Perpetual Subordinated Contingent Convertible Securities as AT1 securities, raising $992 million after issue costs. On 3 July 2019, Standard Chartered PLC issued SGD 750 million Fixed Rate Resetting Perpetual Subordinated Contingent Convertible Securities as AT1 securities, raising $552 million after issue costs. All issuances are made for general business purposes and to increase the regulatory capital base of the Group.

The principal terms of the AT1 securities are described below:

- The securities are perpetual and redeemable, at the option of Standard Chartered PLC in whole but not in part, on the first interest reset date and each date falling five years after the first reset date
- The securities are also redeemable for certain regulatory or tax reasons on any date at 100 per cent of their principal amount together with any accrued but unpaid interest up to (but excluding) the date fixed for redemption. Any redemption is subject to Standard Chartered PLC giving notice to the relevant regulator and the regulator granting permission to redeem
- The interest rate in respect of the securities issued on 2 April 2015 for the period from (and including) the issue date to (but excluding) 2 April 2020 is a fixed rate of 6.50 per cent per annum. The first reset date for the interest rate is 2 April 2020 and each date falling five, or an integral multiple of five years after the first reset date
- The interest rate in respect of the securities issued on 18 August 2016 for the period from (and including) the issue date to (but excluding) 2 April 2022 is a fixed rate of 7.50 per cent per annum. The first reset date for the interest rate is 2 April 2022 and each date falling five years, or an integral multiple of five years, after the first reset date
- The interest rate in respect of the securities issued on 18 January 2017 for the period from (and including) the issue date to (but excluding) 2 April 2023 is a fixed rate of 7.75 per cent per annum. The first reset date for the interest rate is 2 April 2023 and each date falling five years, or an integral multiple of five years, after the first reset date
- The interest rate in respect of the securities issued on 3 July 2019 for the period from (and including) the issue date to (but excluding) 3 October 2024 is a fixed rate of 5.375 per cent per annum. The first reset date for the interest rate is 3 October 2024 and each date falling five years, or an integral multiple of five years, after the first reset date
- The interest on each of the USD securities will be payable semi-annually in arrears on 2 April and 2 October in each year, accounted for as a dividend. The interest on the SGD security will be payable semi-annually in arrears on 3 April and 3 October in each year, accounted for as a dividend
- Interest on the securities is due and payable only at the sole and absolute discretion of Standard Chartered PLC, subject to certain additional restrictions set out in the terms and conditions. Accordingly, Standard Chartered PLC may at any time elect to cancel any interest payment (or part thereof) which would otherwise be payable on any interest payment date
- The securities convert into ordinary shares of Standard Chartered PLC, at a predetermined price detailed in the table below, should the fully loaded Common Equity Tier 1 ratio of the Group fall below 7.0 per cent. Approximately 641 million ordinary shares would be required to satisfy the conversion of all the securities mentioned above

Issuance date	Nominal value	Conversion price per ordinary share
2 April 2015	USD 2,000 million	USD 10.865
18 August 2016	USD 2,000 million	USD 7.732
18 January 2017	USD 1,000 million	USD 7.732
3 July 2019	SGD 750 million	SGD 10.909

The securities rank behind the claims against Standard Chartered PLC of: (a) unsubordinated creditors; (b) which are expressed to be subordinated to the claims of unsubordinated creditors of Standard Chartered PLC but not further or otherwise; or (c) which are, or are expressed to be, junior to the claims of other creditors of Standard Chartered PLC, whether subordinated or unsubordinated, other than claims which rank, or are expressed to rank, pari passu with, or junior to, the claims of holders of the AT1 securities in a winding–up occurring prior to the conversion trigger.

Reserves

The constituents of the reserves are summarised as follows:

- The capital reserve represents the exchange difference on redenomination of share capital and share premium from sterling to US dollars in 2001. The capital redemption reserve represents the nominal value of preference shares redeemed
- Merger reserve represents the premium arising on shares issued using a cash box financing structure, which required the Company to create a merger reserve under section 612 of the Companies Act 2006. Shares were issued using this structure in 2005 and 2006 to assist in the funding of certain acquisitions, in 2008, 2010 and 2015 for the shares issued by way of a rights issue, primarily for capital maintenance requirements and for the shares issued in 2009 by way of an accelerated book build, the proceeds of which were used in the ordinary course of business of the Group. The funding raised by the 2008, 2010 and 2015 rights issues and 2009 share issue was fully retained within the Company

- Own credit adjustment reserve represents the cumulative gains and losses on financial liabilities designated at fair value through profit or loss relating to own credit. Gains and losses on financial liabilities designated at fair value through profit or loss relating to own credit in the year have been taken through other comprehensive income into this reserve. On derecognition of applicable instruments, the balance of any OCA will not be recycled to the income statement, but will be transferred within equity to retained earnings
- Fair value through other comprehensive income (FVOCI) debt reserve represents the unrealised fair value gains and losses in respect of financial assets classified as FVOCI, net of expected credit losses and taxation. Gains and losses are deferred in this reserve and are reclassified to the income statement when the underlying asset is sold, matures or becomes impaired. FVOCI equity reserve represents unrealised fair value gains and losses in respect of financial assets classified as FVOCI, net of taxation. Gains and losses are recorded in this reserve and never recycled to the income statement
- Cash flow hedge reserve represents the effective portion of the gains and losses on derivatives that meet the criteria for these types of hedges. Gains and losses are deferred in this reserve and are reclassified to the income statement when the underlying hedged item affects profit and loss or when a forecast transaction is no longer expected to occur
- Translation reserve represents the cumulative foreign exchange gains and losses on translation of the net investment of the Group in foreign operations. Since 1 January 2004, gains and losses are deferred to this reserve and are reclassified to the income statement when the underlying foreign operation is disposed. Gains and losses arising from derivatives used as hedges of net investments are netted against the foreign exchange gains and losses on translation of the net investment of the foreign operations
- Retained earnings represents profits and other comprehensive income earned by the Group and Company in the current and prior periods, together with the after tax increase relating to equity-settled share options, less dividend distributions, own shares held (treasury shares) and share buy-backs

A substantial part of the Group's reserves is held in overseas subsidiary undertakings and branches, principally to support local operations or to comply with local regulations. The maintenance of local regulatory capital ratios could potentially restrict the amount of reserves which can be remitted. In addition, if these overseas reserves were to be remitted, further unprovided taxation liabilities might arise.

As at 31 December 2019, the distributable reserves of Standard Chartered PLC (the Company) were $14.3 billion (31 December 2018: $15.1 billion). These comprised retained earnings and $12.5 billion of the merger reserve account. Distribution of reserves is subject to maintaining minimum capital requirements.

Own shares

Computershare Trustees (Jersey) Limited is the trustee of the 2004 Employee Benefit Trust ('2004 Trust') and Ocorian Trustees (Jersey) Limited (formerly known as Bedell Trustees Limited) is the trustee of the 1995 Employees' Share Ownership Plan Trust ('1995 Trust'). The 2004 Trust is used in conjunction with the Group's employee share schemes and the 1995 Trust is used for the delivery of other employee share-based payments (such as upfront shares and fixed pay allowances). Group companies fund these trusts from time to time to enable the trustees to acquire shares to satisfy these arrangements.

Except as disclosed, neither the Company nor any of its subsidiaries has bought, sold or redeemed any securities of the Company listed on The Stock Exchange of Hong Kong Limited during the period. Details of the shares purchased and held by the trusts are set out below.

	1995 Trust		2004 Trust		Total	
Number of shares	2019	2018	2019	2018	2019	2018
Shares purchased during the year	646,283	1,017,941	24,065,354	–	24,711,637	1,017,941
Market price of shares purchased ($million)	5	8	201	–	206	8
Shares held at the end of the year	–	2,354,820	5,113,455	16,755	5,113,455	2,371,575
Maximum number of shares held during the year					15,070,923	3,787,015

Changes in share capital and other equity instruments of Standard Chartered PLC subsidiaries

The table below details the transactions in equity instruments (including convertible and hybrid instruments) of the Group's subsidiaries, including issuances, conversions, redemptions, purchase or cancellation. This is required under the Hong Kong Listing requirements, appendix 16 paragraph 10.

Subsidiary Undertakings

Name and registered address	Country of incorporation	Description of shares	Issued/(redeemed) capital	Issued/(redeemed) shares	Proportion of shares held (%)
The following companies have the address of 1 Basinghall Avenue, London, EC2V 5DD, United Kingdom					
FinVentures UK Limited	United Kingdom	$1.00 Ordinary shares	$140,000,000	140,000,000	100
SCMB Overseas Limited	United Kingdom	£0.10 Ordinary shares	£22,400,000	224,000,000	100
Standard Chartered Bank	United Kingdom	$1.00 Ordinary shares	($7,500,000,000)	(7,500,000,000)	100
Standard Chartered Holdings Limited	United Kingdom	$2.00 Ordinary shares	($2,600,000,000)	(1,300,000,000)	100
Standard Chartered I H Limited	United Kingdom	$1.00 Ordinary shares	$141,000,000	141,000,000	100
Standard Chartered NEA Limited	United Kingdom	$1.00 Ordinary shares	$1,593,884,872	1,593,884,872	100
Standard Chartered UK Holdings Limited	United Kingdom	£10.00 Ordinary shares	£21,692,310	2,169,231	100
The following company has the address of 8th Floor, 20 Farringdon Street, London, EC4A 4AB, United Kingdom					
SC Ventures G.P. Limited	United Kingdom	£1.00 Ordinary shares	£1.00	1	100
The following company has the address of Rua Gamal Abdel Nasser, Edificio Tres Torres, Eixo Viario, Distrito Urbano da Ingombota, Municipio de Luanda, Provincia de Luanda, Angola					
Standard Chartered Bank Angola S.A.	Angola	AOK8,742.05 Ordinary shares	AOK8,742,050,000	1,000,000	60
		AOK6,475.62 Ordinary shares	(AOK6,475,620,000)	(1,000,000)	60
The following company has the address of Av. Brigadeiro Faria Lima, 3600 – 7° andar, conj 72 04538-132, São Paulo, Brazil.					
Standard Chartered Representação Ltda	Brazil	BRL1.00 Ordinary shares	BRL3,800,000	3,800,000	100
The following company has the address of Walkers Corporate Limited, Cayman Corporate Centre, 27 Hospital Road George Town, Grand Cayman KY1-9008, Cayman Islands					
Standard Chartered Principal Finance (Cayman) Limited	Cayman Islands	$0.0001 Ordinary shares	$500	5,000,000	100
The following company has the address of Taunusanlage 16, 60325, Frankfurt am Main, Germany					
Standard Chartered Bank AG	Germany	€ Ordinary shares	€175,000,001	175,000,001	100
The following company has the address of 14th Floor, One Taikoo Place, 979 King's Road, Quarry Bay, Hong Kong					
Standard Chartered PF Real Estate (Hong Kong) Limited	Hong Kong	$1.00 Ordinary shares	$39,000,001	39,000,001	100
		HKD10.00 Ordinary shares	(HKD10.00)	(1)	100
The following company has the address of 25/F, Standard Chartered Bank Building, 4-4A Des Voeux Road, Central, Hong Kong					
SC Digital Solutions Limited	Hong Kong	HKD10.00 Ordinary shares	HKD1,610,920,000	161,092,000	65.1
The following company has the address of 3/F Standard Chartered Bank Building, 4-4A Des Voeux Road Central, Hong Kong					
Standard Chartered Private Equity Limited	Hong Kong	$1.00 Ordinary shares	$185,000,000	185,000,000	100
The following company has the address of 32/F, Standard Chartered Bank Building, 4-4A Des Voeux Road, Central, Hong Kong					
Standard Chartered Bank (Hong Kong) Limited	Hong Kong	$ D Ordinary shares	$3,010,485,610	3,010,485,610	100
		$ C Ordinary shares	$2,698,156,122	341,971,625	100
The following company has the address of Second Floor, Indiqube Edge, Khata No. 571/630/6/4, Sy.No.6/4, Ambalipura Village, Varthur Hobli, Marathahalli Sub-Division, Ward No. 150, Bengaluru, 560102, India					
Standard Chartered Research and Technology India Private Limited	India	INR10.00 Ordinary shares	INR350,000,000	35,000,000	100

The following company has the address of 1st Floor, Goldie House, 1-4 Goldie Terrace, Upper Church Street, Douglas, IM1 1EB, Isle of Man					
Standard Chartered Insurance Limited	Isle of Man	$1.00 Ordinary shares	($4,180,300)	(4,180,300)	100
The following company has the address of 17/F, 100, Gongpyeong-dong, Jongno-gu, Seoul, Korea, Republic of					
Ascenta II	Korea, Republic of	KRW1,000,000.00 Partnership interest	(KRW100,000,000)	(100)	100
The following company has the address of SGG Corporate Services (Mauritius) Ltd, 33, Edith Cavell St, Port Louis, 11324, Mauritius					
Actis Asia Real Estate (Mauritius) Limited	Mauritius	Class A $1.00 Ordinary shares	($9,757,406)	(9,757,406)	100
		Class B $1.00 Ordinary shares	($9,757,406)	(9,757,406)	100
The following companies have the address of c/o Abax Corporate Services Ltd, 6/F, Tower A, 1 CYBERCITY, Ebene, Mauritius					
Standard Chartered Financial Holdings	Mauritius	$1.00 Ordinary shares	$6,000,000	6,000,000	100
Standard Chartered Private Equity (Mauritius) II Limited	Mauritius	$1.00 Ordinary shares	$17,000,000	17,000,000	100
Standard Chartered Private Equity (Mauritius) lll Limited	Mauritius	$1.00 Ordinary shares	$168,000,000	168,000,000	100
The following companies have the address of 1 Basinghall Avenue, London, EC2V 5DD, United Kingdom					
Standard Chartered Holdings (International) B.V.	Netherlands	€4.50 Ordinary shares	EUR45,000	10,000	100
Standard Chartered MB Holdings B.V.	Netherlands	€4.50 Ordinary shares	EUR45,000	10,000	100
The following company has the address of 142 Ahmadu Bello Way, Victoria Island, Lagos, Nigeria					
Cherroots Nigeria Limited	Nigeria	NGN1.00 Ordinary Shares	(NGN12,500)	(12,500)	100
The following company has the address of 8 Marina Boulevard, Level 23, Marina Bay Financial Centre, Tower 1, 018981, Singapore					
Standard Chartered Private Equity (Singapore) Pte. Ltd	Singapore	$ Ordinary shares	nil	49,000,000	100
The following companies have the address of 8 Marina Boulevard, Level 27, Marina Bay Financial Centre, Tower 1, 018981, Singapore					
Standard Chartered Bank (Singapore) Limited	Singapore	SGD Preference shares	SGD750,000,000	3,750	100
		$ Ordinary shares	$2,590,000,000	2,590,000,000	100
		$ Preference shares	$500,000,000	2,500	100
Standard Chartered Holdings (Singapore) Private Limited	Singapore	$ Ordinary shares	$2,590,000,000	2,590,000,000	100
The following companies has the address of Abogado Pte Ltd, No. 8 Marina Boulevard, #05-02 MBFC Tower 1, 018981, Singapore					
Standard Chartered PF Managers Pte. Limited	Singapore	$1.00 Ordinary shares	$8,312,499	8,312,499	100
Standard Chartered Real Estate Investment Holdings (Singapore) Private Limited	Singapore	$1.00 Ordinary shares	$39,000,001	39,000,001	100
		SGD1.00 Ordinary shares	(SGD1)	(1)	100
The following company has the address of Vistra Corporate Services Centre, Wickhams Cay II, Road Town, Tortola, VG1110, Virgin Islands, British					
Sky Harmony Holdings Limited	Virgin Islands, British	$1.00 Ordinary shares	$1	1	100
The following company has the address of Deloitte LLP, Hill House, 1 Little New Street, London, EC4A 3TR, United Kingdom					
Standard Chartered APR Limited	United Kingdom	$1.00 Ordinary shares	($21,971,714)	(21,971,714)	100

Please see Note 22 Debt securities in issue for issuances and redemptions of senior notes.

Please see Note 27 Subordinated liabilities and other borrowed funds for issuance and redemptions of subordinated liabilities and AT1 securities

Please see Note 40 Related undertakings of the Group for subsidiaries liquidated, dissolved or sold during the year.

29. Non-controlling interests

Accounting policy

Non-controlling interests are measured either at fair value or at the non-controlling interest's proportionate share of the acquiree's identifiable net assets.

	$million
At 1 January 2018	333
Income in equity attributable to non-controlling interests	(21)
Profits attributable to non-controlling interests	55
Comprehensive income for the year	34
Distributions	(97)
Other increases[1]	3
At 31 December 2018	273
Income in equity attributable to non-controlling interests	(17)
Profits attributable to non-controlling interests	37
Comprehensive income for the year	20
Distributions	(35)
Other increases[2]	55
At 31 December 2019	313

1 Mainly due to additional shares issued by Standard Chartered Bank Angola S.A.
2 Comprises $72 million of non-controlling interest in SC Digital Solutions offset by $17 million disposal of non-controlling interest of Phoon Huat Ltd, Sirat Holdings Limited and Ori Private Limited

30. Retirement benefit obligations

Accounting policy

The Group operates pension and other post-retirement benefit plans around the world, which can be categorised into defined contribution plans and defined benefit plans.

For defined contribution plans, the Group pays contributions to publicly or privately administered pension plans on a statutory or contractual basis, and such amounts are charged to operating expenses. The Group has no further payment obligations once the contributions have been paid.

For funded defined benefit plans, the liability recognised in the balance sheet is the present value of the defined benefit obligation at the balance sheet date less the fair value of plan assets. For unfunded defined benefit plans, the liability recognised at the balance sheet date is the present value of the defined benefit obligation.

The defined benefit obligation is calculated annually by independent actuaries using the projected unit method.

Actuarial gains and losses that arise are recognised in shareholders' equity and presented in the statement of other comprehensive income in the period they arise. The Group determines the net interest expense on the net defined benefit liability for the year by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the net defined benefit liability, taking into account any changes in the net defined benefit liability during the year as a result of contributions and benefit payments. Net interest expense, the cost of the accrual of new benefits, benefit enhancements (or reductions) and administration expenses met directly from plan assets are recognised in the income statement in the period in which they were incurred.

Accounting estimates and judgements

There are many factors that affect the measurement of the retirement benefit obligations of the UK Fund and Overseas Plans. This measurement requires the use of estimates, such as discount rates, inflation, pension increases, salary increases, and life expectancies which are inherently uncertain. Discount rates are determined by reference to market yields at the end of the reporting period on high quality corporate bonds (or, in countries where there is no deep market in such bonds, government bonds) of a currency and term consistent with the currency and term of the post-employment benefit obligations. This is the approach adopted across our geographies. Where there are inflation-linked bonds available (e.g. United Kingdom and the eurozone), the Group derives inflation based on the market on those bonds, with the market yield adjusted in respect of the United Kingdom to take account of the fact that liabilities are linked to Consumer Price Index inflation, whereas the reference bonds are linked to Retail Price Index inflation. Where no inflation-linked bonds exist, we determine inflation assumptions based on long-term forecasts. Salary growth assumptions reflect the Group's long-term expectations, taking into account future business plans and macroeconomic data (primarily expected future long-term inflation). Demographic assumptions, including mortality and turnover rates, are typically set based on the assumptions used in the most recent actuarial funding valuation, and will generally use industry standard tables, adjusted where appropriate to reflect recent historic experience and/or future expectations.

Retirement benefit obligations comprise:

	2019 $million	2018 $million
Defined benefit plans obligation	458	386
Defined contribution plans obligation	11	13
Net obligation	469	399

Retirement benefit charge comprises:

	2019 $million	2018 $million
Defined benefit plans	73	81
Defined contribution plans	299	284
Charge against profit (Note 7)	372	365

The Group operates over 50 defined benefit plans across its geographies, many of which are closed to new entrants who now join defined contribution arrangements. The aim of all these plans is, as part of the Group's commitment to financial wellbeing for employees, to give employees the opportunity to save appropriately for retirement in a way that is consistent with local regulations, taxation requirements and market conditions. The defined benefit plans expose the Group to currency risk, interest rate risk, investment risk and actuarial risks such as longevity risk.

The material holdings of government and corporate bonds partially hedge movements in the liabilities resulting from interest rate and inflation changes. Setting aside movements from other drivers such as currency fluctuation, the reductions in discount rates in most geographies over 2019 have led to higher liabilities. These have been somewhat offset by increases in the value of bonds held and good stock market performance. These movements are shown as actuarial losses versus gains respectively in the tables below. Contributions into a number of plans in excess of the amounts required to fund benefits accruing have also helped to reduce the net deficit over the year.

The disclosures required under IAS 19 have been calculated by independent qualified actuaries based on the most recent full actuarial valuations updated, where necessary, to 31 December 2019.

UK Fund

The Standard Chartered Pension Fund (the 'UK Fund') is the Group's largest pension plan, representing 60 per cent (31 December 2018: 58 per cent) of total pension liabilities. The UK Fund is set up under a trust that is legally separate from the Bank (its formal sponsor) and, as required by UK legislation, at least one third of the trustee directors are nominated by members; the remainder are appointed by the Bank. The trustee directors have a fiduciary duty to members and are responsible for governing the UK Fund in accordance with its Trust Deed and Rules.

The UK Fund was closed to new entrants from 1 July 1998 and new employees were offered membership of a defined contribution plan. The UK Fund was closed to the accrual of new benefits from 1 April 2018: there was no accounting impact as a result of the closure as the liabilities represented by the benefits already accrued are not expected to be significantly altered by the closure.

The financial position of the UK Fund is regularly assessed by an independent qualified actuary. The funding valuation as at 31 December 2017 was completed in December 2018 by the Scheme Actuary, A Zegleman of Willis Towers Watson. and agreed with the UK Fund trustee. It revealed a past service deficit of $210 million (£159 million). To repair the deficit, four annual cash payments of $43.5 million (£32.9 million) were agreed, with the first two of these having been paid in December 2018 and December 2019. The agreement allows that, if the funding position improves to being at or near a surplus in future years, the two payments from December 2020 will be reduced or eliminated. In addition, an escrow account of $145 million (£110 million) exists to provide security for future contributions.

As at 31 December 2019, the weighted average duration of the UK Fund was 16 years (31 December 2018: 14 years).

The Group is not required to recognise any additional liability under IFRIC 14 or the 2015 exposure draft of proposed amendments to it, as the Bank has control of any pension surplus under the Trust Deed and Rules.

Overseas plans

The principal overseas defined benefit arrangements operated by the Group are in Germany, Hong Kong, India, Jersey, Korea, Taiwan, United Arab Emirates (UAE) and the United States of America (US).

Key assumptions

The principal financial assumptions used at 31 December 2019 were:

	Funded plans			
	UK Fund		Overseas Plans[1]	
	31.12.19 %	31.12.18 %	31.12.19 %	31.12.18 %
Discount rate	2.0	2.8	0.7 – 3.4	0.9 – 4.4
Price inflation	2.1	2.1	1.0 – 3.0	1.0 – 3.2
Salary increases	n/a	n/a	3.0 – 4.0	2.1 – 4.0
Pension increases	2.1	2.1	1.4 – 3.0	1.4 – 3.2

1 The range of assumptions shown is for the main defined benefit overseas plans in Germany, Hong Kong, Jersey, Korea, Taiwan, UAE and the US. These comprise over 85 per cent of the total liabilities of overseas defined benefit plans

	Unfunded plans			
	US post-retirement medical		Other[1]	
	31.12.19 %	31.12.18 %	31.12.19 %	31.12.18 %
Discount rate	3.4	4.4	1.5 – 7.0	2.7 – 7.6
Price inflation	2.5	2.5	2.0 – 4.0	2.0 – 5.0
Salary increases	N/A	N/A	3.5 – 7.0	3.5 – 7.0
Pension increases	N/A	N/A	0.0 – 2.1	0.0 – 2.1
Post-retirement medical rate	8% in 2019 reducing by 1% per annum to 5% in 2022	9% in 2018 reducing by 1% per annum to 5% in 2022	N/A	N/A

1 The range of assumptions shown is for the main unfunded plans in India, Korea, Thailand, UAE and the UK. They comprise over 90 per cent of the total liabilities of other unfunded plans

The principal non-financial assumptions are those made for UK life expectancy. The assumptions for life expectancy for the UK Fund are that a male member currently aged 60 will live for 28 years (31 December 2018: 28 years) and a female member for 29 years (31 December 2018: 29 years) and a male member currently aged 40 will live for 31 years (31 December 2018: 30 years) and a female member for 30 years (31 December 2018: 30 years) after their 60th birthdays.

Both financial and non-financial assumptions can be expected to change in the future, which would affect the value placed on the liabilities. For example, changes at the reporting date to one of the relevant actuarial assumptions, holding other assumptions constant, would have affected the defined benefit obligation by the amounts shown below:

- If the discount rate increased by 25 basis points, the liability would reduce by approximately $65 million for the UK Fund (31 December 2018: $55 million) and $35 million for the other plans (31 December 2018: $30 million)
- If the rate of inflation increased by 25 basis points, the liability, allowing for the consequent impact on pension and salary increases, would increase by approximately $45 million for the UK Fund (31 December 2018: $40 million) and $25 million for the other plans (31 December 2018: $20 million)
- If the rate salaries increase compared with inflation increased by 25 basis points, the liability would increase by nil for the UK Fund (31 December 2018: nil) and approximately $15 million for the other plans (31 December 2018: $15 million)
- If longevity expectations increased by one year, the liability would increase by approximately $60 million for the UK Fund (31 December 2018: $45 million) and $15 million for the other plans (31 December 2018: $15 million)

Although this analysis does not take account of the full distribution of cash flows expected under the UK Fund, it does provide an approximation of the sensitivity to the main assumptions. While changes in other assumptions would also have an impact, the effect would not be as significant.

Fund values:

The fair value of assets and present value of liabilities of the plans attributable to defined benefit members were:

	31.12.19				31.12.18			
	Funded plans		Unfunded plans		Funded plans		Unfunded plans	
At 31 December	UK Fund $million	Overseas plans $million	Post-retirement medical $million	Other $million	UK Fund $million	Overseas plans $million	Post-retirement medical $million	Other $million
Equities	102	349	N/A	N/A	166	310	N/A	N/A
Government bonds	956	196	N/A	N/A	762	176	N/A	N/A
Corporate bonds	189	121	N/A	N/A	147	87	N/A	N/A
Absolute Return Fund	158	–	N/A	N/A	147	–	N/A	N/A
Hedge funds[1]	100	–	N/A	N/A	110	–	N/A	N/A
Insurance linked funds[1]	37	–	N/A	N/A	36	–	N/A	N/A
Opportunistic credit[1]	–	–	N/A	N/A	15	–	N/A	N/A
Property	75	32	N/A	N/A	44	14	N/A	N/A
Derivatives	13	3	N/A	N/A	(7)	3	N/A	N/A
Cash and equivalents	77	163	N/A	N/A	136	221	N/A	N/A
Others[1]	8	31	N/A	N/A	9	34	N/A	N/A
Total fair value of assets[2]	1,715	895	N/A	N/A	1,565	845	N/A	N/A
Present value of liabilities	(1,832)	(1,010)	(16)	(210)	(1,615)	(974)	(17)	(190)
Net pension plan obligation	(117)	(115)	(16)	(210)	(50)	(129)	(17)	(190)

1 Unquoted assets
2 Self-investment is monitored closely and is less than $1 million of Standard Chartered equities and bonds for 2019 (31 December 2018: less than $1 million). Self-investment is only allowed where it is not practical to exclude it – for example through investment in index-tracking funds where the Group is a constituent of the relevant index

The pension cost for defined benefit plans was:

	Funded plans		Unfunded plans		
2019	UK Fund $million	Overseas plans $million	Post-retirement medical $million	Other $million	Total $million
Current service cost[1]	–	49	–	12	61
Past service cost and curtailments[2]	–	2	–	(1)	1
Settlement cost	–	–	–	–	–
Interest income on pension plan assets	(43)	(26)	–	–	(69)
Interest on pension plan liabilities	44	29	1	6	80
Total charge to profit before deduction of tax	1	54	1	17	73
Net gain on plan assets[3]	(86)	(88)	–	–	(174)
Losses on liabilities	196	77	(2)	27	298
Total losses/(gains) recognised directly in statement of comprehensive income before tax	110	(11)	(2)	27	124
Deferred taxation	5	–	–	–	5
Total losses/(gains) after tax	115	(11)	(2)	27	129

1 Includes administrative expenses paid out of plan assets of $1 million (31 December 2018: $2 million)
2 Past service costs arose primarily due to plan changes in Thailand and US, and were largely offset by past service credits due to plan changes in UAE
3 The actual return on the UK Fund assets was a gain of $129 million and on overseas plan assets was a gain of $114 million

The pension cost for defined benefit plans was:

2018	Funded plans UK Fund $million	Funded plans Overseas plans $million	Unfunded plans Post-retirement medical $million	Unfunded plans Other $million	Total $million
Current service cost[1]	1	54	–	12	67
Past service cost and curtailments[2]	2	–	–	–	2
Settlement cost[3]	–	–	–	1	1
Interest income on pension plan assets	(41)	(27)	–	–	(68)
Interest on pension plan liabilities	44	29	1	5	79
Total charge to profit before deduction of tax	6	56	1	18	81
Losses on plan assets excluding interest income[4]	67	46	–	–	113
(Gains)/Losses on liabilities	(76)	(17)	(2)	1	(94)
Total (gains)/losses recognised directly in statement of comprehensive income before tax	(9)	29	(2)	1	19
Deferred taxation	2	(8)	–	–	(6)
Total losses/(gains) after tax	(7)	21	(2)	1	13

1 Includes administrative expenses paid out of plan assets of $2 million (31 December 2017: $1 million)
2 The past service cost in the UK Fund is due to the impact of the Lloyds judgement on 26 October 2018 confirming the requirement for UK defined benefit pension schemes to equalise the impact of Guaranteed Minimum Pensions (GMPs) for males and females
3 The costs arise primarily from the settlement of benefits in Thailand
4 The actual return on the UK Fund assets was a loss of $26 million and on overseas plan assets was a loss of $19 million

Movement in the defined benefit pension plans and post-retirement medical deficit during the year comprise:

	Funded plans UK Fund $million	Funded plans Overseas plans $million	Unfunded plans Post-retirement medical $million	Unfunded plans Other $million	Total $million
Deficit as at 1 January 2019	(50)	(129)	(17)	(190)	(386)
Contributions	44	73	–	20	137
Current service cost[1]	–	(49)	–	(12)	(61)
Past service cost and curtailments	–	(2)	–	1	(1)
Settlement costs and transfers impact	–	–	–	–	–
Net interest on the net defined benefit asset/liability	(1)	(3)	(1)	(6)	(11)
Actuarial (losses)/gains	(110)	11	2	(27)	(124)
Exchange rate adjustment	–	(16)	–	4	(12)
Deficit as at 31 December 2019[2]	(117)	(115)	(16)	(210)	(458)

1 Includes administrative expenses paid out of plan assets of $1 million (31 December 2018: $2 million)
2 The deficit total of $458 million is made up of plans in deficit of $486 million (31 December 2018: $421 million) net of plans in surplus with assets totalling $28 million (31 December 2018: $35 million)

Movement in the defined benefit pension plans and post-retirement medical deficit during the year comprise:

	Funded plans UK Fund $million	Funded plans Overseas plans $million	Unfunded plans Post-retirement medical $million	Unfunded plans Other $million	Total $million
Deficit as at 1 January 2018	(120)	(111)	(18)	(194)	(443)
Contributions	62	64	–	17	143
Current service cost[1]	(1)	(54)	–	(12)	(67)
Past service cost and curtailments	(2)	–	–	–	(2)
Settlement costs and transfers impact	–	–	–	(1)	(1)
Net interest on the net defined benefit asset/liability	(3)	(2)	(1)	(5)	(11)
Actuarial (losses)/gains	9	(29)	2	(1)	(19)
Exchange rate adjustment	5	3	–	6	14
Deficit as at 31 December 2018[2]	(50)	(129)	(17)	(190)	(386)

1 Includes administrative expenses paid out of plan assets of $2 million (31 December 2017: $1 million)
2 Deficit at 31 December 2018 of $386 million is made up of plans in deficit of $421 million (2017: $483 million) net of plans in surplus with assets totalling $35 million (2017: $40 million)

The Group's expected contribution to its defined benefit pension plans in 2020 is $112 million.

	2019			2018		
	Assets $million	Obligations $million	Total $million	Assets $million	Obligations $million	Total $million
As at 1 January	2,410	(2,796)	(386)	2,592	(3,035)	(443)
Contributions[1]	137	–	137	144	(1)	143
Current service cost[2]	–	(61)	(61)	–	(67)	(67)
Past service cost and curtailments	–	(1)	(1)	–	(2)	(2)
Settlement costs	(7)	7	–	–	(1)	(1)
Interest cost on pension plan liabilities	–	(80)	(80)	–	(79)	(79)
Interest income on pension plan assets	69	–	69	68	–	68
Benefits paid out[2]	(165)	165	–	(168)	168	–
Actuarial (losses)/gains[3]	174	(298)	(124)	(113)	94	(19)
Exchange rate adjustment	(8)	(4)	(12)	(113)	127	14
As at 31 December	2,610	(3,068)	(458)	2,410	(2,796)	(386)

1 Includes employee contributions of nil (31 December 2018: $1 million)
2 Includes administrative expenses paid out of plan assets of $1 million (31 December 2018: $2 million)
3 Actuarial loss on obligation comprises $267 million loss (31 December 2018: $114 million gain) from financial assumption changes, $4 million loss (31 December 2018: nil) from demographic assumption changes and $18 million loss (31 December 2018: $20 million loss) from experience

31. Share-based payments

Accounting policy

The Group operates equity-settled and cash-settled share-based compensation plans. The fair value of the employee services (measured by the fair value of the options granted) received in exchange for the grant of the shares and options is recognised as an expense. For deferred share awards granted as part of an annual performance award, the expense is recognised over the period from the start of the performance period to the vesting date. For example, the expense for awards granted in 2020 in respect of 2019 performance, which vest in 2021-2023, is recognised as an expense over the period from 1 January 2019 to the vesting dates in 2021-2023. For all other awards, the expense is recognised over the period from the date of grant to the vesting date.

For equity-settled awards, the total amount to be expensed over the vesting period is determined by reference to the fair value of the shares and options at the date of grant, which excludes the impact of any non-market vesting conditions (for example, profitability and growth targets). The fair value of equity instruments granted is based on market prices, if available, at the date of grant. In the absence of market prices, the fair value of the instruments is estimated using an appropriate valuation technique, such as a binomial option pricing model. Non-market vesting conditions are included in assumptions about the number of shares and options that are expected to vest.

At each balance sheet date, the Group revises its estimates of the number of shares and options that are expected to vest. It recognises the impact of the revision of original estimates, if any, in the income statement, and a corresponding adjustment to equity over the remaining vesting period. Forfeitures prior to vesting attributable to factors other than the failure to satisfy service conditions and non-market vesting condition are treated as a cancellation and the remaining unamortised charge is debited to the income statement at the time of cancellation. The proceeds received net of any directly attributable transaction costs are credited to share capital (nominal value) and share premium when the options are exercised.

Cash-settled awards are revalued at each balance sheet date and a liability recognised on the balance sheet for all unpaid amounts, with any changes in fair value charged or credited to staff costs in the income statement until the awards are exercised. Where forfeitures occur prior to vesting that are attributable to factors other than a failure to satisfy service conditions or market-based performance conditions, the cumulative charge incurred up to the date of forfeiture is credited to the income statement. Any revaluation related to cash-settled awards is recorded as an amount due from subsidiary undertakings.

The Group operates a number of share-based arrangements for its executive directors and employees. Details of the share-based payment charge are set out below.

	31.12.19[1]			31.12.18[1]		
	Cash $million	Equity $million	Total $million	Cash $million	Equity $million	Total $million
Deferred share awards	13	88	101	3	89	92
Other share awards	12	53	65	(3)	77	74
Total share-based payments	25	141	166	–	166	166

1 No forfeiture assumed

2011 Standard Chartered Share Plan (the '2011 Plan')

The 2011 Plan was approved by shareholders in May 2011 and is the Group's main share plan. Since approval, it has been used to deliver various types of share awards:

- Long Term Incentive Plan (LTIP) awards: granted with vesting subject to performance measures. Performance measures attached to awards granted previously include: total shareholder return (TSR); return on equity (RoE) and return on tangible equity (RoTE) (in the case of both RoE and RoTE, with a Common Equity Tier 1 (CET1) underpin); strategic measures; earnings per share (EPS) growth; and return on risk-weighted assets (RoRWA). Each measure is assessed independently over a three-year period. Awards granted from 2016 have an individual conduct gateway requirement that results in the award lapsing if not met
- Deferred awards are used to deliver the deferred portion of variable remuneration, in line with both market practice and regulatory requirements. These awards vest in instalments on anniversaries of the award date specified at the time of grant. Deferred awards are not subject to any plan limit. This enables the Group to meet regulatory requirements relating to deferral levels, and is in line with market practice
- Restricted share awards, made outside of the annual performance process as replacement buy-out awards to new joiners who forfeit awards on leaving their previous employers, vest in instalments on the anniversaries of the award date specified at the time of grant. This enables the Group to meet regulatory requirements relating to buy-outs, and is in line with market practice. In line with similar plans operated by our competitors, restricted share awards are not subject to an annual limit and do not have any performance measures

Under the 2011 Plan, no grant price is payable to receive an award. The remaining life of the 2011 Plan during which new awards can be made is two years.

Valuation – LTIP awards

The vesting of awards granted in both 2018 and 2019 is subject to relative TSR performance measures and achievement of a strategic scorecard. The vesting of awards granted in 2018 is subject to the satisfaction of RoE, and the vesting of awards granted in 2019 is subject to the satisfaction of RoTE, in both cases subject to a capital CET1 underpin. The fair value of the TSR component is calculated using the probability of meeting the measures over a three-year performance period, using a Monte Carlo simulation model. The number of shares expected to vest is evaluated at each reporting date, based on the expected performance against the RoE and strategic measures in the scorecard, to determine the accounting charge.

No dividend equivalents accrue for the LTIP awards made in 2018 or 2019 and the fair value takes this into account, calculated by reference to market consensus dividend yield.

	31.12.19	31.12.18
Grant date	11 March	9 March
Share price at grant date (£)	6.11	7.78
Vesting period (years)	3–7	3–7
Expected divided yield (%)	4.2	5.0
Fair value (RoTE) (£)	2.02, 2.02	2.59, 2.59
Fair value (TSR) (£)	0.97, 0.91	1.14, 1.11
Fair value (Strategic) (£)	2.02, 2.02	2.59, 2.59

Valuation – deferred shares and restricted shares

The fair value for deferred awards which are not granted to material risk takers is based on 100 per cent of the face value of the shares at the date of grant as the share price will reflect expectations of all future dividends. For awards granted to material risk takers in 2019, the fair value of awards takes into account the lack of dividend equivalents, calculated by reference to market consensus dividend yield.

Deferred share awards

	31.12.19			
Grant date	24 June		11 March	
Share price at grant date (£)	7.03		6.11	

Vesting period (years)	Expected dividend yield (%)	Fair value (£)	Expected dividend yield (%)	Fair value (£)
1-3 years	N/A,4.2,4.2	7.03,6.47,6.21	N/A,4.2,4.2	6.11,5.62,5.40
1-5 years	–	–	4.2,4.2	5.29,5.40
3-7 years	–	–	4.2,4.2	4.77,4.97

	31.12.18			
Grant date	18 June		9 March	
Share price at grant date (£)	7.12		7.78	

Vesting period (years)	Expected dividend yield (%)	Fair value (£)	Expected dividend yield (%)	Fair value (£)
1-3 years	N/A, 5.0, 5.0	7.12,6.45,6.15	N/A, 5.0, 5.0	7.78,7.06,6.73
1-5 years	5.0	6.00	5.0,5.0	6.74,6.58
3-7 years	–	–	5.0,5.0	6.11,5.82

Other restricted share awards

	31.12.19							
Grant date	28 November		1 October		24 June		11 March	
Share price at grant date (£)	7.04		6.84		7.03		6.11	

Vesting period (years)	Expected dividend yield (%)	Fair value (£)	Expected dividend yield (%)	Fair value (£)	Expected dividend yield (%)	Fair value (£)	Expected dividend yield (%)	Fair value (£)
1 year	4.2	6.75	4.2	6.57	4.2	6.74	4.2	5.86, 5.62, 5.74
2 years	4.2	6.48	4.2	6.30	4.2	6.47	4.2	5.62, 5.40
2-3 years	–	–	–	–	–	–	–	–
3 years	4.2	6.22	4.2	6.05	4.2	6.21	4.2	5.40
4 years	–	–	4.2	5.80	4.2	5.96	4.2	5.18
5 years	–	–	4.2	5.57	4.2	5.72	–	–

	31.12.18							
Grant date	28 November		2 October		18 June		9 March	
Share price at grant date (£)	6.11		6.16		7.12		7.78	

Vesting period (years)	Expected dividend yield (%)	Fair value (£)	Expected dividend yield (%)	Fair value (£)	Expected dividend yield (%)	Fair value (£)	Expected dividend yield (%)	Fair value (£)
1 year	5.0	5.82	5.0	5.86	5.0	6.78,6.45	5.0	7.41
2 years	5.0	5.54	5.0	5.58	5.0	6.45,6.15	5.0	7.06
2-3 years	5.0	5.41	–	–	–	–	–	–
3 years	5.0	5.28	5.0	5.32	5.0	6.15,5.85	5.0	6.72
4 years	–	–	5.0	5.06	5.0	5.57	5.0	6.40
5 years	–	–	5.0	4.82	–	–	5.0	6.10

2001 Performance Share Plan (2001 PSP) – closed

The Group's previous plan for delivering performance shares was the 2001 PSP. There are no outstanding vested awards under this plan. This plan is closed and no further awards will be granted under this plan.

All Employee Sharesave Plans

2013 Sharesave Plan

Under the 2013 Sharesave Plan, employees may open a savings contract. Within a maturity period of six months after the third anniversary, employees may save up to £250 per month over three years to purchase ordinary shares in the Company at a discount of up to 20 per cent on the share price at the date of invitation (this is known as the 'option exercise price'). There are no performance measures attached to options granted under the 2013 Sharesave Plan and no grant price is payable to receive an option. In some countries in which the Group operates, it is not possible to operate Sharesave plans, typically due to securities law and regulatory restrictions. In these countries, where possible, the Group offers an equivalent cash-based plan to its employees.

The 2013 Sharesave Plan was approved by shareholders in May 2013 and all future Sharesave invitations are made under this plan. The remaining life of the 2013 Sharesave Plan is three years.

Valuation – Sharesave

Options under the Sharesave plans are valued using a binomial option-pricing model. The same fair value is applied to all employees, including executive directors. The fair value per option granted and the assumptions used in the calculation are as follows:

All Employee Sharesave Plan (Sharesave)

	31.12.19	31.12.18
Grant date	1 October	2 October
Share price at grant date (£)	6.84	6.16
Exercise price (£)	4.98	5.13
Vesting period (years)	3	3
Expected volatility (%)	25.3	33.8
Expected option life (years)	3.33	3.33
Risk-free rate (%)	0.26	0.87
Expected dividend yield (%)	4.2	5.0
Fair value (£)	1.62	1.39

The expected volatility is based on historical volatility over the last three years, or three years prior to grant. The expected life is the average expected period to exercise. The risk-free rate of return is the yield on zero-coupon UK Government bonds of a term consistent with the assumed option life. The expected dividend yield is based on historical dividend for three years prior to grant.

Limits

An award shall not be granted under the 2011 Plan in any calendar year if, at the time of its proposed grant, it would cause the number of Standard Chartered PLC ordinary shares allocated in the period of 10 calendar years ending with that calendar year under the 2011 Plan and under any other discretionary share plan operated by Standard Chartered PLC to exceed such number as represents 5 per cent of the ordinary share capital of Standard Chartered PLC in issue at that time.

An award shall not be granted under the 2011 Plan or 2013 Sharesave Plan in any calendar year if, at the time of its proposed grant, it would cause the number of Standard Chartered PLC ordinary shares allocated in the period of 10 calendar years ending with that calendar year under the 2011 Plan or 2013 Sharesave Plan and under any other employee share plan operated by Standard Chartered PLC to exceed such number as represents 10 per cent of the ordinary share capital of Standard Chartered PLC in issue at that time.

An award shall not be granted under the 2011 Plan or 2013 Sharesave Plan in any calendar year if, at the time of its proposed grant, it would cause the number of Standard Chartered PLC ordinary shares which may be issued or transferred pursuant to awards then outstanding under the 2011 Plan or 2013 Sharesave Plan as relevant to exceed such number as represents 10 per cent of the ordinary share capital of Standard Chartered PLC in issue at that time.

The number of Standard Chartered PLC ordinary shares which may be issued pursuant to awards granted under the 2011 Plan in any 12-month period must not exceed such number as represents 1 per cent of the ordinary share capital of Standard Chartered PLC in issue at that time. The number of Standard Chartered PLC ordinary shares which may be issued pursuant to awards granted under the 2013 Sharesave Plan in any 12-month period must not exceed such number as represents 1 per cent of the ordinary share capital of Standard Chartered PLC in issue at that time.

Issuances

Reason for issuance	Number of shares issued	Aggregate nominal value (USD)[1]	Option exercise price per share (GBP)	Total issuance price (USD)[1]	Sum of funds raised (USD)[2]
2015 Sharesave[3]	2,192,633	1,096,317	5.58	15,599,018	15,599,018
2016 Sharesave[3]	5,404	2,702	5.30	36,532	36,532
2017 Sharesave[3]	393	197	6.20	3,108	3,108
2018 Sharesave[3]	2,035	1,018	5.13	13,316	13,316
Discretionary award[4]	1,168,111	584,056	N/A	584,056	584,056
Total	3,368,576	1,684,290		16,236,030	16,236,030

1 All issuances above are of Standard Chartered PLC ordinary shares, nominal value USD 0.50 per share ('Shares'), and took place between January and May 2019
2 Funds received from the payment of Sharesave option exercise prices were applied on behalf of the Sharesave participants in subscribing for Shares in accordance with the rules of the Standard Chartered 2013 Sharesave Plan. The subscription price of USD 0.50 per Share paid by trustees of the 2004 employee benefit trust was applied on behalf of participants in the 2011 Standard Chartered Plan in subscribing for Shares in accordance with the rules of the 2011 Standard Chartered Share Plan
3 Sharesave options were granted to employees under the Standard Chartered 2013 Sharesave Plan, which was approved by shareholders on 8 May 2013. The closing share price on 7 May 2013 was GBP 16.1806. Details of each grant are disclosed in the share-based payments note to the annual report for each year of grant
4 Discretionary awards were granted to employees under the 2011 Standard Chartered Share Plan, which was approved by shareholders on 5 May 2011. The closing share price on 4 May 2011 was GBP 15.2668. Details of each grant are disclosed in the share-based payments note to the annual report for each year of grant. The trustees of the 2004 employee benefit trust subscribed for Shares on behalf of participants who received Shares through the exercise of discretionary awards at a price of USD 0.50 per Share in accordance with the rules of the 2011 Standard Chartered Share Plan

Reconciliation of share award movements for the year to 31 December 2019

	2011 Plan[1]				
	LTIP	Deferred/ Restricted shares	PSP[1]	Sharesave	Weighted average Sharesave exercise price (£)
Outstanding at 1 January 2019	27,003,333	26,612,980	4,270	13,724,361	5.48
Granted[2,3]	2,777,179	15,140,609	–	5,025,310	–
Lapsed	(2,824,549)	(1,441,046)	–	(1,821,467)	5.50
Exercised	(6,043,284)	(12,077,082)	(4,270)	(4,325,362)	5.49
Outstanding at 31 December	20,912,679	28,235,461	–	12,602,842	5.28
Total number of securities available for issue under the plan	20,912,679	28,235,461	–	12,602,842	
Percentage of the issued shares this represents as at 31 December	0.7%	0.9%	–	0.4%	
Exercisable as at 31 December	53,986	2,539,752	–	1,231,333	5.30
Range of exercise prices (£)[3]	–	–	–	4.98 – 6.20	
Intrinsic value of vested but not exercised options ($ million)	0.51	24.13	–	3.06	
Weighted average contractual remaining life (years)	6.85	8.25	–	2.44	
Weighted average share price for awards exercised during the period (£)	6.37	6.33	6.95	6.72	

1 Employees do not contribute towards the cost of these awards
2 14,346,920 (DRSA/RSA) granted on 11 March 2019, 186,955 (DRSA/RSA) granted as notional dividend on 08 March 2019, 2,530,325 (LTIP) granted on 11 March 2019, 232,895 (LTIP) granted as notional dividend on 08 March 2019, 278,813 (DRSA/RSA) granted on 24 June 2019, 74,125 (DRSA/RSA) granted as notional dividend on 09 August 2019, 13,959 (MLTIP/LTIP) granted as notional dividend on 09 August 2019, 151,751 (RSA) granted on 01 October 2019, 5,025,310 (Sharesave) granted on 01 October 2019 and 102,045 (RSA) granted on 28 November 2019
3 For Sharesave granted in 2019, the exercise price is £4.98 per share, which was a 20 per cent discount to the closing share price on 30 August 2019. The closing share price on 30 August 2019 was £6.22

Reconciliation of share award movements for the year to 31 December 2018

	2011 Plan[1]						
	Performance shares	Deferred/ Restricted shares	PSP[1]	RSS[1]	SRSS[1]	Sharesave	Weighted average Sharesave exercise price (£)
Outstanding at 1 January 2018	25,477,368	23,311,221	17,222	185,943	1,249	12,818,234	6.06
Granted[2,3]	2,481,485	13,649,191				4,769,917	5.13
Lapsed	(935,037)	(1,375,715)	(553)	(50,484)		(2,995,333)	7.36
Exercised	(20,483)	(8,971,717)	(12,399)	(135,459)	(1,249)	(868,457)	5.57
Outstanding at 31 December	27,003,333	26,612,980	4,270	–	–	13,724,361	5.48
Exercisable as at 31 December	43,241	3,657,278	4,270	–	–	3,483,196	5.57
Range of exercise prices (£)[3]						5.13 – 6.20	
Intrinsic value of vested but not exercised options ($ million)	0.04	2.59	0.02	–	–	–	
Weighted average contractual remaining life (years)	7.43	8.18	0.48	0	0	2.04	
Weighted average share price for awards exercised during the period (£)	7.18	7.17	6.76	7.84	7.85	6.20	

1 Employees do not contribute towards the cost of these awards
2 12,508,120 (DRSA/RSA) granted on 9 March 2018, 39,945 (notional dividend) granted on 11 March 2018, 63,350 (notional dividend) granted on 13 March 2018, 37,774 (notional dividend) granted on 19 March 2018, 2,076,370 (LTIP) granted on 9 March 2018, 216,127 (notional dividend) granted on 11 March 2018, 22,317 (notional dividend) granted on 13 March 2018, 815 (notional dividend) granted on 19 March 2018, 246,367 (DRSA/RSA) granted on 18 June 2018, 165,856 (LTIP) and 75755 (DRSA/RSA) granted on 22 Aug 2018, and 423,038 (DRSA/RA) and 4,769,917 (Sharesave) granted on 2 October 2018, and 254,842 (DRSA/RSA) granted on 28 November 2018
3 For Sharesave granted in 2018, the exercise price is £5.13 per share, which was the average of the closing prices over the five days to the invitation date of 3 September. The closing share price on 31 August 2018 was £6.271

32. Investments in subsidiary undertakings, joint ventures and associates

Accounting policy

Subsidiaries

Subsidiaries are all entities, including structured entities, which the Group controls. The Group controls an entity when it is exposed to, and has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the investee. The assessment of power is based on the Group's practical ability to direct the relevant activities of the entity unilaterally for the Group's own benefit and is subject to reassessment if and when one or more of the elements of control change. Subsidiaries are fully consolidated from the date on which the Group effectively obtains control. They are deconsolidated from the date that control ceases, and where any interest in the subsidiary remains, this is remeasured to its fair value and the change in carrying amount is recognised in the income statement.

Associates and joint arrangements

Joint arrangements are where two or more parties either have rights to the assets, and obligations of the joint arrangement (joint operations), or have rights to the net assets of the joint arrangement (joint venture). The Group evaluates the contractual terms of joint arrangements to determine whether a joint arrangement is a joint operation or a joint venture. The Group does not have any contractual interest in joint operations.

An associate is an entity over which the Group has significant influence.

Investments in associates and joint ventures are accounted for by the equity method of accounting and are initially recognised at cost. The Group's investment in associates and joint ventures includes goodwill identified on acquisition (net of any accumulated impairment loss).

The Group's share of its associates' and joint ventures' post-acquisition profits or losses is recognised in the income statement, and its share of post-acquisition movements in other comprehensive income is recognised in reserves. The cumulative post-acquisition movements are adjusted against the carrying amount of the investment. When the Group's share of losses in an associate or a joint venture equals or exceeds its interest in the associate, including any other unsecured receivables, the Group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associate or joint venture.

Unrealised gains and losses on transactions between the Group and its associates and joint ventures are eliminated to the extent of the Group's interest in the associates and joint ventures. At each balance sheet date, the Group assesses whether there is any objective evidence of impairment in the investment in associates and joint ventures. Such evidence includes a significant or prolonged decline in the fair value of the Group's investment in an associate or joint venture below its cost, among other factors.

Significant accounting estimates and judgements

The Group applies judgement in determining if it has control, joint control or significant influence over subsidiaries, joint ventures and associates respectively. These judgements are based upon identifying the relevant activities of counterparties, being those activities that significantly affect the entities returns, and further making a decision of if the Group has control over those entities, joint control, or has significant influence (being the power to participate in the financial and operating policy decisions but not control them).

These judgements are at times determined by equity holdings, and the voting rights associated with those holdings. However, further considerations including but not limited to board seats, advisory committee members and specialist knowledge of some decision-makers are also taken into account. Further judgement is required when determining if the Group has de-facto control over an entity even though it may hold less than 50 per cent of the voting shares of that entity. Judgement is required to determine the relative size of the Group's shareholding when compared with the size and dispersion of other shareholders.

Impairment testing of investments in associates and joint ventures is performed if there is a possible indicator of impairment. Judgement is used to determine if there is objective evidence of impairment. Objective evidence may be observable data such as losses incurred on the investment when applying the equity method, the granting of concessions as a result of financial difficulty, or breaches of contracts/regulatory fines of the associate or joint venture. Further judgement is required when considering broader indicators of impairment such as losses of active markets or ratings downgrades across key markets in which the associate or joint venture operate.

Impairment testing is based on estimates, including forecasting the expected cash flows from the investments, growth rates, terminal values and the discount rate used in calculation of the present values of those cash flows. The estimation of future cash flows and the level to which they are discounted is inherently uncertain and requires significant judgement.

Business combinations

The acquisition method of accounting is used to account for the acquisition of subsidiaries by the Group. The cost of an acquisition is measured as the fair value of the assets given, equity instruments issued and liabilities incurred or assumed at the date of exchange, together with the fair value of any contingent consideration payable. The excess of the cost of acquisition over the fair value of the Group's share of the identifiable net assets and contingent liabilities acquired is recorded as goodwill (see Note 17 for details on goodwill recognised by the Group). If the cost of acquisition is less than the fair value of the net assets and contingent liabilities of the subsidiary acquired, the difference is recognised directly in the income statement.

Where the fair values of the identifiable net assets and contingent liabilities acquired have been determined provisionally, or where contingent or deferred consideration is payable, adjustments arising from their subsequent finalisation are not reflected in the income statement if: (i) they arise within 12 months of the acquisition date (or relate to acquisitions completed before 1 January 2014); and (ii) the adjustments arise from better information about conditions existing at the acquisition date (measurement period adjustments). Such adjustments are applied as at the date of acquisition and, if applicable, prior year amounts are restated. All changes that are not measurement period adjustments are reported in income other than changes in contingent consideration not classified as financial instruments, which are accounted for in accordance with the appropriate accounting policy, and changes in contingent consideration classified as equity, which is not remeasured.

Changes in ownership interest in a subsidiary, which do not result in a loss of control, are treated as transactions between equity holders and are reported in equity. Where a business combination is achieved in stages, the previously held equity interest is remeasured at the acquisition date fair value with the resulting gain or loss recognised in the income statement.

In the Company's financial statements, investment in subsidiaries, associates and joint ventures are held at cost less impairment and dividends from pre-acquisition profits received prior to 1 January 2009, if any. Inter-company transactions, balances and unrealised gains and losses on transactions between Group companies are eliminated in the Group accounts.

Investments in subsidiary undertakings	2019 $million	2018 $million
As at 1 January	34,853	34,853
Additions	23,184[1]	–
As at 31 December	58,037	34,853

1 Includes internal Additional Tier 1 issuances of $900 million by Standard Chartered Bank (Hong Kong) Limited and $500 million and SGD750 million by Standard Chartered Bank (Singapore) Limited

At 31 December 2019, the principal subsidiary undertakings, all indirectly held except for Standard Chartered Bank (Hong Kong) Limited, and principally engaged in the business of banking and provision of other financial services, were as follows:

Country and place of incorporation or registration	**Main areas of operation**	Group interest in ordinary share capital %
Standard Chartered Bank, England and Wales	United Kingdom, Middle East, South Asia, Asia Pacific, Americas and, through Group companies, Africa	100
Standard Chartered Bank (China) Limited, China	China	100
Standard Chartered Bank (Hong Kong) Limited, Hong Kong	Hong Kong	100
Standard Chartered Bank Korea Limited, Korea	Korea	100
Standard Chartered Bank Malaysia Berhad, Malaysia	Malaysia	100
Standard Chartered Private Equity Limited, Hong Kong	Hong Kong	100
Standard Chartered Bank Nigeria Limited, Nigeria	Nigeria	100
Standard Chartered Bank (Singapore) Limited, Singapore	Singapore	100
Standard Chartered Bank (Taiwan) Limited, Taiwan	Taiwan	100
Standard Chartered Bank (Pakistan) Limited, Pakistan	Pakistan	98.99
Standard Chartered Bank (Thai) Public Company Limited, Thailand	Thailand	99.87
Standard Chartered Bank Kenya Limited, Kenya	Kenya	74.30

A complete list of subsidiary undertaking is included in Note 40.

The Group does not have any material non-controlling interests in any of its subsidiaries except the 25.7 per cent non-controlling interest in Standard Chartered Bank Kenya Limited. This contributes $20 million (31 December 2018: $21 million) of the profit attributable to non-controlling interests and $111 million (31 December 2018: $108 million) of the equity attributable to non-controlling interests.

While the Group's subsidiaries are subject to local statutory capital and liquidity requirements in relation to foreign exchange remittance, these restrictions arise in the normal course of business and do not significantly restrict the Group's ability to access or use assets and settle liabilities of the Group.

The Group does not have significant restrictions on its ability to access or use its assets and settle its liabilities other than those resulting from the regulatory framework within which the banking subsidiaries operate. These frameworks require banking operations to keep certain levels of regulatory capital, liquid assets, exposure limits and comply with other required ratios. These restrictions are summarised below:

Regulatory and liquidity requirements

The Group's subsidiaries are required to maintain minimum capital, leverage ratios, liquidity and exposure ratios which therefore restrict the ability of these subsidiaries to distribute cash or other assets to the parent company.

The subsidiaries are also required to maintain balances with central banks and other regulatory authorities in the countries in which they operate. At 31 December 2019, the total cash and balances with central banks was $53 billion (31 December 2018: $58 billion) of which $10 billion (31 December 2018: $8 billion) is restricted.

Statutory requirements

The Group's subsidiaries are subject to statutory requirements not to make distributions of capital and unrealised profits to the parent company, generally to maintain solvency. These requirements restrict the ability of subsidiaries to remit dividends to the Group. Certain subsidiaries are also subject to local exchange control regulations which provide for restrictions on exporting capital from the country other than through normal dividends.

Contractual requirements

The encumbered assets in the balance sheet of the Group's subsidiaries are not available for transfer around the Group. Encumbered assets are disclosed in Risk review and Capital review.

Share of profit from investment in associates and joint ventures comprises:

	2019 $million	2018 $million
Profit from investment in joint ventures	48	29
Profit from investment in associates	252	212
Total	300	241

Interests in joint ventures

	2019 $million	2018 $million
As at 1 January	717	783
Exchange translation difference	32	(49)
Expected credit loss, net[1]	–	(33)
Share of profit	48	29
Disposals	–	(11)
Share of fair value through other comprehensive income/available-for-sale and Other reserves	3	(2)
Transfer to held for sale assets[2]	(800)	–
As at 31 December	–	717

1 Relates to IFRS 9 transition adjustments
2 Refer to Note 21 Assets held for sale and associated liabilities where our joint venture PT Bank Permata Tbk (Permata) is disclosed

Interests in associates

	China Bohai Bank		Other		Total	
	2019 $million	2018 $million	2019 $million	2018 $million	2019 $million	2018 $million
As at 1 January	1,551	1,489	39	35	1,590	1,524
Exchange translation differences	(17)	(95)	–	–	(17)	(95)
Expected credit loss, net[1]	–	(19)	–	–	–	(19)
Additions	–	–	64	–	64	–
Share of profits	247	205	5	7	252	212
Dividends received	–	(64)	(3)	(3)	(3)	(67)
Share of fair value through other comprehensive income/available-for-sale and Other reserves	22	35	–	–	22	35
As at 31 December	1,803	1,551	105	39	1,908	1,590

1 IFRS 9 transition impact from associates is reported here

A complete list of the Group's interest in associates is included in Note 40. The Group's principal associate is:

Associate	Nature of activities	Main areas of operation	Group interest in ordinary share capital %
China Bohai Bank	Banking	China	19.99

The Group's investment in China Bohai Bank is less than 20 per cent but it is considered to be an associate because of the significant influence the Group is able to exercise over the management and financial and operating policies. The Group applies the equity method of accounting for investments in associates. The reported financials up to November 2019 of this associate are within three months of the Group's reporting date.

The following table sets out the summarised financial statements of China Bohai Bank prior to the Group's share of the associates being applied:

	China Bohai Bank	
	30 Nov 2019 $million	30 Nov 2018 $million
Cash and balances at central banks	12,532	18,358
Loans and advances to banks	3,297	3,719
Loans and advances to customers	97,133	78,050
Other assets	43,467	47,632
Total Assets	156,429	147,759
Deposits by banks	14,502	18,674
Customer accounts	89,917	84,426
Debt securities in issue	4,913	1,912
Other financial liabilities	36,970	34,735
Other liabilities	1,105	252
Total liabilities	147,407	140,000
Total equity	9,022	7,759
Operating income	3,769	3,427
Of which:		
Interest income	6,717	6,699
Interest expense	(3,783)	(4,430)
Expenses	(2,394)	(2,244)
Of which:		
Depreciation and amortisation	(5)	(5)
Impairment	(1,275)	(971)
Operating profit	1,375	1,183
Taxation	(212)	(160)
Profit after tax	1,163	1,023
The financial statements of China Bohai Bank include the following:		
Other comprehensive profit for the year	(63)	175
Total comprehensive income for the year	1,100	1,198

During the year, there were no indicators of impairment for the Group's investment in China Bohai Bank. The carrying value of the investment as of 31 December 2019 was $1,803 million (31 December 2018: $1,551 million).

33. Structured entities

Accounting policy

A structured entity is an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity. Contractual arrangements determine the rights and therefore relevant activities of the structured entity. Structured entities are generally created to achieve a narrow and well-defined objective with restrictions around their activities. Structured entities are consolidated when the substance of the relationship between the Group and the structured entity indicates the Group has power over the contractual relevant activities of the structured entity, is exposed to variable returns, and can use that power to affect the variable return exposure.

In determining whether to consolidate a structured entity to which assets have been transferred, the Group takes into account its ability to direct the relevant activities of the structured entity. These relevant activities are generally evidenced through a unilateral right to liquidate the structured entity, investment in a substantial proportion of the securities issued by the structured entity or where the Group holds specific subordinate securities that embody certain controlling rights. The Group may further consider relevant activities embedded within contractual arrangements such as call options which give the practical ability to direct the entity, special relationships between the structured entity and investors, and if a single investor has a large exposure to variable returns of the structured entity.

Judgement is required in determining control over structured entities. The purpose and design of the entity is considered, along with a determination of what the relevant activities are of the entity and who directs these. Further judgements are made around which investor is exposed to, and absorbs the variable returns of the structured entity. The Group will have to weigh up all of these facts to consider whether the Group, or another involved party is acting as a principal in its own right or as an agent on behalf of others. Judgement is further required in the ongoing assessment of control over structured entities, specifically if market conditions have an effect on the variable return exposure of different investors.

The Group has involvement with both consolidated and unconsolidated structured entities, which may be established by the Group as a sponsor or by a third-party.

Interests in consolidated structured entities: A structured entity is consolidated into the Group's financial statements where the Group controls the structured entity, as per the determination in the accounting policy above.

The following table presents the Group's interests in consolidated structured entities.

	2019 $million	2018 $million
Aircraft and ship leasing	4,312	5,200[1]
Principal and other structured finance	816	1,452
Total	5,128	6,652

1 Re-presented to include total non-Group assets. Previously, only operating lease assets were disclosed

Interests in unconsolidated structured entities: Unconsolidated structured entities are all structured entities that are not controlled by the Group. The Group enters into transactions with unconsolidated structured entities in the normal course of business to facilitate customer transactions and for specific investment opportunities. An interest in a structured entity is contractual or non-contractual involvement which creates variability of the returns of the Group arising from the performance of the structured entity.

The table below presents the carrying amount of the assets recognised in the financial statements relating to variable interests held in unconsolidated structured entities, the maximum exposure to loss relating to those interests and the total assets of the structured entities. Maximum exposure to loss is primarily limited to the carrying amount of the Group's on-balance sheet exposure to the structured entity. For derivatives, the maximum exposure to loss represents the on-balance sheet valuation and not the notional amount. For commitments and guarantees, the maximum exposure to loss is the notional amount of potential future losses.

	2019					2018				
	Asset-backed securities $million	Structured finance $million	Principal Finance funds $million	Other activities $million	Total $million	Asset-backed securities $million	Structured finance $million	Principal Finance funds $million	Other activities $million	Total $million
Group's interest – assets										
Financial assets held at fair value through profit or loss	1,055	–	105	181	1,341	1,094	–	72	247	1,413
Loans and advances/Investment securities at amortised cost	4,939	2,020	343	251	7,553	2,556	1,403	252	190	4,401
Investment securities (fair value through other comprehensive income)	3,158	–	–	–	3,158	3,812	–	–	–	3,812
Other assets	–	–	289	–	289	–	–	336	–	336
Total assets	9,152	2,020	737	432	12,341	7,462	1,403	660	437	9,962
Off-balance sheet	65	572	109	–	746	116	553	79	–	748
Group's maximum exposure to loss	9,217	2,592	846	432	13,087	7,578	1,956	739	437	10,710
Total assets of structured entities	153,948	6,594	3,028	7,976	171,546	205,837	2,785	3,395	11,872	223,889

The main types of activities for which the Group utilises unconsolidated structured entities cover synthetic credit default swaps for managed investment funds (including specialised Principal Finance funds), portfolio management purposes, structured finance and asset-backed securities. These are detailed as follows:

- Asset-backed securities (ABS): The Group also has investments in asset-backed securities issued by third-party sponsored and managed structured entities. For the purpose of market making and at the discretion of ABS trading desk, the Group may hold an immaterial amount of debt securities from structured entities originated by credit portfolio management. This is disclosed in the ABS column above
- Portfolio management (Group sponsored entities): For the purposes of portfolio management, the Group purchased credit protection via synthetic credit default swaps from note-issuing structured entities. This credit protection creates credit risk which the structured entity and subsequently the end investor absorbs. The referenced assets remain on the Group's balance sheet as they are not assigned to these structured entities. The Group continues to own or hold all of the risks and returns relating to these assets. The credit protection obtained from the regulatory-compliant securitisation only serves to protect the Group against losses upon the occurrence of eligible credit events and the underlying assets are not derecognised from the Group's balance sheet. The Group does not hold any equity interests in the structured entities, but may hold an insignificant amount of the issued notes for market making purposes. This is disclosed in the ABS section above. The proceeds of the notes' issuance are typically held as cash collateral in the issuer's account operated by a trustee or invested in AAA-rated government-backed securities to collateralise the structured entities swap obligations to the Group, and to repay the principal to investors at maturity. The structured entities reimburse the Group on actual losses incurred, through the use of the cash collateral or realisation of the collateral security. Correspondingly, the structured entities write down the notes issued by an equal amount of the losses incurred, in reverse order of seniority. All funding is committed for the life of these vehicles and the Group has no indirect exposure in respect of the vehicles' liquidity position. The Group has reputational risk in respect of certain portfolio management vehicles and investment funds either because the Group is the arranger and lead manager or because the structured entities have Standard Chartered branding
- Structured finance: Structured finance comprises interests in transactions that the Group or, more usually, a customer has structured, using one or more structured entities, which provide beneficial arrangements for customers. The Group's exposure primarily represents the provision of funding to these structures as a financial intermediary, for which it receives a lender's return. The transactions largely relate to real estate financing and the provision of aircraft leasing and ship finance
- Principal Finance Fund: The Group's exposure to Principal Finance Funds represents committed or invested capital in unleveraged investment funds, primarily investing in pan-Asian infrastructure, real estate and private equity
- Other activities: Other activities include structured entities created to support margin financing transactions, the refinancing of existing credit and debt facilities, as well as setting up of bankruptcy remote structured entities

34. Cash flow statement

Adjustment for non-cash items and other adjustments included within income statement

	Group		Company	
	2019 $million	2018 $million	2019 $million	2018 $million
Amortisation of discounts and premiums of investment securities	(818)	(375)	–	–
Interest expense on subordinated liabilities	756	767	688	673
Interest expense on senior debt securities in issue	677	606	606	503
Other non-cash items	792	796	(75)	91
Pension costs for defined benefit schemes	73	81	–	–
Share-based payment costs	166	166	–	–
Impairment losses on loans and advances and other credit risk provisions	908	653	–	–
Dividend income from subsidiaries	–	–	(17,979)	(1,035)
Other impairment	163	182	–	–
Net gain on derecognition of investment in associate	–	–	–	–
Profit from associates and joint ventures	(300)	(241)	–	–
Total	2,417	2,635	(16,760)	232

Change in operating assets

	Group		Company	
	2019 $million	2018 $million	2019 $million	2018 $million
Decrease in derivative financial instruments	(1,603)	1,051	(220)	61
(Increase)/decrease in debt securities, treasury bills and equity shares held at fair value through profit or loss	(5,579)	4,171	(4,502)	–
Increase in loans and advances to banks and customers	(19,108)	(16,883)	–	–
Net increase in prepayments and accrued income	(199)	(252)	–	–
Net increase in other assets	(8,796)	(924)	(751)	–
Total	(35,285)	(12,837)	(5,473)	61

Change in operating liabilities

	Group		Company	
	2019 $million	2018 $million	2019 $million	2018 $million
Increase/(decrease) in derivative financial instruments	1,290	(493)	(390)	636
Net increase/(decrease) in deposits from banks, customer accounts, debt securities in issue, Hong Kong notes in circulation and short positions	27,850	31,216	1,131	(22)
(Decrease)/increase in accruals and deferred income	(15)	3	(18)	6
Net increase/(decrease) in other liabilities	810	3,133	(4,905)	(1,082)
Total	29,935	33,859	(4,182)	(462)

Disclosures

	Group		Company	
	2019 $million	2018 $million	2019 $million	2018 $million
Subordinated debt (including accrued interest):				
Opening balance	15,227	17,550	13,648	14,109
Proceeds from the issue	1,000	500	1,000	500
Interest paid	(603)	(602)	(547)	(507)
Repayment	(23)	(2,097)	–	(474)
Foreign exchange movements	(2)	(220)	(14)	(237)
Fair value changes	227	(373)	147	(248)
Other	619	469	503	505
Closing balance	16,445	15,227	14,737	13,648
Senior debt (including accrued interest):				
Opening balance	21,998	19,738	17,361	16,307
Proceeds from the issue	9,169	9,766	6,012	4,552
Interest paid	(797)	(507)	(740)	(355)
Repayment	(7,692)	(7,030)	(3,780)	(3,141)
Foreign exchange movements	(1)	(347)	(1)	(199)
Fair value changes	360	(904)	283	(182)
Other	852	1,282	714	379
Closing balance	23,889	21,998	19,849	17,361

35. Cash and cash equivalents

Accounting policy

For the purposes of the cash flow statement, cash and cash equivalents comprise cash, on demand and overnight balances with central banks (unless restricted) and balances with less than three months' maturity from the date of acquisition, including treasury bills and other eligible bills, loans and advances to banks, and short-term government securities.

The following balances with less than three months' maturity from the date of acquisition have been identified by the Group as being cash and cash equivalents.

	Group		Company	
	2019 $million	2018 $million	2019 $million	2018 $million
Cash and balances at central banks	52,728	57,511	–	–
Less: restricted balances	(9,843)	(8,152)	–	–
Treasury bills and other eligible bills	10,078	15,393	–	–
Loans and advances to banks	21,556	30,449	–	–
Trading securities	2,935	2,299	–	–
Amounts owed by and due to subsidiary undertakings	–	–	11,622	17,606
Total	77,454	97,500	11,622	17,606

Restricted balances comprise minimum balances required to be held at central banks.

36. Related party transactions

Directors and officers

Details of directors' remuneration and interests in shares are disclosed in the Directors' remuneration report.

IAS 24 Related party disclosures requires the following additional information for key management compensation. Key management comprises non-executive directors, executive directors of Standard Chartered PLC, the Court directors of Standard Chartered Bank and the persons discharging managerial responsibilities (PDMR) of Standard Chartered PLC.

	31.12.19 $million	31.12.18 $million
Salaries, allowances and benefits in kind[1]	37	33
Share-based payments	28	29
Bonuses paid or receivable	4	10
Total	69	72

1 Cash bonus for 2019 receivable within 12 months have been included as short-term employee benefits alongside salaries, allowances and benefits in kind in accordance with IAS 24

Transactions with directors and others

At 31 December 2019, the total amounts to be disclosed under the Companies Act 2006 (the Act) and the Listing Rules of the Hong Kong Stock Exchange Limited (HK Listing Rules) about loans to directors were as follows:

	31.12.19		31.12.18	
	Number	$million	Number	$million
Directors	3	–	1	–

The loan transactions provided to the directors of Standard Chartered PLC were a connected transaction under Chapter 14A of the HK Listing Rules. It was fully exempt as financial assistance under Rule 14A.87(1), as it was provided in our ordinary and usual course of business and on normal commercial terms.

As at 31 December 2019, Standard Chartered Bank had created a charge over $86 million (31 December 2018: $83 million) of cash assets in favour of the on-consolidated independent trustee of its employer financed retirement benefit scheme.

Other than as disclosed in the Annual Report, there were no other transactions, arrangements or agreements outstanding for any director, connected person or officer of the Company which have to be disclosed under the Act, the rules of the UK Listing Authority or the HK Listing Rules.

Company

The Company has received $1,006 million (31 December 2018: $965 million) of net interest income from its subsidiaries. The Company issues debt externally and lends proceeds to Group companies.

The Company has an agreement with Standard Chartered Bank that, in the event of Standard Chartered Bank defaulting on its debt coupon interest payments, where the terms of such debt requires it, the Company shall issue shares as settlement for non-payment of the coupon interest.

	31.12.2019			31.12.2018		
	Standard Chartered Bank $million	Standard Chartered Bank (Hong Kong) Limited $million	Others[1] $million	Standard Chartered Bank $million	Standard Chartered Bank (Hong Kong) Limited $million	Others[1] $million
Assets						
Due from subsidiaries[2]	11,068	32	346	17,030	–	399
Derivative financial instruments	212	17	–	9	–	–
Debt securities[2]	13,665	3,953	548	11,537	–	–
Total assets	24,945	4,002	894	28,576	–	399
Liabilities						
Due to subsidiaries	26	–	–	–	–	–
Derivative financial instruments[2]	738	–	–	1,126	–	–
Total liabilities	764	–	–	1,126	–	–

1 Prior year comparatives have been re-presented
2 Others include Standard Chartered Bank (Singapore) Limited, Standard Chartered Holdings Limited and Standard Chartered I H Limited

Associate and joint ventures

The following transactions with related parties are on an arm's-length basis:

	2019				2018			
	China Bohai Bank $million	Clifford Capital $million	PT Bank Permata $million	Seychelles International Mercantile Banking Corporation Limited $million	China Bohai Bank $million	Clifford Capital $million	PT Bank Permata $million	Seychelles International Mercantile Banking Corporation Limited $million
Assets								
Loans and advances[1]	–	–	2	–	–	22	2	–
Debt securities[1]	–	21	58	–	–	–	56	–
Derivative assets	–	–	–	–	2	–	–	–
Total assets	–	21	60	–	2	22	58	–
Liabilities								
Deposits	193	–	29	3	266	–	35	11
Total liabilities	193	–	29	3	266	–	35	11
Loan commitments and other guarantees[2]	–	50	3	–	–	–	–	–
Total net income	2	2	5	–	6	–	6	–

1 Prior year comparatives have been re-presented
2 The maximum loan commitments and other guarantees during the year was $53 million

37. Post balance sheet events

On 14 January 2020, Standard Chartered PLC issued $2,000 million 2.8190 per cent senior debt due 2026 (callable 2025).

On 16 January 2020, Standard Chartered PLC issued €750 million 0.850 per cent senior debt due 2028 (callable 2027).

A final dividend for 2019 of 20 cents per ordinary share was declared by the directors after 31 December 2019.

The existence of novel coronavirus (Covid-19) was confirmed in early 2020 and has spread across mainland China and beyond, causing disruptions to businesses and economic activity. The Group considers this outbreak to be a non-adjusting post balance sheet event. As the situation is fluid and rapidly evolving, we do not consider it practicable to provide a quantitative estimate of the potential impact of this outbreak on the Group. The impact of this outbreak on the macroeconomic forecasts will be incorporated into the Group's IFRS9 estimates of expected credit loss provisions in 2020.

38. Auditor's remuneration

Auditor's remuneration is included within other general administration expenses. The amounts paid by the Group to their principal auditor, KPMG LLP and its associates (together KPMG), are set out below. All services are approved by the Group Audit Committee and are subject to controls to ensure the external auditor's independence is unaffected by the provision of other services.

	2019 $million	2018 $million
Audit fees for the Group statutory audit	10.0	9.2
Fees payable to KPMG for other services provided to the Group:		
Audit of Standard Chartered PLC subsidiaries	8.4	8.3
Total audit fees	18.4	17.5
Audit-related services	7.6	7.0
Other assurance services	0.1	0.3
Tax compliance and advisory services	–	0.1
Corporate finance services	0.6	0.2
Total fees payable	26.7	25.1

The following is a description of the type of services included within the categories listed above:

- Audit fees for the Group statutory audit are in respect of fees payable to KPMG LLP for the statutory audit of the consolidated financial statements of the Group and the separate financial statements of Standard Chartered PLC
- Audit-related fees consist of fees such as those for services required by law or regulation to be provided by the auditor, reviews of interim financial information, reporting on regulatory returns, reporting to a regulator on client assets and extended work performed over financial information and controls authorised by those charged with governance
- Other assurance services include agreed-upon procedures in relation to statutory and regulatory filings
- Tax services include services which are not prohibited by the European Directive on Statutory Audits of Annual and Consolidated Accounts and the Regulation on Statutory Audits of Public Interest Entities
- Corporate finance services are fees payable to KPMG for issuing comfort letters
- Included within the Group statutory audit fees is $0.4 million of fees related to the 2018 year-end audit and $0.2 million related to the transition of the audit to EY

Expenses incurred during the provision of services and which have been reimbursed by the Group are not included within auditor's remuneration. Expenses incurred for 2019 were $1.1 million (2018: $0.6 million).

39. Standard Chartered PLC (Company)

Group reorganisation

The Board of the Group approved in 2018 an in-principle group reorganisation which would result in Standard Chartered Bank (SCB) transferring its ordinary shares in Standard Chartered Bank (Hong Kong) Limited (SCB HK), Standard Chartered Bank (China) Limited (SCB China), Standard Chartered NEA Limited (SC NEA) and Standard Chartered Bank (Taiwan) Limited (SCB TW) to other entities within the Standard Chartered PLC Group, subject to the receipt of appropriate regulatory approvals.

On 4 March 2019, SCB transferred via a dividend in specie its ordinary shares in SCB HK to Standard Chartered Holdings Limited (SCH). SCH in turn transferred via a dividend in specie 100 per cent of the ordinary shares of SCB HK to Standard Chartered PLC (SC PLC), the Group's ultimate parent.

On 1 June 2019, the Company transferred its shareholding in SCB China to SCB HK in exchange for ordinary shares in SCB HK. On 3 June 2019, the Company transferred via dividend in specie such SCB HK shares to SCH and in turn, SCH transferred via dividend in specie such SCB HK shares to SC PLC.

On 1 October 2019, the Company transferred its ordinary shares in SC NEA, the holding company of Standard Chartered Bank Korea Limited, to SCB HK, and on the same day, its ordinary shares in SCB TW to SC NEA.

All of the transfers were done on a fair value basis in the Standard Chartered PLC (Company) accounts. The result of these transfers was an increase in Investment in Subsidiaries and corresponding dividend income of $20,989 million. This resulted in an increase to retained earnings but no change to distributable reserves.

In addition to the group reorganisation, Additional Tier 1 issuances of $900 million by Standard Chartered Bank (Hong Kong) Limited and $500 million and SGD750 million by Standard Chartered Bank (Singapore) Limited have increased Investments in Subsidiaries.

Classification and measurement of financial instruments

Financial assets	2019 Derivatives held for hedging $million	2019 Amortised cost $million	2019 Non-trading mandatorily at fair value through profit or loss $million	2019 Total $million	2018 Derivatives held for hedging $million	2018 Amortised cost $million	2018 Total $million
Derivatives	229	–	–	229	9	–	9
Investment securities	–	13,665	4,502[1]	18,167	–	11,537	11,537
Amounts owed by subsidiary undertakings	–	11,622	–	11,622	–	17,606	17,606
Total	229	25,287	4,502	30,018	9	29,143	29,152

1 Standard Chartered Bank (Hong Kong) Limited and Standard Chartered Bank (Singapore) Limited issued Loss Absorbing Capacity (LAC) eligible debt securities (2018: nil)

Instruments classified as amortised cost are recorded in stage 1.

Derivatives held for hedging are held at fair value and are classified as Level 2 while the counterparty is Standard Chartered Bank.

Debt securities comprise corporate securities issued by Standard Chartered Bank and have a fair value equal to carrying value of $13,665 million (31 December 2018: $11,537 million).

In 2019 and 2018, amounts owed by subsidiary undertakings have a fair value equal to carrying value.

Financial liabilities	2019 Derivatives held for hedging $million	2019 Amortised cost $million	2019 Designated at fair value through profit or loss $million	2019 Total $million	2018 Derivatives held for hedging $million	2018 Amortised cost $million	2018 Total $million
Derivatives	738	–	–	738	1,128	–	1,128
Debt securities in issue	–	19,713	112	19,825	–	17,202	17,202
Subordinated liabilities and other borrowed funds	–	14,588	–	14,588	–	13,436	13,436
Amounts owed to subsidiary undertakings	–	26	–	26	–	–	–
Total	738	34,327	112	35,177	1,128	30,638	31,766

Derivatives held for hedging are held at fair value and are classified as Level 2 while the counterparty is Standard Chartered Bank.

The fair value of debt securities in issue is $19,713 million (31 December 2018: $17,202 million) and have fair value equal to carrying value.

The fair value of subordinated liabilities and other borrowed funds is $15,238 million (31 December 2018: $14,314 million).

Derivative financial instruments

Derivatives	2019 Notional principal amounts $million	2019 Assets $million	2019 Liabilities $million	2018 Notional principal amounts $million	2018 Assets $million	2018 Liabilities $million
Foreign exchange derivative contracts:						
Forward foreign exchange	–	17	–	–	–	–
Currency swaps	5,114	–	642	6,864	–	818
Other foreign exchange (OTC)	1,564	34	–	–	–	–
Interest rate derivative contracts:						
Swaps	13,201	178	96	10,939	9	310
Total	19,879	229	738	17,803	9	1,128

Credit risk

Maximum exposure to credit risk

	2019 $million	2018 $million
Derivative financial instruments	229	9
Debt securities	18,167	11,537
Amounts owed by subsidiary undertakings	11,622	17,606
Total	30,018	29,152

In 2019 and 2018, amounts owed by subsidiary undertakings were neither past due nor impaired; the Company had no individually impaired loans.

In 2019 and 2018, the Company had no impaired debt securities. The debt securities held by the Group are issued by Standard Chartered Bank, a wholly owned subsidiary undertaking with credit ratings of A+/A/A1.

There is no material expected credit loss on these instruments as they are stage 1 assets, short term in nature and of a high quality.

Liquidity risk

The following table analyses the residual contractual maturity of the assets and liabilities of the Company on a discounted basis:

	2019								
	One month or less $million	Between one month and three months $million	Between three months and six months $million	Between six months and nine months $million	Between nine months and one year $million	Between one year and two years $million	Between two years and five years $million	More than five years and undated $million	Total $million
Assets									
Derivative financial instruments	34	–	1	–	–	8	52	134	229
Investment securities	–	–	–	–	–	–	7,024	11,143	18,167
Amount owed by subsidiary undertakings	–	5	2,104	–	–	1,025	5,249	3,239	11,622
Investments in subsidiary undertakings	–	–	–	–	–	–	–	58,037	58,037
Other assets	–	–	–	–	–	–	–	15	15
Total assets	34	5	2,105	–	–	1,033	12,325	72,568	88,070
Liabilities									
Derivative financial instruments	–	–	3	–	286	229	127	93	738
Senior debt	–	–	2,104	–	–	2,547	7,734	7,328	19,713
Amount owed to subsidiary undertakings	–	–	–	–	–	–	–	26	26
Other liabilities	298	86	68	7	20	–	–	36	515
Subordinated liabilities and other borrowed funds	–	–	–	–	–	–	5,478	9,110	14,588
Total liabilities	298	86	2,175	7	306	2,776	13,339	16,593	35,580
Net liquidity gap	(264)	(81)	(70)	(7)	(306)	(1,743)	(1,014)	55,975	52,490

	2018								
	One month or less $million	Between one month and three months $million	Between three months and six months $million	Between six months and nine months $million	Between nine months and one year $million	Between one year and two years $million	Between two years and five years $million	More than five years and undated $million	Total $million
Assets									
Derivative financial instruments	–	–	–	–	–	3	–	6	9
Investment securities	–	–	–	–	–	1,698	3,960	5,879	11,537
Amount owed by subsidiary undertakings	1,318	–	–	2,759	–	2,093	7,070	4,366	17,606
Investments in subsidiary undertakings	–	–	–	–	–	–	–	34,853	34,853
Other assets	–	–	–	–	–	–	–	–	–
Total assets	1,318	–	–	2,759	–	3,794	11,030	45,104	64,005
Liabilities									
Derivative financial instruments	83	–	–	9	–	260	324	452	1,128
Senior debt	1,031	–	–	2,731	–	2,079	5,402	5,959	17,202
Other liabilities	201	91	59	–	21	–	–	19	391
Subordinated liabilities and other borrowed funds	–	–	–	–	–	1,472	4,368	7,596	13,436
Total liabilities	1,315	91	59	2,740	21	3,811	10,094	14,026	32,157
Net liquidity gap	3	(91)	(59)	19	(21)	(17)	936	31,078	31,848

Financial liabilities on an undiscounted basis

	2019								
	One month or less $million	Between one month and three months $million	Between three months and six months $million	Between six months and nine months $million	Between nine months and one year $million	Between one year and two years $million	Between two years and five years $million	More than five years and undated $million	Total $million
Derivative financial instruments	–	–	–	–	–	–	–	–	–
Debt securities in issue	–	18	2,331	18	250	3,030	8,879	8,145	22,671
Subordinated liabilities and other borrowed funds	–	–	221	26	361	618	7,002	14,166	22,394
Other liabilities	172	86	68	7	20	–	–	13	366
Total liabilities	172	104	2,620	51	631	3,648	15,881	22,324	45,431

	2018								
	One month or less $million	Between one month and three months $million	Between three months and six months $million	Between six months and nine months $million	Between nine months and one year $million	Between one year and two years $million	Between two years and five years $million	More than five years and undated $million	Total $million
Derivative financial instruments	83	–	–	9	–	260	324	452	1,128
Debt securities in issue	1,031	7	172	2,765	241	2,408	6,175	6,633	19,432
Subordinated liabilities and other borrowed funds	–	–	221	–	362	2,055	5,975	12,789	21,402
Other liabilities	201	91	59	–	21	–	–	20	392
Total liabilities	1,315	98	452	2,774	624	4,723	12,474	19,894	42,354

40. Related undertakings of the Group

As at 31 December 2019, the Group's interests in related undertakings are disclosed below. Unless otherwise stated, the share capital disclosed comprises ordinary or common shares which are held by subsidiaries of the Group. Standard Chartered Bank (Hong Kong) Limited, Standard Chartered Funding (Jersey) Limited, Stanchart Nominees Limited, Standard Chartered Holdings Limited and Standard Chartered Nominees Limited are directly held subsidiaries, all other related undertakings are held indirectly. Unless otherwise stated, the principal country of operation of each subsidiary is the same as its country of incorporation. Note 32 details undertakings that have a significant contribution to the Group's net profit or net assets.

Subsidiary Undertakings

Name and registered address	Country of incorporation	Description of shares	Proportion of shares held (%)
The following companies have the address of 1 Basinghall Avenue, London, EC2V 5DD, United Kingdom			
BWA Dependents Limited	United Kingdom	£1.00 Ordinary shares	100
FinVentures UK Limited	United Kingdom	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing (UK) Limited	United Kingdom	£1.00 Ordinary shares	100
SC (Secretaries) Limited	United Kingdom	£1.00 Ordinary shares	100
SC Transport Leasing 1 Limited	United Kingdom	£1.00 Ordinary shares	100
SC Transport Leasing 2 Limited	United Kingdom	£1.00 Ordinary shares	100
SC Ventures Innovation Investment L.P.	United Kingdom	Limited Partnership interest	100
SCMB Overseas Limited	United Kingdom	£0.10 Ordinary shares	100
Stanchart Nominees Limited	United Kingdom	£1.00 Ordinary shares	100
Standard Chartered Africa Limited	United Kingdom	£1.00 Ordinary shares	100
Standard Chartered Bank	United Kingdom	$0.01 Non-Cumulative Irredeemable Preference shares	100
		$5.00 Non-Cumulative Redeemable Preference shares	100
		$1.00 Ordinary shares	100
Standard Chartered Foundation[1]	United Kingdom	Guarantor	100
Standard Chartered Health Trustee (UK) Limited	United Kingdom	£1.00 Ordinary shares	100
Standard Chartered Holdings Limited	United Kingdom	$2.00 Ordinary shares	100
Standard Chartered I H Limited	United Kingdom	$1.00 Ordinary shares	100
Standard Chartered Leasing (UK) 2 Limited	United Kingdom	$1.00 Ordinary shares	100
Standard Chartered Leasing (UK) 3 Limited	United Kingdom	$1.00 Ordinary shares	100
Standard Chartered Leasing (UK) Limited	United Kingdom	$1.00 Ordinary shares	100
Standard Chartered Masterbrand Licensing Limited	United Kingdom	$1.00 Ordinary shares	100
Standard Chartered NEA Limited	United Kingdom	$1.00 Ordinary shares	100
Standard Chartered Nominees Limited	United Kingdom	£1.00 Ordinary shares	100
Standard Chartered Nominees (Private Clients UK) Limited	United Kingdom	$1.00 Ordinary shares	100
Standard Chartered Overseas Holdings Limited	United Kingdom	£1.00 Ordinary shares	100
Standard Chartered Securities (Africa) Holdings Limited	United Kingdom	$1.00 Ordinary shares	100
Standard Chartered Trustees (UK) Limited	United Kingdom	£1.00 Ordinary shares	100
Standard Chartered UK Holdings Limited	United Kingdom	£10.00 Ordinary shares	100
The SC Transport Leasing Partnership 1	United Kingdom	Limited Partnership interest	100
The SC Transport Leasing Partnership 2	United Kingdom	Limited Partnership interest	100
The SC Transport Leasing Partnership 3	United Kingdom	Limited Partnership interest	100
The SC Transport Leasing Partnership 4	United Kingdom	Limited Partnership interest	100
The BW Leasing Partnership 1 LP[1]	United Kingdom	Limited Partnership interest	100
The BW Leasing Partnership 2 LP[1]	United Kingdom	Limited Partnership interest	100
The BW Leasing Partnership 3 LP[1]	United Kingdom	Limited Partnership interest	100
The BW Leasing Partnership 4 LP[1]	United Kingdom	Limited Partnership interest	100
The BW Leasing Partnership 5 LP[1]	United Kingdom	Limited Partnership interest	100
The following companies have the address of 2 More London Riverside, London SE1 2JT, United Kingdom			
Bricks (C&K) LP[1]	United Kingdom	Limited Partnership interest	100
Bricks (C) LP[1]	United Kingdom	Limited Partnership interest	100
Bricks (M) LP	United Kingdom	Limited Partnership interest	100
Bricks (P) LP[1]	United Kingdom	Limited Partnership interest	100
Bricks (T) LP[1]	United Kingdom	Limited Partnership interest	100

The following company has the address of 8th Floor, 20 Farringdon Street, London, EC4A 4AB, United Kingdom.			
SC Ventures G.P. Limited	United Kingdom	£1.00 Ordinary shares	100
The following company has the address of Rua Gamal Abdel Nasser, Edificio Tres Torres, Eixo Viario, Distrito Urbano da Ingombota, Municipio de Luanda, Provincia de Luanda, Angola			
Standard Chartered Bank Angola S.A.	Angola	AOK8,742.05 Ordinary shares	60
The following company has the address of Level 5, 345 George St, Sydney NSW 2000, Australia			
Standard Chartered Grindlays Pty Limited	Australia	AUD Ordinary shares	100
The following companies have the address of 5th Floor Standard House Bldg, The Mall, Queens Road, PO Box 496, Gaborone, Botswana			
Standard Chartered Bank Insurance Agency (Proprietary) Limited	Botswana	BWP Ordinary shares	100
Standard Chartered Investment Services (Proprietary) Limited	Botswana	BWP Ordinary shares	100
Standard Chartered Bank Botswana Limited	Botswana	BWP Ordinary shares	75.8
Standard Chartered Botswana Education Trust[2]	Botswana	Interest in trust	100
Standard Chartered Botswana Nominees (Proprietary) Limited	Botswana	BWP Ordinary shares	100
The following company has the address of Avenida Brigadeiro Faria Lima, 3600 – 7th floor, Sao Paulo, Sao Paulo, 04538-132, Brazil			
Standard Chartered Bank (Brasil) S.A. – Banco de Investimento	Brazil	BRL Ordinary shares	100
The following company has the address of Av. Brigadeiro Faria Lima, 3600 – 7° andar, conj 72 04538-132, São Paulo, Brazil.			
Standard Chartered Representação Ltda	Brazil	BRL1.00 Ordinary shares	100
The following company has the address of 51-55 Jalan Sultan, Complex Jalan sultan, Bandar Seri Begawan, BS8811, Brunei Darussalam			
Standard Chartered Finance (Brunei) Bhd	Brunei Darussalam	BND1.00 Ordinary shares	100
The following company has the address of G01-02, Wisma Haji Mohd Taha Building, Jalan Gadong, BE4119, Brunei Darussalam			
Standard Chartered Securities (B) Sdn Bhd	Brunei Darussalam	BND1.00 Ordinary shares	100
The following company has the address of 1155, Boulevard de la Liberté, Douala, B.P. 1784, Cameroon			
Standard Chartered Bank Cameroon S.A	Cameroon	XAF10,000.00 Ordinary shares	100
The following company has the address of 20 Adelaide Street, Suite 1105 , Toronto ON M5C 2T6 Canada			
Standard Chartered (Canada) Limited	Canada	CAD1.00 Ordinary shares	100
The following company has the address of Maples Corporate Services Limited, PO Box 309, Ugland House, Grand Cayman KY1-1104, Cayman Islands			
Cerulean Investments LP	Cayman Islands	Limited Partnership interest	100
The following company has the address of Maples Finance Limited, PO Box 1093 GT, Queensgate House, Georgetown, Grand Cayman, Cayman Islands			
SCB Investment Holding Company Limited	Cayman Islands	$1,000.00 A Ordinary shares	100
		$1.00 Class X shares	100
The following companies have the address of Walkers Corporate Limited, Cayman Corporate Centre, 27 Hospital Road George Town, Grand Cayman KY1-9008, Cayman Islands			
Sirat Holdings Limited	Cayman Islands	$0.01 Ordinary shares	100
		$0.01 Preference shares	100
Standard Chartered Principal Finance (Cayman) Limited[4]	Cayman Islands	$0.0001 Ordinary shares	100
The following company has the address of Mourant Ozannes Corporate Services (Cayman) Limited, Harbour Centre, 42 North Church Street, PO Box 1348, Grand Cayman KY1-1108, Cayman Islands			
Sunflower Cayman SPC	Cayman Islands	$1.00 Management shares	100
The following company has the address of Maples Corporate Services Limited, PO Box 309, Ugland House, Grand Cayman KY1-1104, Cayman Islands			
Standard Chartered Saadiq Mudarib Company Limited	Cayman Islands	$1.00 Ordinary shares	100
The following company has the address of No. 1034, Managed by Tianjin Dongjiang Secretarial Services , Co., Ltd., Room 202, Office Area of Inspection Warehouse, No.6262 Ao Zhou Road, Dongjiang Free Trade Port Zone, Tianjin Pilot Free Trade Zone, China			
Pembroke Aircraft Leasing (Tianjin) Limited[3]	China	$1.00 Ordinary shares	100

The following company has the address of No. 1035, Managed by Tianjin Dongjiang Secretarial Services , Co., Ltd., Room 202, Office Area of Inspection Warehouse, No.6262 Ao Zhou Road, Dongjiang Free Trade Port Zone, Tianjin Pilot Free Trade Zone, China			
Pembroke Aircraft Leasing Tianjin 1 Limited[3]	China	CNY1.00 Ordinary shares	100
The following company has the address of No. 1036, Managed by Tianjin Dongjiang Secretarial Services , Co., Ltd., Room 202, Office Area of Inspection Warehouse, No.6262 Ao Zhou Road, Dongjiang Free Trade Port Zone, Tianjin Pilot Free Trade Zone, China			
Pembroke Aircraft Leasing Tianjin 2 Limited[3]	China	CNY1.00 Ordinary shares	100
The following company has the address of Standard Chartered Tower, 201 Century Avenue, Pudong, Shanghai 200120, China			
Standard Chartered Bank (China) Limited[3]	China	CNY Ordinary shares	100
The following company has the address of 26F, Fortune Financial Centre, #5, Dong San Huan Zhong Lu, Chaoyang District, Beijing, P. R. China.			
Standard Chartered Corporate Advisory Co. Ltd[3]	China	$1.00 Ordinary shares	100
The following company has the address of No. 188 Yeshen Rd, 11F, A-1161 RM, Pudong New District, Shanghai 31201308, China			
Standard Chartered Trading (Shanghai) Limited[3]	China	$15,000,000.00 Ordinary shares	100
The following company has the address of No. 35, Xinhuanbei Road, TEDA, Tianjin, 300457, China			
Standard Chartered Global Business Services Co. Limited[3]	China	$ Ordinary shares	100
The following company has the address of Standard Chartered Bank Cote d'Ivoire, 23 Boulevard de la République, Abidjan 17, 17 B.P. 1141, Cote d'Ivoire			
Standard Chartered Bank Cote d' Ivoire SA	Cote d'Ivoire	XOF100,000.00 Ordinary shares	100
The following company has the address of Standard Chartered Bank France, 32 Rue de Monceau,75008, Paris, France			
Pembroke Lease France SAS	France	€1.00 Ordinary shares	100
The following company has the address of 8 Ecowas Avenue, PMB 259 Banjul, The Gambia			
Standard Chartered Bank Gambia Limited	The Gambia	GMD1.00 Ordinary shares	74.8
The following company has the address of Taunusanlage 16, 60325, Frankfurt am Main, Germany			
Standard Chartered Bank AG	Germany	€ Ordinary shares	100
The following companies have the address of Standard Chartered Bank Building, 87 Independence Avenue, P.O. Box 768, Accra,Ghana			
Standard Chartered Bank Ghana Limited	Ghana	GHS Ordinary shares	69.4
		GHS0.52 Preference shares	87.0
Standard Chartered Ghana Nominees Limited	Ghana	GHS Ordinary shares	100
The following companies have the address of Bordeaux Court, Les Echelons, South Esplanade, St.Peter Port, Guernsey			
Birdsong Limited	Guernsey	£1.00 Ordinary shares	100
Nominees One Limited	Guernsey	£1.00 Ordinary shares	100
Nominees Two Limited	Guernsey	£1.00 Ordinary shares	100
Songbird Limited	Guernsey	£1.00 Ordinary shares	100
Standard Chartered Secretaries (Guernsey) Limited	Guernsey	£1.00 Ordinary shares	100
Standard Chartered Trust (Guernsey) Limited	Guernsey	£1.00 Ordinary shares	100
The following company has the address of 15/F, Standard Chartered Tower, 388 Kwun Tong Road, Kwun Tong, Kowloon, Hong Kong			
Horsford Nominees Limited	Hong Kong	HKD Ordinary shares	100
The following companies have the address of 14th Floor, One Taikoo Place, 979 King's Road, Quarry Bay, Hong Kong			
Kozagi Limited	Hong Kong	HKD Ordinary shares	100
Majestic Legend Limited	Hong Kong	HKD Ordinary shares	100
Ori Private Limited	Hong Kong	$ Ordinary shares	100
		$ A Ordinary shares	90.7
		$ B Ordinary shares	100
Standard Chartered PF Real Estate (Hong Kong) Limited	Hong Kong	$ Ordinary shares	100

The following companies have the address of 25/F, Standard Chartered Bank Building, 4-4A Des Voeux Road, Central, Hong Kong			
Marina Acacia Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Amaryllis Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Amethyst Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Ametrine Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Angelite Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Apollo Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Beryl Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Carnelian Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Emerald Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Flax Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Gloxinia Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Hazel Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Honor Shipping Limited	Hong Kong	HKD Ordinary shares	100
		$ Ordinary shares	100
Marina Ilex Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Iridot Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Kunzite Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Leasing Limited	Hong Kong	$ Ordinary shares	100
Marina Mimosa Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Moonstone Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Peridot Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Sapphire Shipping Limited	Hong Kong	$ Ordinary shares	100
Marina Splendor Shipping Limited	Hong Kong	HKD Ordinary shares	100
		$ Ordinary shares	100
Marina Tourmaline Shipping Limited	Hong Kong	$ Ordinary shares	100
SC Digital Solutions Limited	Hong Kong	HKD Ordinary shares	65.1
Standard Chartered Leasing Group Limited	Hong Kong	$ Ordinary shares	100
Standard Chartered Trade Support (HK) Limited	Hong Kong	HKD Ordinary shares	100
The following company has the address of 3/F Standard Chartered Bank Building, 4-4A Des Voeux Road Central, Hong Kong			
Standard Chartered Private Equity Limited	Hong Kong	HKD Ordinary shares	100
		$ Ordinary shares	100
The following company has the address of 13/F, Standard Chartered Bank Building, 4-4A Des Voeux Road, Central, Hong Kong			
Standard Chartered Trust (Hong Kong) Limited	Hong Kong	HKD Ordinary shares	100
The following company has the address of 3/F Standard Chartered Bank Building, 4-4A Des Voeux Road Central, Hong Kong			
Standard Chartered Private Equity Managers (Hong Kong) Limited	Hong Kong	HKD Ordinary shares	100
The following company has the address of 15/F, Two International Finance Centre, No. 8 Finance Street, Central, Hong Kong			
Standard Chartered Securities (Hong Kong) Limited	Hong Kong	HKD Ordinary shares	100
The following company has the address of 21/F, Standard Chartered Tower, 388 Kwun Tong Road, Kwun Tong, Kowloon, Hong Kong			
Standard Chartered Asia Limited	Hong Kong	HKD Deferred shares	100
		HKD Ordinary shares	100
		$ Ordinary shares	100
The following companies have the address of 32/F, Standard Chartered Bank Building, 4-4A Des Voeux Road, Central, Hong Kong			
Standard Chartered Sherwood (HK) Limited	Hong Kong	HKD Ordinary shares	100
Standard Chartered Bank (Hong Kong) Limited	Hong Kong	HKD A Ordinary shares	100
		HKD B Ordinary shares	100
		$ D Ordinary shares	100
		$ C Ordinary shares	100
		$ Preference shares	100
The following company has the address of 1st Floor, Europe Building, No.1, Haddows Road, Nungambakkam, Chennai, 600 006, India			
Standard Chartered Global Business Services Private Limited	India	INR10.00 Ordinary shares	100
The following company has the address of 90 M.G.Road, II Floor, Fort, Mumbai, Maharashtra, 400 001, India			
Standard Chartered Finance Private Limited	India	INR10.00 Ordinary shares	98.7

The following companies have the address of Crescenzo, 6th Floor, Plot No 38-39, G Block, Bandra Kurla Complex, Bandra East, Mumbai, Maharashtra, 400051, India			
Standard Chartered (India) Modeling and Analytics Centre Private Limited	India	INR10.00 Ordinary shares	100
Standard Chartered Investments and Loans (India) Limited	India	INR10.00 Ordinary shares	100
St Helen's Nominees India Private Limited	India	INR10.00 Ordinary shares	100
The following company has the address of Crescenzo, 7th Floor, Plot No 38-39, G Block, Bandra Kurla Complex, Bandra East, Mumbai, Maharashtra, 400051, India			
Standard Chartered Private Equity Advisory (India) Private Limited	India	INR1,000.00 Ordinary shares	100
The following company has the address of Second Floor, Indiqube Edge, Khata No. 571/630/6/4, Sy.No.6/4, Ambalipura Village, Varthur Hobli, Marathahalli Sub-Division, Ward No. 150, Bengaluru, 560102, India.			
Standard Chartered Research and Technology India Private Limited	India	INR10.00 Ordinary shares	100
The following company has the address of 2nd Floor, 23-25 M.G. Road, Fort, Mumbai, 400 001, India			
Standard Chartered Securities (India) Limited	India	INR10.00 Ordinary shares	100
The following company has the address of No. 157–157 A, Jakarta Barat, 11130, Indonesia.			
PT. Price Solutions Indonesia (dalam likuidasi)	Indonesia	$100.00 Ordinary shares	100
The following companies have the address of 32 Molesworth Street, Dublin 2, D02 Y512, Ireland			
Inishbrophy Leasing Limited	Ireland	€1.00 Ordinary shares	100
Inishcannon Leasing Limited	Ireland	$1.00 Ordinary shares	100
Inishcrean Leasing Limited	Ireland	$1.00 Ordinary shares	100
Inishdawson Leasing Limited	Ireland	€1.00 Ordinary shares	100
Inisherkin Leasing Limited	Ireland	$1.00 Ordinary shares	100
Inishlynch Leasing Limited	Ireland	€1.00 Ordinary shares	100
Inishoo Leasing Limited	Ireland	$1.00 Ordinary shares	100
Nightjar Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 1 Limited	Ireland	€1.00 Ordinary shares	100
Pembroke Aircraft Leasing 2 Limited	Ireland	€1.00 Ordinary shares	100
Pembroke Aircraft Leasing 3 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 4 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 5 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 6 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 7 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 8 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 9 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 10 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 11 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 12 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 13 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 14 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 15 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing 16 Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Aircraft Leasing Holdings Limited	Ireland	$1.00 Ordinary shares	100
Pembroke Capital Limited	Ireland	€1.25 Ordinary shares	100
		$1.00 Ordinary shares	100
Pembroke Capital Shannon Limited	Ireland	€1.25 Ordinary shares	100
Skua Limited	Ireland	$1.00 Ordinary shares	100
The following company has the address of First Names House, Victoria Road, Douglas, IM2 4DF, Isle of Man			
Pembroke Group Limited[5]	Isle of Man	$0.01 Ordinary shares	100
The following companies have the address of 1st Floor, Goldie House, 1-4 Goldie Terrace, Upper Church Street, Douglas, IM1 1EB, Isle of Man			
Standard Chartered Assurance Limited	Isle of Man	$1.00 Ordinary shares	100
		$1.00 Redeemable Preference shares	100
Standard Chartered Insurance Limited[6]	Isle of Man	$1.00 Ordinary shares	100
The following company has the address of 21/F, Sanno Park Tower, 2-11-1 Nagatacho, Chiyoda-ku, Tokyo, 100-6155, Japan			
Standard Chartered Securities (Japan) Limited	Japan	JPY50,000 Ordinary shares	100

The following company has the address of 15 Castle Street, St Helier, JE4 8PT, Jersey			
SCB Nominees (CI) Limited	Jersey	$1.00 Ordinary shares	100
The following company has the address of IFC 5, St Helier, JE1 1ST, Jersey			
Standard Chartered Funding (Jersey) Limited[6]	Jersey	£1.00 Ordinary shares	100
The following companies have the address of StandardChartered@Chiromo, Number 48, Westlands Road, P. O. Box 30003 – 00100, Nairobi, Kenya			
Standard Chartered Investment Services Limited	Kenya	KES20.00 Ordinary shares	100
Standard Chartered Bank Kenya Limited	Kenya	KES5.00 Ordinary shares	74.3
		KES5.00 Preference shares	100
Standard Chartered Securities (Kenya) Limited	Kenya	KES10.00 Ordinary shares	100
Standard Chartered Financial Services Limited	Kenya	KES20.00 Ordinary shares	100
Standard Chartered Insurance Agency Limited	Kenya	KES100.00 Ordinary shares	100
Standard Chartered Kenya Nominees Limited	Kenya	KES20.00 Ordinary shares	100
The following company has the address of M6-2701, West 27Fl, Suha-dong, 26, Eulji-ro 5-gil, Jung-gu, Seoul, Korea, Republic of			
Resolution Alliance Korea Ltd[4]	Korea, Republic of	KRW5,000.00 Ordinary shares	100
The following companies have the address of 2/F, 47 Jongno, Jongno-gu, Seoul, 110-702, Korea, Republic of			
Standard Chartered Bank Korea Limited	Korea, Republic of	KRW5,000.00 Ordinary shares	100
Standard Chartered Securities Korea Limited	Korea, Republic of	KRW5,000.00 Ordinary shares	100
The following company has the address of 17/F, 100, Gongpyeong-dong, Jongno-gu, Seoul, Korea, Republic of			
Ascenta II	Korea, Republic of	Partnership interest	100
The following company has the address of Atrium Building, Maarad Street, 3rd Floor, P.O.Box: 11-4081 Riad El Solh, Beirut, Beirut Central District, Lebanon			
Standard Chartered Metropolitan Holdings SAL	Lebanon	$10.00 Ordinary A shares	100
The following companies have the address of Level 16, Menara Standard Chartered, 30, Jalan Sultan Ismail, 50250 Kuala Lumpur, Malaysia			
Cartaban (Malaya) Nominees Sdn Berhad	Malaysia	RM Ordinary shares	100
Cartaban Nominees (Asing) Sdn Bhd	Malaysia	RM Ordinary shares	100
Cartaban Nominees (Tempatan) Sdn Bhd	Malaysia	RM Ordinary shares	100
Golden Maestro Sdn Bhd	Malaysia	RM Ordinary shares	100
Popular Ambience Sdn Bhd	Malaysia	RM Ordinary shares	100
Price Solutions Sdn Bhd	Malaysia	RM Ordinary shares	100
SCBMB Trustee Berhad	Malaysia	RM Ordinary shares	100
Standard Chartered Bank Malaysia Berhad	Malaysia	RM Irredeemable Cumulative Preference shares	100
		RM Ordinary shares	100
Standard Chartered Saadiq Berhad	Malaysia	RM Ordinary shares	100
The following companies have the address of Brumby Centre, Lot 42, Jalan Muhibbah, 87000 Labuan F.T., Malaysia			
Marina Morganite Shipping Limited[7]	Malaysia	$ Ordinary shares	100
Marina Moss Shipping Limited[7]	Malaysia	$ Ordinary shares	100
Marina Tanzanite Shipping Limited[7]	Malaysia	$ Ordinary shares	100
Pembroke Leasing (Labuan) 3 Berhad	Malaysia	$ Ordinary shares	100
The following company has the address of N8, Jalan Kerinchi, 59200 Kuala Lumpur, Wilayah Persekutuan, Malaysia			
Resolution Alliance Sdn Bhd[1]	Malaysia	RM Ordinary shares	91
The following company has the address of Level 7, Wisma Standard Chartered, Jalan Teknologi 8, Taman Teknologi Malaysia, 57000 Bukit Jalil, Kuala Lumpur, Wilayah Persekutuan, Malaysia			
Standard Chartered Global Business Services Sdn Bhd	Malaysia	RM Ordinary shares	100

The following companies have the address of Trust Company Complex, Ajeltake Road, Ajeltake Island, Majuro, MH96960, Marshall Islands			
Marina Alysse Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Amandier Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Ambroisee Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Angelica Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Aventurine Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Buxus Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Celsie Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Citrine Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Dahlia Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Dittany Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Dorado Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Lilac Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Lolite Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Obsidian Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Pissenlet Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Protea Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Quartz Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Remora Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Turquoise Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
Marina Zircon Shipping Limited[7]	Marshall Islands	$1.00 Ordinary shares	100
The following companies have the address of SGG Corporate Services (Mauritius) Ltd, 33, Edith Cavell St, Port Louis, 11324, Mauritius			
Actis Asia Real Estate (Mauritius) Limited	Mauritius	$1.00 Class A shares	100
		$1.00 Class B shares	100
Actis Treit Holdings (Mauritius) Limited[1]	Mauritius	$1.00 Class A shares	62
		$1.00 Class B shares	62
The following company has the address of 6/F, Standard Chartered Tower, 19, Bank Street, Cybercity, Ebene, 72201, Mauritius			
Standard Chartered Bank (Mauritius) Limited	Mauritius	$ Ordinary shares	100
The following companies have the address of c/o Abax Corporate Services Ltd, 6/F, Tower A, 1 CYBERCITY, Ebene, Mauritius			
Standard Chartered Financial Holdings	Mauritius	$1.00 Ordinary shares	100
Standard Chartered Private Equity (Mauritius) II Limited	Mauritius	$1.00 Ordinary shares	100
Standard Chartered Private Equity (Mauritius) Limited	Mauritius	$1.00 Ordinary shares	100
		$ Redeemable Preference shares	100
Standard Chartered Private Equity (Mauritius) lll Limited	Mauritius	$1.00 Ordinary shares	100
The following company has the address of 5/F, Ebene Esplanade, 24 Bank Street, Cybercity, Ebene, Mauritius			
Subcontinental Equities Limited	Mauritius	$1.00 Ordinary shares	100
The following company has the address of Standard Chartered Bank Nepal Limited, Madan Bhandari Marg, Ward No.34, Kathmandu Metropolitan City, Kathmandu District, Bagmati Zone, Kathmandu, Nepal			
Standard Chartered Bank Nepal Limited	Nepal	NPR100.00 Ordinary shares	70.2
The following company has the address of Hoogoorddreef 15, 1101 BA, Amsterdam, Netherlands			
Pembroke Holland B.V.	Netherlands	€450.00 Ordinary shares	100
The following companies have the address of 1 Basinghall Avenue, London, EC2V 5DD, United Kingdom			
Standard Chartered Holdings (Africa) B.V.[6]	Netherlands	€4.50 Ordinary shares	100
Standard Chartered Holdings (Asia Pacific) B.V.[6]	Netherlands	€4.50 Ordinary shares	100
Standard Chartered Holdings (International) B.V.[6]	Netherlands	€4.50 Ordinary shares	100
Standard Chartered MB Holdings B.V.[6]	Netherlands	€4.50 Ordinary shares	100
The following companies have the address of 142 Ahmadu Bello Way, Victoria Island, Lagos, Nigeria			
Cherroots Nigeria Limited	Nigeria	NGN1.00 Ordinary Shares	100
Standard Chartered Bank Nigeria Limited	Nigeria	NGN1.00 Irredeemable Non Cumulative Preference shares	100
		NGN1.00 Ordinary shares	100
		NGN1.00 Redeemable Preference shares	100
Standard Chartered Capital & Advisory Nigeria Limited	Nigeria	NGN1.00 Ordinary shares	100
Standard Chartered Nominees (Nigeria) Limited	Nigeria	NGN1.00 Ordinary shares	100

The following company has the address of 3/F Main SCB Building, I.I. Chundrigar Road, Karachi, Sindh, 74000, Pakistan			
Price Solution Pakistan (Private) Limited	Pakistan	PKR10.00 Ordinary shares	100
The following company has the address of P.O. Box No. 5556 I.I. Chundrigar Road, Karachi, 74000, Pakistan			
Standard Chartered Bank (Pakistan) Limited	Pakistan	PKR10.00 Ordinary shares	98.9
The following company has the address of ul. Towarowa 25A, 00-869 Warszawa, Poland			
Standard Chartered Global Business Services spólka z ograniczona odpowiedzialnoscia	Poland	PLN50.00 Ordinary shares	100
The following company has the address of Offshore Chambers, PO Box 217, Apia, Western Samoa			
Standard Chartered Nominees (Western Samoa) Limited	Samoa	$1.00 Ordinary shares	100
The following company has the address of Al Faisaliah Office Tower, 7/F, King Fahad Highway, Olaya District, Riyadh P.O box 295522, Riyadh, 11351, Saudi Arabia			
Standard Chartered Capital (Saudi Arabia)	Saudi Arabia	SAR10.00 Ordinary shares	100
The following company has the address of 9 & 11, Lightfoot Boston Street, Freetown, Sierra Leone			
Standard Chartered Bank Sierra Leone Limited	Sierra Leone	SLL1.00 Ordinary shares	80.7
The following company has the address of 8 Marina Boulevard, Level 23, Marina Bay Financial Centre, Tower 1, 018981, Singapore			
Standard Chartered Private Equity (Singapore) Pte. Ltd	Singapore	$ Ordinary shares	100
The following companies have the address of 8 Marina Boulevard, Level 26, Marina Bay Financial Centre, Tower 1, 018981, Singapore			
Marina Aquata Shipping Pte. Ltd.	Singapore	$ Ordinary shares	100
Marina Aruana Shipping Pte. Ltd.	Singapore	SGD Ordinary shares	100
		$ Ordinary shares	100
Marina Aster Shipping Pte. Ltd.	Singapore	SGD Ordinary shares	100
Marina Cobia Shipping Pte. Ltd.	Singapore	SGD Ordinary shares	100
		$ Ordinary shares	100
Marina Daffodil Shipping Pte. Ltd.	Singapore	SGD Ordinary shares	100
Marina Fatmarini Shipping Pte. Ltd.	Singapore	$ Ordinary shares	100
Marina Frabandari Shipping Pte. Ltd.	Singapore	$ Ordinary shares	100
Marina Freesia Shipping Pte. Ltd.	Singapore	SGD Ordinary shares	100
Marina Gerbera Shipping Pte. Ltd.	Singapore	$ Ordinary shares	100
Marina Mars Shipping Pte. Ltd.	Singapore	SGD Ordinary shares	100
Marina Mercury Shipping Pte. Ltd.	Singapore	SGD Ordinary shares	100
Marina Opah Shipping Pte. Ltd.	Singapore	SGD Ordinary shares	100
		$ Ordinary shares	100
Marina Partawati Shipping Pte. Ltd.	Singapore	$ Ordinary shares	100
Marina Poise Shipping Pte. Ltd.	Singapore	$ Ordinary shares	100
The following companies have the address of 9 Raffles Place, #27-00 Republic Plaza, 048619, Singapore.			
Actis RE Investment 1 Private Limited[1]	Singapore	SGD Ordinary shares	100
Actis RE Investment 2 Private Limited[1]	Singapore	SGD Ordinary shares	100
Actis RE Investment 3 Private Limited[1]	Singapore	SGD Ordinary shares	100
Actis RE Investment 4 Private Limited[1]	Singapore	SGD Ordinary shares	100
Actis Treit Holdings No.1 (Singapore) Private Limited[1]	Singapore	SGD Ordinary shares	100
Actis Treit Holdings No.2 (Singapore) Private Limited[1]	Singapore	SGD Ordinary shares	100
The following company has the address of 7 Changi Business Park Crescent, #03-00 Standard Chartered @ Changi, 486028, Singapore			
Raffles Nominees (Pte.) Limited	Singapore	SGD Ordinary shares	100
The following companies have the address of 8 Marina Boulevard, Level 27, Marina Bay Financial Centre, Tower 1, 018981, Singapore			
SCTS Capital Pte. Ltd	Singapore	SGD Ordinary shares	100
SCTS Management Pte. Ltd.	Singapore	SGD Ordinary shares	100
Standard Chartered Bank (Singapore) Limited	Singapore	SGD Ordinary shares	100
		SGD Preference shares	100
		$ Ordinary shares	100
		$ Preference shares	100
Standard Chartered Trust (Singapore) Limited	Singapore	SGD Ordinary shares	100
Standard Chartered Holdings (Singapore) Private Limited	Singapore	SGD Ordinary shares	100
		$ Ordinary shares	100

The following companies have the address of Abogado Pte Ltd, No. 8 Marina Boulevard, #05-02 MBFC Tower 1, 018981, Singapore			
Standard Chartered IL&FS Management (Singapore) Pte. Limited	Singapore	$ Ordinary shares	50
Standard Chartered PF Managers Pte. Limited	Singapore	$ Ordinary shares	100
Standard Chartered Real Estate Investment Holdings (Singapore) Private Limited	Singapore	$ Ordinary shares	100
The following company has the address of 9 Battery Road, #15-01 Straits Trading Building, 049910, Singapore			
Standard Chartered Nominees (Singapore) Pte Ltd	Singapore	SGD Ordinary shares	100
The following company has the address of 5/F, 4 Sandown Valley Crescent, Sandton, Gauteng, 2196, South Africa			
CMB Nominees (RF) PTY Limited	South Africa	ZAR1.00 Ordinary shares	100
The following company has the address of 2nd Floor, 115 West Street, Sandton, Johannesburg, 2196, South Africa			
Standard Chartered Nominees South Africa Proprietary Limited (RF)	South Africa	ZAR Ordinary shares	100
The following company has the address of 1, 2, 4, 7, 9, 10F, No. 168/170 &, 8F, 12F, No.168, Tun Hwa N. Rd., Songshan Dist., Taipei, 105, Taiwan			
Standard Chartered Bank (Taiwan) Limited	Taiwan	TWD10.00 Ordinary shares	100
The following companies have the address of 1 Floor, International House, Shaaban Robert Street / Garden Avenue, PO Box 9011, Dar Es Salaam, Tanzania, United Republic of			
Standard Chartered Bank Tanzania Limited	Tanzania, United Republic of	TZS1,000.00 Ordinary shares	100
		TZS1,000.00 Preference shares	100
Standard Chartered Tanzania Nominees Limited	Tanzania, United Republic of	TZS1,000.00 Ordinary shares	100
The following company has the address of 100 North Sathorn Road, Silom, Bangrak Bangkok , 10500, Thailand			
Standard Chartered Bank (Thai) Public Company Limited	Thailand	THB10.00 Ordinary shares	99.9
The following company has the address of Buyukdere Cad. Yapi Kredi Plaza C Blok, Kat 15, Levent, Istanbul, 34330, Turkey			
Standard Chartered Yatirim Bankasi Turk Anonim Sirketi	Turkey	TRL0.10 Ordinary shares	100
The following company has the address of Standard Chartered Bank Bldg, 5 Speke Road, PO Box 7111, Kampala, Uganda			
Standard Chartered Bank Uganda Limited	Uganda	UGS1,000.00 Ordinary shares	100
The following company has the address of 505 Howard St. #201, San Francisco, CA 94105, United States			
SC Studios, LLC	United States	Membership Interest	100
The following company has the address of Standard Chartered Bank, 37F, 1095 Avenue of the Americas, New York 10036, United States			
Standard Chartered Bank International (Americas) Limited	United States	$1,000.00 Ordinary shares	100
The following companies have the address of Corporation Trust Centre, 1209 Orange Street, Wilmington DE 19801, United States			
Standard Chartered Holdings Inc.	United States	$100.00 Common shares	100
Standard Chartered Capital Management (Jersey), LLC	United States	$ Ordinary shares	100
Standard Chartered Securities (North America) LLC	United States	Membership Interest	100
StanChart Securities International LLC	United States	Membership Interest	100
Standard Chartered International (USA) LLC	United States	Membership Interest	100
The following company has the address of 50 Fremont Street, San Francisco CA 94105, United States			
Standard Chartered Overseas Investment, Inc.	United States	$10.00 Ordinary shares	100
The following company has the address of C/O Corporation Service Company, 251 Little Falls Drive, Wilmington DE 19808, United States			
Standard Chartered Trade Services Corporation	United States	$0.01 Common shares	100
The following company has the address of Room 1810-1815, Level 18, Building 72, Keangnam Hanoi Landmark Tower, Pham Hung Road, Cau Giay New Urban Area, Me Tri Ward, Nam Tu Liem District, Hanoi10000, Vietnam			
Standard Chartered Bank (Vietnam) Limited	Vietnam	VND Charter Capital shares	100
The following companies have the address of Vistra Corporate Services Centre, Wickhams Cay II, Road Town, Tortola, VG1110, Virgin Islands, British			
Sky Favour Investments Limited[7]	Virgin Islands, British	$1.00 Ordinary shares	100
Sky Harmony Holdings Limited[7]	Virgin Islands, British	$1.00 Ordinary shares	100

The following companies have the address of Standard Chartered House, Cairo Road, Lusaka, PO BOX 32238, Zambia			
Standard Chartered Bank Zambia Plc	Zambia	ZMW0.25 Ordinary shares	90
Standard Chartered Zambia Securities Services Nominees Limited	Zambia	ZMW1.00 Ordinary shares	100
The following companies have the address of Africa Unity Square Building, 68 Nelson Mandela Avenue, Harare, Zimbabwe			
Africa Enterprise Network Trust[2]	Zimbabwe	Interest in Trust	100
Standard Chartered Bank Zimbabwe Limited	Zimbabwe	$1.00 Ordinary shares	100
Standard Chartered Nominees Zimbabwe (Private) Limited	Zimbabwe	$2.00 Ordinary shares	100

1 The Group has determined that these undertakings are excluded from being consolidated into the Group's accounts, and do not meet the definition of a Subsidiary under IFRS. See Notes 32 and 33 for the consolidation policy and disclosure of the undertaking
2 No share capital by virtue of being a trust
3 Limited liability company
4 The Group has determined the principle country of operation to be Singapore
5 The Group has determined the principle country of operation to be Ireland
6 The Group has determined the principle country of operation to be the United Kingdom
7 The Group has determined the principle country of operation to be Hong Kong

Joint ventures

Name	Country of Incorporation	Description of shares	Proportion of shares held (%)
The following company has the address of WTC II Building, Jalan Jenderal Sudirman Kav29-31, Jakarta, 12920' Indonesia			
PT Bank Permata Tbk	Indonesia	IDR125.00 B shares	44.6
The following company has the address of 100/36 Sathorn Nakorn Tower, Fl 21 North Sathorn Road, Silom Sub-District, Bangrak District, Bangkok, 10500, Thailand			
Resolution Alliance Limited	Thailand	THB10.00 Ordinary shares	49

Associates

Name	Country of Incorporation	Description of shares	Proportion of shares held (%)
The following company has the address of 3 More London Riverside,London, England, SE1 2AQ, United Kingdom			
Trade Information Network Limited	United Kingdom	$1.00 Ordinary shares	16.7
The following company has the address of Bohai Bank Building, No.218 Hai He Dong Lu, Hedong District, Tianjin, China, 300012, China			
China Bohai Bank Co. Ltd	China	CNY Ordinary shares	19.9
The following companies have the address of 17/F, 100, Gongpyeong-dong, Jongno-gu, Seoul, Korea, Republic of			
Ascenta IV	Korea, Republic of	Partnership Interest	39.1
The following company has the address of C/o CIM Corporate Services Ltd, Les Cascades, Edith Cavell Street, Port Louis, Mauritius			
FAI Limited	Mauritius	$1.00 Ordinary shares	25
The following company has the address of Victoria House, State House Avenue, Victoria, MAHE, Seychelles			
Seychelles International Mercantile Banking Corporation Limited	Seychelles	SCR1,000.00 Ordinary shares	22
The following company has the address of 1 Raffles Quay, #23-01, One Raffles Quay, 048583, Singapore			
Clifford Capital Pte. Ltd	Singapore	$1.00 Ordinary shares	9.9

Significant investment holdings and other related undertakings

Name	Country of Incorporation	Description of shares	Proportion of shares held (%)
The following company has the address of 65A Basinghall Street, London, EC2V 5DZ, United Kingdom			
Cyber Defence Alliance Limited	United Kingdom	Membership interest	25
The following company has the address of Intertrust Corporate Services (Cayman) Limited, 190 Elgin Avenue, George Town, Grand Cayman, KY1-9005, Cayman Islands			
ATSC Cayman Holdco Limited	Cayman Islands	$0.01 A Ordinary shares	5.3
		$0.01 B Ordinary shares	100

The following companies have the address of Harbour Centre #42 North Church Street, , PO Box 1348, Grand Cayman, KY1-1108 Cayman Islands, Cayman Islands			
Standard Chartered IL&FS Asia Infrastructure (Cayman) Limited	Cayman Islands	$0.01 Ordinary shares	50
Standard Chartered IL&FS Asia Infrastructure Growth Fund Company Limited	Cayman Islands	$1.00 Ordinary shares	50
Standard Chartered IL&FS Asia Infrastructure Growth Fund, L.P.	Cayman Islands	Partnership interest	38.6
The following company has the address of 3, Floor 1, No.1, Shiner Wuxingcaiyuan, West Er Huan Rd, Xi Shan District, Kunming, Yunnan Province, PRC, China			
Yunnan Golden Shiner Property Development Co., Ltd.	China	CNY1.00 Ordinary shares	42.5
The following companies have the address of Unit 605-08, 6/F Wing On Centre, 111 Connaught Rd, Central Sheung Wan, Hong Kong			
Actis Carrock Holdings (HK) Limited	Hong Kong	$ Class A shares	39.7
		$ Class B shares	39.7
Actis Jack Holdings (HK) Limited	Hong Kong	$ Class A shares	39.7
		$ Class B shares	39.7
Actis Rivendell Holdings (HK) Limited	Hong Kong	$ Class A shares	39.7
		$ Class B shares	39.7
Actis Temple Stay Holdings (HK) Limited	Hong Kong	$ Class A shares	39.7
		$ Class B shares	39.7
Actis Young City Holdings (HK) Limited	Hong Kong	$ Class A shares	39.7
		$ Class B shares	39.7
The following company has the address of 1221 A, Devika Tower, 12th Floor, 6 Nehru Place, New Delhi 110019, New Delhi, 110019, India			
Mikado Realtors Private Limited	India	INR10.00 Ordinary shares	26
The following company has the address of Elphinstone Building, 2nd Floor,10 Veer Nariman Road, Fort, Mumbai -400001, Maharashtra, India			
TRIL IT4 Private Limited	India	INR10.00 Ordinary shares	26
The following company has the address of 4/F, 274, Chitalia House, Dr. Cawasji Hormusji Road, Dhobi Talao, Mumbai City, Maharashtra, India 400 002, Mumbai, 400 002, India			
Industrial Minerals and Chemical Co. Pvt. Ltd	India	INR100.00 Ordinary shares	26
The following company has the address of TRIO Building, 8/F, Jl, Kebon Sirih Raya Kav, 63, Jakarta, 10340, Indonesia			
PT Trikomsel Oke Tbk	Indonesia	IDR50.00 Series B shares	29.2
The following companies have the address of 4/F St Pauls Gate, 22-24 New Street, St Helier, JE1 4TR, Jersey			
Standard Jazeera Limited	Jersey	$1.00 Class C Redeemable Preference Shares	100
		$1.00 Ordinary Shares	20
Standard Topaz Limited	Jersey	$1,000.00 Ordinary shares	20.1
		$1.00 Class C Redeemable Preference Shares	100
The following company has the address of 17/F (Gongpyung-dong), 100, Jongno-gu, Seoul, Korea, Republic of			
Ascenta III	Korea, Republic of	Partnership interest	31
The following company has the address of 1 Venture Avenue, #07-07 Big Box, 608521, Singapore			
Omni Centre Pte. Ltd.	Singapore	SGD Redeemable Convertible Preference shares	100
The following company has the address of 152 Beach Road, #28-00 Gateway East, Singapore, 189721			
Socash Pte. Ltd.	Singapore	$ Class B Preference shares	33.3
The following company has the address of 251 Little Falls Drive, Wilmington, New Castle DE 19808, United States			
Paxata, Inc.	United States	$0.0001 Series C2 Preferred Stock	40.7

In liquidation

Subsidiary Undertakings

Name	Country of Incorporation	Description of shares	Proportion of shares held (%)
The following companies have the address of Deloitte LLP, Hill House, 1 Little New Street, London, EC4A 3TR, United Kingdom			
SC Leaseco Limited	United Kingdom	$1.00 Ordinary shares	100
Standard Chartered APR Limited	United Kingdom	$1.00 Ordinary shares	100
Standard Chartered Capital Markets Limited	United Kingdom	£1.00 Ordinary shares	100
		$1.00 Ordinary shares	100
Standard Chartered Debt Trading Limited	United Kingdom	£1.00 Ordinary shares	100
Compass Estates Limited	United Kingdom	£1.00 Ordinary shares	100
Chartered Financial Holdings Limited	United Kingdom	£5.00 Ordinary shares	100
		£1.00 Preference shares	100
The following company has the address of Cra 7 Nro 71-52 TA if 702, Bogata, Colombia			
Sociedad Fiduciaria Extebandes S.A.	Colombia	COP1.00 Ordinary shares	100
The following companies have the address of Schottegatweg Oost, 44, Curacao, Netherlands Antilles			
American Express International Finance Corp.N.V.	Curaçao	$1,000.00 Ordinary shares	100
Ricanex Participations N.V.	Curaçao	$1,000.00 Ordinary shares	100
The following company has the address of L5 The Forum, Exchange Square, 8 Connaught Place,Central, Hong Kong			
Standard Chartered Global Trading Investments Limited	Hong Kong	HKD Ordinary shares	100
The following company has the address of 13/F, Standard Chartered Tower, 388 Kwun Tong Road, Kwun Tong, Kowloon, Hong Kong			
SC Learning Limited	Hong Kong	HKD Ordinary shares	100
The following company has the address of 8/Floor, Gloucester Tower, The Landmark, 15 Queen's Road Central, Hong Kong			
Leopard Hong Kong Limited	Hong Kong	$ Ordinary shares	100
The following company has the address of Menara Standard Chartered, 3rd floor, Jl. Prof. DR. Satrio No. 164, Jakarta, 12930, Indonesia			
PT Solusi Cakra Indonesia	Indonesia	IDR23,809,600.00 Ordinary shares	99
The following company has the address of Standard Chartered@Chiromo, Number 48, Westlands Road, P. O. Box 30003 – 00100, Nairobi, Kenya			
Standard Chartered Management Services Limited	Kenya	KES20.00 Ordinary shares	100
The following company has the address of 30 Rue Schrobilgen, 2526, Luxembourg			
Standard Chartered Financial Services (Luxembourg) S.A.	Luxembourg	€25.00 Ordinary shares	100
The following company has the address of Level 16, Menara Standard Chartered, 30, Jalan Sultan Ismail, 50250 Kuala Lumpur, Malaysia			
Amphissa Corporation Sdn Bhd	Malaysia	RM1.00 Ordinary shares	100
The following companies have the address of Brumby Centre, Lot 42, Jalan Muhibbah, 87000 Labuan F.T., Malaysia			
Pembroke Leasing (Labuan) 2 Berhad	Malaysia	$1.00 Ordinary shares	100
Pembroke Leasing (Labuan) Pte Limited	Malaysia	$1.00 Ordinary shares	100
The following companies have the address of 1 Basinghall Avenue, London, EC2V 5DD, United Kingdom			
Smart Application Investment B.V.	Netherlands	€45.00 Ordinary shares	100
The following company has the address of Jiron Huascar 2055, Jesus Maria, Lima 15072, Peru			
Banco Standard Chartered en Liquidacion	Peru	$75.133 Ordinary shares	100
The following company has the address of 8 Marina Boulevard, Level 27, Marina Bay Financial Centre, Tower 1, 018981, Singapore			
Standard Chartered (2000) Limited	Singapore	SGD Ordinary shares	100
		$ Class A Preference shares	100
		£ Class B Preference shares	100

The following company has the address of Quai du General Guisan 38, 8022, Zurich, Switzerland, Switzerland			
Standard Chartered Bank (Switzerland) S.A.	Switzerland	CHF1,000.00 Ordinary shares	100
		CHF100.00 Participation Capital shares	100
The following company has the address of 6/F, Hewlett Packard Building, 337 Fu Hsing North Road, Taipei, Taiwan			
Kwang Hua Mocatta Company Ltd.	Taiwan	TWD1,000.00 Ordinary shares	97.9
The following company has the address of Luis Alberto de Herrera 1248, Torre II, Piso 11, Esc. 1111, Uruguay			
Standard Chartered Uruguay Representacion S.A.	Uruguay	UYU1.00 Ordinary shares	100

Significant investment holdings and other related undertakings

Name	Country of Incorporation	Description of shares	Proportion of shares held (%)
The following company has the address of Lot 6.05, Level 6, KPMG Tower, 8 First Avenue, Bandar Utama, 47800 Petaling Jaya, Selangor, Malaysia			
House Network SDN BHD	Malaysia	RM1.00 Ordinary shares	25

Liquidated/dissolved/sold

Subsidiary Undertakings

Name	Country of Incorporation	Description of shares
SC Overseas Investments Limited	United Kingdom	AUD1.00 Ordinary shares
		$1.00 Ordinary shares
Standard Chartered (GCT) Limited	United Kingdom	£1.00 Ordinary shares
Ocean Horizon Holdings South Ltd	Cayman Islands	$1.00 Ordinary shares
Standard Chartered Corporate Private Equity (Cayman) Limited	Cayman Islands	$0.001 Ordinary shares
Standard Chartered International Partners	Cayman Islands	$0.001 Ordinary shares
Standard Chartered Private Equity (Cayman) Limited	Cayman Islands	$0.001 Ordinary shares
Pembroke 7006 Leasing Limited	Ireland	€1.25 Ordinary shares
Pembroke Alpha Limited	Ireland	€1.00 Ordinary shares
Ocean Horizon Holdings East Limited	Jersey	$1.00 Ordinary shares
Ocean Horizon Holdings West Limited	Jersey	$1.00 Ordinary shares
Standard Chartered Private Equity Managers (Korea) Limited	Korea, Republic of	KRW5,000.00 Ordinary shares
Marina Aquamarine Shipping Limited	Marshall Islands	$1.00 Ordinary shares
Marina Poseidon Shipping Limited	Marshall Islands	$1.00 Ordinary shares
Marina Zeus Shipping Limited	Marshall Islands	$1.00 Ordinary shares
Actis Place Holdings (Mauritius) Limited	Mauritius	$1.00 Class A Ordinary shares
		$1.00 Class B Ordinary shares
Pembroke B717 Holdings B.V.	Netherlands	€1.00 Ordinary shares
Actis Mahi Holdings (Singapore) Private Limited	Singapore	SGD 1.00 Ordinary shares
Augusta Viet Pte. Ltd.	Singapore	$1.00 Ordinary shares
Greenman Pte. Ltd.	Singapore	SGD1.00 Class A Preferred shares
		SGD1.00 Class B Preferred shares
		SGD1.00 Ordinary shares
Phoon Huat Pte. Ltd.	Singapore	SGD1.00 Ordinary shares
Redman Pte. Ltd.	Singapore	SGD1.00 Ordinary shares
Standard Chartered Private Equity Managers (Singapore) Pte. Ltd	Singapore	$ Ordinary shares
Actis Place Holdings No.1 (Singapore) Private Limited	Singapore	SGD 1.00 Ordinary shares
Actis Place Holdings No.2 (Singapore) Private Limited	Singapore	SGD 1.00 Ordinary shares
Standard Chartered (Thailand) Company Limited	Thailand	THB10.00 Ordinary shares
Standard Chartered Asset Management Limited	Zimbabwe	$0.001 Ordinary shares

Joint ventures

Name	Country of Incorporation	Description of shares
Canas Leasing Limited	Ireland	$1 Ordinary shares
Elviria Leasing Limited	Ireland	$1 Ordinary shares

Associates

Name	Country of Incorporation	Description of shares
McAshback Limited	United Kingdom	£0.01 Ordinary shares

Significant investment holdings and other related undertakings

Name	Country of Incorporation	Description of shares
Greathorse Chemical Limited	Cayman Islands	$1.00 Ordinary shares
Asia Trading Holdings Limited	Cayman Islands	$0.01 Ordinary shares
Joyville Shapoorji Housing Private Limited	India	INR10.00 Common Equity shares
Mahindra Homes Private Limited	India	INR10.00 Compulsorily Convertible Preference shares INR10.00 A Ordinary shares INR10.00 B Ordinary shares
Northern Arc Capital Limited	India	INR20.00 Compulsorily Convertible Preference shares INR10.00 Equity shares
PT Travira Air	Indonesia	IDR1,000,000.00 Ordinary shares
Daiyang Metal Company Ltd	Korea, Republic of	KRW 500 Ordinary shares KRW 500 Preferred shares KRW 500 Convertible Preference shares
Haram Trade Co. Ltd.	Korea, Republic of	KRW 1,000,000,000 Ordinary shares KRW 1,000,000,000 redeemable convertible preferred shares
Maesong Trading Co. Ltd.	Korea, Republic of	KRW 1,000,000,000 Ordinary shares KRW 1,000,000,000 redeemable convertible preferred shares
Sameun Trade Co. Ltd.	Korea, Republic of	KRW 500,000,000 Ordinary shares KRW 500,000,000 redeemable convertible preferred shares
Taebong Prime Co. Ltd	Korea, Republic of	KRW 10,000,000,000 Ordinary shares KRW 10,000,000,000 redeemable convertible preferred shares
Crystal Jade Group Holdings Pte Ltd	Singapore	$ Ordinary shares
MMI Technoventures Pte Ltd	Singapore	SGD Ordinary shares SGD 0.01 Redeemable Preference shares
Polaris Limited	Singapore	SGD Ordinary shares
THSC Investments Pte. Ltd.	Singapore	SGD0.50 Ordinary Shares
New Lifestyle Service Corporation	Vietnam	VND Dividend Preference shares VND Redeemable Preference shares
Online Mobile Services Joint Stock Company	Vietnam	VND10,000 Class A1 Redeemable Preference shares VND10,000 Class A1 Dividend Preference shares VND10,000 Class C Dividend Preference shares
Ecoplast Technologies Inc	Virgin Islands, British	$0.0001 Class C Preferred shares

41. Dealings in Standard Chartered PLC listed securities

This is also disclosed as part of Note 28 Share capital, other equity and reserves

Except as disclosed, neither the Company nor any of its subsidiaries has bought, sold or redeemed any securities of the company listed on The Stock Exchange of Hong Kong Limited during the period. Details of the shares purchased and held by the trusts are set out below.

	1995 Trust		2004 Trust		Total	
Number of shares	2019	2018	2019	2018	2019	2018
Shares purchased during the year	646,283	1,017,941	24,065,354	-	24,711,637	1,017,941
Market price of shares purchased ($million)	5	8-	201	-	206	8
Shares held at the end of the year	-	2,354,820	5,113,455	16,755	5,113,455	2,371,575
Maximum number of shares held during the year					15,070,923	3,787,015

42. Corporate governance

The directors confirm that Standard Chartered PLC (the Company) has complied with all of the provisions set out in the UK Corporate Governance Code 2014 during the year ended 31 December 2019. The directors also confirm that, throughout the year, the Company has complied with the code provisions set out in the Hong Kong Corporate Governance Code contained in Appendix 14 of the Hong Kong Listing Rules. The Group confirms that it has adopted a code of conduct regarding directors' securities transactions on terms no less exacting than required by Appendix 10 of the Hong Kong Listing Rules and that the directors of the Company have complied with the required standards of the adopted code of conduct. The directors also confirm that the announcement of these results has been reviewed by the Company's Audit Committee.

Standard Chartered PLC – Shareholder information

Forward-looking statements

This document may contain 'forward-looking statements' that are based on current expectations or beliefs, as well as assumptions about future events. These forward-looking statements can be identified by the fact that they do not relate only to historical or current facts. Forward-looking statements often use words such as 'may', 'could', 'will', 'expect', 'intend', 'estimate', 'anticipate', 'believe', 'plan', 'seek', 'continue' or other words of similar meaning. By their very nature, such statements are subject to known and unknown risks and uncertainties and can be affected by other factors that could cause actual results, and the Group's plans and objectives, to differ materially from those expressed or implied in the forward-looking statements.

Recipients should not place reliance on, and are cautioned about relying on, any forward-looking statements. There are several factors which could cause actual results to differ materially from those expressed or implied in forward-looking statements. The factors that could cause actual results to differ materially from those described in the forward-looking statements include (but are not limited to) changes in global, political, economic, business, competitive, market and regulatory forces or conditions, future exchange and interest rates, changes in tax rates, future business combinations or dispositions and other factors specific to the Group. Any forward- looking statement contained in this document is based on past or current trends and/or activities of the Group and should not be taken as a representation that such trends or activities will continue in the future.

No statement in this document is intended to be a profit forecast or to imply that the earnings of the Group for the current year or future years will necessarily match or exceed the historical or published earnings of the Group. Each forward-looking statement speaks only as of the date of the particular statement. Except as required by any applicable laws or regulations, the Group expressly disclaims any obligation to revise or update any forward looking statement contained within this document, regardless of whether those statements are affected as a result of new information, future events or otherwise.

Nothing in this document shall constitute, in any jurisdiction, an offer or solicitation to sell or purchase any securities or other financial instruments, nor shall it constitute a recommendation or advice in respect of any securities or other financial instruments or any other matter.

By Order of the Board
Amanda Mellor
Group Company Secretary

Hong Kong, 27 February 2020

As at the date of this announcement, the Board of Directors of Standard Chartered PLC comprises:

Chairman:
José María Viñals Iñiguez

Executive Directors:
William Thomas Winters and Andrew Nigel Halford

Independent Non-Executive Directors:
Louis Chi-Yan Cheung; David Philbrick Conner; Byron Elmer Grote; Christine Mary Hodgson, CBE (Senior Independent Director); Gay Huey Evans, OBE; Naguib Kheraj (Deputy Chairman); Ngozi Okonjo-Iweala; David Tang; Carlson Tong and Jasmine Mary Whitbread