Risk review

Our risk review outlines our approach to risk management, how we identify and monitor top and emerging risks, and the actions we take to mitigate them. In addition, it explains our material banking risks, including how we manage capital.

Our partnership with Google to fight financial crime

Google Cloud in 2023 officially launched an anti-money laundering artificial intelligence capability, which HSBC co-developed, that has the potential to transform how financial crime is tackled across the industry.

We first implemented the solution, known at HSBC as the Dynamic Risk Assessment, in the UK in 2021 and have since deployed it in six markets, covering 80% of our customers.

As a result of the tool, we can now identify more financial crime risk, twice as fast and with greater accuracy.

We are also continuing to work with Google Cloud on other use cases for artificial intelligence.

Our approach to risk

Our risk appetite

We recognise the importance of a strong culture, which refers to our shared attitudes, beliefs, values and standards that shape behaviours including those related to risk awareness, risk taking and risk management. All our people are responsible for the management of risk, with ultimate supervisory oversight residing with the Board. Our risk appetite defines the level and types of risk that we are willing to take, while informing the financial planning process and guiding strategic decision making.

The following principles guide the Group's overarching appetite for risk and determine how our businesses and risks are managed.

Financial position

- We aim to maintain a strong capital position, defined by regulatory and internal capital ratios.
- We carry out liquidity and funding management for each operating entity on a stand-alone basis.

Operating model

- We seek to generate returns in line with our risk appetite and strong risk management capability.
- We aim to deliver sustainable and diversified earnings and consistent returns for shareholders.

Business practice

- We have no appetite for deliberately or knowingly causing detriment to consumers, or incurring a breach of the letter or spirit of regulatory requirements.
- We have no appetite for inappropriate market conduct by any member of staff or by any Group business.
- We are committed to managing the climate risks that have an impact on our financial position and delivering on our net zero ambition.
- We consider and, where appropriate, mitigate reputational risk that may arise from our business activities and decisions.
- We monitor non-financial risk exposure against risk appetite, including exposure related to inadequate or failed internal processes, people and systems, or events that impact our customers or can lead to sub-optimal returns to shareholders, censure, or reputational damage.

Enterprise-wide application

Our risk appetite encapsulates the consideration of financial and non-financial risks. We define financial risk as the risk of a financial loss as a result of business activities. We actively take these types of risks to maximise shareholder value and profits. Non-financial risk is the risk to achieving our strategy or objectives as the result of failed internal processes, people and systems, or from external events.

Our risk appetite is expressed in both quantitative and qualitative terms and applied at the global business and regional levels, and to material operating entities. Every three years, the Group Risk and Compliance function commissions an external independent firm to review the Group's approach to risk appetite and to help ensure that it remains in line with market best practice and regulatory expectations. This review was last carried out in 2021 and confirmed the Group's risk appetite statement ('RAS') remains aligned to best practices, regulatory expectations and strategic goals. Our risk appetite continues to evolve and expand its scope as part of our regular review process.

The Board reviews and approves the Group's risk appetite regularly to make sure it remains fit for purpose. The Group's risk appetite is considered, developed and enhanced through:

- an alignment with our strategy, purpose, values and customer needs;
- trends highlighted in other Group risk reports;
- communication with risk stewards on the developing risk landscape;
- strength of our capital, liquidity and balance sheet;
- compliance with applicable laws and regulations;
- effectiveness of the applicable control environment to mitigate risk, informed by risk ratings from risk control assessments;
- functionality, capacity and resilience of available systems to manage risk; and
- the level of available staff with the required competencies to manage risks.

We formally articulate our risk appetite through our RAS. Setting out our risk appetite helps ensure that we agree a suitable level of risk for our strategy. In this way, risk appetite informs our financial planning process and helps senior management to allocate capital to business activities, services and products.

The RAS is applied to the development of business line strategies, strategic and business planning, and remuneration. At a Group level, performance against the RAS is reported to the Group Risk Management Meeting alongside key risk indicators to support targeted insight and discussion on breaches of risk appetite and any associated mitigating actions. This reporting allows risks to be promptly identified and mitigated, and informs risk-adjusted remuneration to drive a strong risk culture.

Each global business, region and material operating entity is required to have its own RAS, which is monitored to help ensure it remains aligned with the Group's RAS. Each RAS and business activity is guided and underpinned by qualitative principles and/or quantitative metrics.

Risk management

We recognise that the primary role of risk management is to help protect our customers, business, colleagues, shareholders and the communities that we serve, while ensuring we are able to support our strategy and provide sustainable growth. This is supported through our three lines of defence model described on page 138.

The implementation of our business strategy remains a key focus. As we implement change initiatives, we actively manage the execution risks. We also perform periodic risk assessments, including against strategies, to help ensure retention of key personnel for our continued safe operation.

We aim to use a comprehensive risk management approach across the organisation and across all risk types, underpinned by our culture and values. This is outlined in our risk management framework, including the key principles and practices that we employ in managing material risks, both financial and non-financial. The framework fosters continuous monitoring, promotes risk awareness and encourages a sound operational and strategic decision-making and escalation process. It also supports a consistent approach to identifying, assessing, managing and reporting the risks we accept and incur in our activities, with clear accountabilities. We actively review and enhance our risk management framework and our approach to managing risk, through our activities with regard to: people and capabilities; governance; reporting and management information; credit risk management models; and data.

Group Risk and Compliance is independent from the global businesses, including our sales and trading functions. It provides challenge, oversight and appropriate balance in risk/return decisions.

Our risk management framework

The following diagram and descriptions summarise key aspects of the risk management framework, including governance, structure, risk management tools and our culture, which together help align employee behaviour with risk appetite.

Key components of our risk management framework

HSBC values and risk culture		
Risk governance	Non-executive risk governance	The Board approves the Group's risk appetite, plans and performance targets. It sets the 'tone from the top' and is advised by the Group Risk Committee (see page 254).
	Executive risk governance	Our executive risk governance structure is responsible for the enterprise-wide management of all risks, including key policies and frameworks for the management of risk within the Group (see pages 138 and 145).
Roles and responsibilities	Three lines of defence model	Our 'three lines of defence' model defines roles and responsibilities for risk management. An independent Group Risk and Compliance function helps ensure the necessary balance in risk/return decisions (see page 138).
Processes and tools	Risk appetite Enterprise-wide risk management tools Active risk management: identification/assessment, monitoring, management and reporting	The Group has processes in place to identify, assess, monitor, manage and report risks to help ensure we remain within our risk appetite.
Internal controls	Policies and procedures	Policies and procedures define the minimum requirements for the controls required to manage our risks.
	Control activities	Operational and resilience risk management defines minimum standards and processes for managing operational risks and internal controls.
	Systems and infrastructure	The Group has systems and processes that support the identification, capture and exchange of information to support risk management activities.

Risk governance

The Board has ultimate supervisory responsibility for the effective management of risk and approves our risk appetite.

The Group Chief Risk and Compliance Officer, supported by members of the Group Risk Management Meeting, holds executive accountability for the ongoing monitoring, assessment and management of the risk environment and the effectiveness of the risk management framework.

The Group Chief Risk and Compliance Officer is also responsible for the oversight of reputational risk, with the support of the Group Reputational Risk Committee. The Group Reputational Risk Committee considers matters arising from customers, transactions and third parties that either present a serious potential reputational risk to the Group or merit a Group-led decision to ensure a consistent risk management approach across the regions, global businesses and global functions. Further details can be found under the 'Reputational risk' section of www.hsbc.com/who-we-are/esg-and-responsible-business/managing-risk.

Day-to-day responsibility for risk management is delegated to senior managers with individual accountability for decision making. All our people have a role to play in risk management. These roles are defined using the three lines of defence model, which takes into account our business and functional structures, including regulatory compliance and financial crime, as described in the following commentary, 'Our responsibilities'.

We use a defined executive risk governance structure to help ensure there is appropriate oversight and accountability of risk, which facilitates reporting and escalation to the Group Risk Management Meeting. This structure is summarised in the following table.

Governance structure for the management of risk and compliance

Authority	Membership	Responsibilities include:
Group Risk Management Meeting	Group Chief Risk and Compliance Officer Group Chief Legal Officer Group Chief Executive Group Chief Financial Officer Group Head of Financial Crime and Group Money Laundering Reporting Officer All other Group Executive Committee members	– Supporting the Group Chief Risk and Compliance Officer in exercising Board-delegated risk management authority – Overseeing the implementation of risk appetite and the risk management framework – Forward-looking assessment of the risk environment, analysing possible risk impacts and taking appropriate action – Monitoring all categories of risk and determining appropriate mitigating action – Promoting a supportive Group culture in relation to risk management and conduct

Governance structure for the management of risk and compliance (continued)

Authority	Membership	Responsibilities include:
Group Risk and Compliance Executive Committee	Group Chief Risk and Compliance Officer Chief risk and compliance officers of HSBC's global businesses Regional chief risk and compliance officers and chief risk officers Heads of Global Risk and Compliance sub-functions	– Supporting the Group Chief Risk and Compliance Officer in providing strategic direction for the Group Risk and Compliance function, setting priorities and providing oversight – Overseeing a consistent approach to accountability for, and mitigation of, risk and compliance across the Group
Global business/regional risk management meetings	Global business/regional chief risk and compliance officers and chief risk officers Global business/regional chief executive officers Global business/regional chief financial officers Global business/regional heads of global functions	– Supporting the Group Chief Risk and Compliance Officer in exercising Board-delegated risk management authority – Forward-looking assessment of the risk environment – Implementation of risk appetite and the risk management framework – Monitoring all categories of risk and overseeing appropriate mitigating actions – Embedding a supportive culture in relation to risk management and controls

The Board committees with responsibility for oversight of risk-related matters are set out on page 252.

Treasury risks are the responsibility of the Group Executive Committee and the Group Risk Committee. Global Treasury actively manages these risks, supported by the Holdings Asset and Liability Management Committee ('ALCO') and local ALCOs, overseen by Treasury Risk Management and the Group Risk Management Meeting. Further details on treasury risk management are set out on page 203.

Our responsibilities

All our people are responsible for identifying and managing risk within the scope of their roles. Roles are defined using the three lines of defence model, which takes into account our business and functional structures as described below.

Three lines of defence

To create a robust control environment to manage risks, we use an activity-based three lines of defence model. This model delineates management accountabilities and responsibilities for risk management and the control environment.

The model underpins our approach to risk management by clarifying responsibility and encouraging collaboration, as well as enabling effective coordination of risk and control activities. The three lines of defence are summarised below:

- The first line of defence owns the risks and is responsible for identifying, recording, reporting and managing them in line with risk appetite, and ensuring that the right controls and assessments are in place to mitigate them.
- The second line of defence challenges the first line of defence on effective risk management, and provides advice, guidance and assurance of the first line of defence to ensure it is managing risk effectively.
- The third line of defence is our Global Internal Audit function, which provides independent assurance as to whether our risk management approach and processes are designed and operating effectively.

Group Risk and Compliance function

Our Group Risk and Compliance function is responsible for the Group's risk management framework. This responsibility includes establishing global policy, monitoring risk profiles, and identifying and managing forward-looking risk. Group Risk and Compliance is made up of sub-functions covering all risks to our business. Forming part of the second line of defence, the Group Risk and Compliance function is independent from the global businesses, including sales and trading functions. It provides challenge, appropriate oversight and balance in risk/return decisions.

Responsibility for minimising both financial and non-financial risk, including regulatory compliance and financial crime, lies with our people. They are required to manage the risks of the business and operational activities for which they are responsible. We maintain adequate oversight of our risks through our various specialist risk stewards and the collective accountability held by our chief risk and compliance officers.

We have continued to strengthen the control environment and our approach to the management of risk, as set out in our risk management framework. Our ongoing focus is on helping to ensure more effective oversight and better end-to-end identification and management of financial and non-financial risks. This is overseen by the Enterprise Risk Management function, headed by the Global Head of Enterprise Risk Management.

Stress testing and recovery planning

Our stress testing programme assesses our capital and liquidity strength through a rigorous examination of our resilience to external shocks, and forms part of our risk management and capital and liquidity planning. As well as undertaking regulatory-driven stress tests, we conduct our own internal stress tests in order to understand the nature and level of material risks, quantify the impact of such risks and develop plausible mitigating actions. The outcome of a stress test provides management with key insights into the impact of severely adverse events on the Group and provides an indication of resilience to regulators on the Group's financial stability.

Internal stress tests

Our internal capital assessment uses a range of stress scenarios that explore risks identified by management. They include potential adverse macroeconomic, geopolitical, climate and operational risk events, as well as other potential events that are specific to HSBC.

The selection of stress scenarios is based upon the output of our identified top and emerging risks and our risk appetite. Stress testing analysis helps management understand the nature and extent of vulnerabilities to which the Group is exposed. Using this information, management decides whether risks can or should be mitigated through management actions or, if they were to crystallise, be absorbed through capital and liquidity. This in turn informs decisions about preferred capital and liquidity levels and allocations.

During 2023, we completed a Group-wide internal stress test alongside testing of the Group's strategy, otherwise known as the corporate plan, to test and inform our strategy and assumptions. The stress scenario explored the potential impact of interest rate shocks and a deep recession. Under this scenario, inflation re-intensifies as accentuated geopolitical tensions lead to severe global supply chain disruptions and a rise in energy prices.

In addition to the Group-wide stress testing scenarios, each major subsidiary conducts regular macroeconomic and event-driven scenario analysis specific to its region. They also participate, as required, in the regulatory stress testing programmes of the jurisdictions in which they operate, such as stress tests required by the Bank of England

('BoE') in the UK, the Federal Reserve Board ('FRB') in the US, and the Hong Kong Monetary Authority ('HKMA') in Hong Kong. Global functions and businesses also perform bespoke stress testing to inform their assessment of risks to potential scenarios.

We also conduct reverse stress tests each year at Group level and, where required, at subsidiary entity level to understand potential extreme conditions that would make our business model non-viable. Reverse stress testing identifies potential stresses and vulnerabilities we might face, and helps inform early warning triggers, management actions and contingency plans designed to mitigate risks.

Recovery and resolution plans

Recovery and resolution plans form part of the integral framework safeguarding the Group's financial stability. The Group recovery plan, together with stress testing, help us understand the likely outcomes of adverse business or economic conditions and in the identification of appropriate risk mitigating actions. The Group is committed to further developing its recovery and resolution capabilities, including in relation to the Resolvability Assessment Framework.

Ibor transition

Interbank offered rates ('Ibors') were previously used extensively to set interest rates on different types of financial transactions and for valuation purposes, risk measurement and performance benchmarking.

The publication of sterling, Swiss franc, euro, Japanese yen and US dollar Libor interest rate benchmarks, as well as the Euro Overnight Index Average ('Eonia') and other local interbank interest rates globally, has ceased following regulatory announcements and industry initiatives. To support any remaining contracts referencing sterling and US dollar Libor benchmarks, the UK's Financial Conduct Authority ('FCA') has compelled the ICE Benchmark Administration Limited to publish the three-month sterling Libor setting using an alternative 'synthetic' methodology until 31 March 2024, and the one-month, three-month and six-month US dollar Libor settings until 30 September 2024. We continue to support our customers in the transition of the limited number of outstanding contracts relying on 'synthetic' Libor benchmarks in line with these dates.

There are approximately 90 of these contracts remaining, which are predominantly syndicated lending contracts, where Commercial Banking and Global Banking customers have required additional time to enable refinancing or restructuring, with transition expected to be completed prior to 30 September 2024. Additionally, there are a small number of Group-issued MREL and capital securities and client retail mortgages that are contingent on demised Ibors after the end of their fixed interest rate periods. HSBC remains committed to seeking to remediate and/or mitigate relevant risks relating to Ibor-demise, as appropriate, for these contracts. HSBC expects to be able to remediate and/or mitigate these risks by the relevant interest rate calculation dates, which may occur post-cessation of the relevant Ibor. All other contracts referencing benchmarks that are no longer published have been transitioned in line with client and investor discussions.

Although we continue to track the transition of remaining contracts to alternative interest rate benchmarks, overall, our regulatory compliance, conduct and legal risks have materially diminished. We will continue to monitor until all contracts are fully transitioned.

Key developments in 2023

In 2023, we actively managed the risks related to macroeconomic and geopolitical uncertainties, as well as other key risks described in this section. In addition, we sought to enhance our risk management in the following areas:

- We enhanced our model risk frameworks and controls as we seek to manage the increasing numbers of climate risk, artificial intelligence ('AI') and machine learning models being embedded in business processes. Focus is also on generative AI due to the pace of technological changes and regulatory and wider interest in adoption and usage.
- We implemented two revised risk appetite frameworks to better manage and strengthen our controls with respect to concentration risks. These relate to concentration risks arising from exposures to countries and territories, and to single customer groups.
- We enhanced our processes, framework and capabilities to seek to improve the control and oversight of our material third parties, and to help maintain our operational resilience and meet new and evolving regulatory requirements.
- We continued to make progress with our comprehensive regulatory reporting programme in seeking to strengthen our global processes, improve consistency and enhance controls across regulatory reports.
- Through our climate risk programme, we continued to embed climate considerations throughout the organisation, including through risk policy updates and the completion of our annual climate risk materiality assessment. We also developed risk metrics to monitor and manage exposures, and further enhanced our internal climate scenario analysis.
- We deployed industry-leading technology and advanced analytics capabilities into new markets to improve our ability to identify suspicious activities and prevent financial crime.
- We continued to develop and enhance our electronic communication policies and standards to help ensure that we act on the most substantive issues. A Group-wide approach to providing corporate device access is being implemented to meet regulatory expectations.
- We are embedding our suite of regulatory management systems following the Group-wide roll-out of regulatory horizon scanning capabilities, and enhanced regulation mapping tooling.
- We continued to stabilise our net interest income, despite the fluctuations in interest rate expectations, driven by central bank rate increases and a reassessment of the trajectory of inflation in major economies.

Top and emerging risks

We use a top and emerging risks process to provide a forward-looking view of issues with the potential to threaten the execution of our strategy or operations over the medium to long term.

We proactively assess the internal and external risk environment, as well as review the themes identified across our regions and global businesses, for any risks that may require global escalation. We update our top and emerging risks as necessary.

Our current top and emerging risks are as follows.

Externally driven

Geopolitical and macroeconomic risks

HSBC faces elevated geopolitical risks, with the Russia-Ukraine war continuing to have global economic and political implications, and the Israel-Hamas war increasing tensions in the Middle East, leading to recent attacks on shipping in the Red Sea and countermeasures, which have begun to disrupt supply chains. HSBC is monitoring and assessing the impacts of these wars.

The Russia-Ukraine war has continued to elevate geopolitical instability, which could have continued ramifications for the Group and its customers. HSBC continues to monitor and respond to financial sanctions and trade restrictions that have been adopted in response. These sanctions and trade restrictions are complex, novel and evolving. In particular, the US, the UK and the EU, as well as other countries, have imposed significant sanctions and trade restrictions against Russia. Such sanctions and restrictions target certain Russian government officials, politically exposed persons, business people, Russian oil imports, energy products, financial institutions and other major Russian companies and sanctions evasion networks. These countries have also enacted more generally applicable investment, export, and import bans and restrictions. In December 2023, the US established a new secondary sanctions regime, providing itself broad discretion to impose severe sanctions on non-US banks that are knowingly or even unknowingly engaged in certain transactions or services involving Russia's military-industrial base. This creates challenges associated with the detection or prevention of third-party activities beyond HSBC's control. The imposition of such sanctions against any non-US HSBC entity could result in significant adverse commercial, operational, and reputational consequences for HSBC, including the restriction or termination of the non-US HSBC entity's ability to access the US financial system and the freezing of the entity's assets that are subject to US jurisdiction. In response to such sanctions and trade restrictions, as well as asset flight, Russia has implemented certain countermeasures, including the expropriation of foreign assets.

Our business in Russia principally serves multinational corporate clients headquartered in other countries, is not accepting new business or customers and is consequently on a declining trend. Following a strategic review, HSBC Europe BV (a wholly-owned subsidiary of HSBC Bank plc) has entered into an agreement to sell its wholly-owned subsidiary HSBC Bank (RR) (Limited Liability Company), subject to regulatory and governmental approvals. The planned sale of our business in Russia became less certain and remains subject to regulatory approval.

The US-China relationship remains complex. To date, the US, the UK, the EU and other countries have imposed various sanctions and trade restrictions on Chinese persons and companies, and the countries' respective approaches to strategic competition with China continue to develop. Although sanctions and trade restrictions are difficult to predict, increases in diplomatic tensions between China and the US and other countries could result in further sanctions and trade restrictions that could negatively impact the Group, its customers and the markets in which the Group operates. For example, there is a continued risk of additional sanctions and trade restrictions being imposed by the US and other governments in relation to human rights, technology, and other issues, and this could create a more complex operating environment for the Group and its customers.

China, in turn, imposed a number of its own sanctions and trade restrictions that target, or provide authority to target, foreign individuals and companies as well as certain goods such as rare earth minerals and metals, and technology and services. These, as well as certain law enforcement measures, have been imposed against certain countries, Western consulting and data intelligence firms, defence companies and public officials associated with the implementation of foreign sanctions against China.

Further sanctions, counter-sanctions and trade restrictions may adversely affect the Group, its customers and the markets in which the Group operates, by creating regulatory, reputational and market risks.

Economic and financial risks also remain significant, and we continue to monitor our risk profile closely in the context of uncertainty over global macroeconomic policies.

A fall in global energy and food prices from the highs of 2022 facilitated a process of disinflation across key economies during 2023. To date, the Israel-Hamas war has not materially disrupted energy supply, and non-OPEC producers, including the US, increased output in the fourth quarter of 2023. Similarly, geopolitical developments in the Middle East have not to date led to a sustained increase in energy prices, but disruption and further price volatility continue to be a risk. The escalation or a broadening of either the Russia-Ukraine war or the Israel-Hamas war could aggravate supply chain disruptions and drive inflation higher and may pose challenges for our customers and our business.

Following the reduction in global inflation rates, central banks in most developed markets are expected to have concluded monetary policy tightening in the second half of 2023. A further fall in inflation is expected to enable reductions in interest rates throughout 2024, although forecasts still assume that they remain materially higher than in recent years. Higher financing costs will raise interest payment burdens for many counterparties.

Fiscal deficits are also expected to remain large in both developed and emerging markets, as public spending on items including social welfare, defence and climate transition initiatives is expected to remain high. In many countries, the fiscal response to the Covid-19 pandemic has also left a very high public debt burden. Against a backdrop of slower economic growth and high interest rates, a rise in borrowing costs could increase the financial strains on highly indebted sovereigns.

Political changes may also have implications for policy. Many countries are expected to hold elections in 2024. This may result in continuity in some markets, but significant political and policy change in others. Political change could bring uncertainty to the political and legal frameworks in markets where the Group operates.

Sector-specific risks are also closely monitored. Mainland China commercial real estate conditions remain distressed as offshore financing conditions and buyer demand remain subdued. Signs of a material or sustained recovery are yet to emerge, with market data still reflecting reduced investment and weak sentiment. The Chinese government is expected to expand fiscal and monetary support to the economy to boost growth and lending in 2024, including specific measures to support developers and stimulate housing demand. However, the risk of a slow and protracted recovery remains significant. The business and financial performance of corporates operating in this market has been weak, and refinancing risks are likely to continue in 2024. State-owned enterprises continue to outperform privately-owned enterprises in general, with above market average sales performance, market share gains and greater access to funding. The challenges in this sector could create further pressure on our customers. We continue to closely monitor and take actions to proactively risk manage our portfolio.

Macroeconomic, financial and geopolitical risks have all impacted our macroeconomic risk scenarios. Our Central scenario, which has the highest probability weighting in our IFRS 9 'Financial Instruments' calculations of ECL, assumes that GDP growth rates in our main markets will slow down in 2024, followed by a moderate recovery in

2025. It is anticipated that inflation will converge towards central banks' target rates by early 2025. Similarly, interest rates are expected to decline but remain materially higher than in recent years. We also consider scenarios where commodity prices are materially higher, inflation and interest rates rise and a global recession follows, although we assign these scenarios a lower probability of occurring.

Forecasts remain uncertain, and changing economic conditions and the materialisation of key risks could reduce the accuracy of the Central scenario forecast. In particular, forecasts in recent years have been sensitive to commodity price changes, changing supply chain conditions, monetary policy adjustments and inflation expectations. Uncertainty remains with respect to the relationship between the economic factors and historical loss experience, which has required adjustments to modelled ECL in cases where we determined that the model was unable to capture the material underlying risks.

Despite these risks, forecast stability and reduced forecast dispersion in our main markets ensured that the Central scenario for impairment was assigned the same likelihood of occurrence across our key markets.

For further details of our Central and other scenarios, see 'Measurement uncertainty and sensitivity analysis of ECL estimates' on page 156.

Global tensions over trade, technology and ideology are manifesting themselves in divergent regulatory standards and compliance regimes, presenting long-term strategic challenges for multinational businesses.

As the geopolitical landscape evolves, compliance by multinational corporations with their legal or regulatory obligations in one jurisdiction may be seen as supporting the law or policy objectives of that jurisdiction over another, creating additional compliance, reputational and political risks for the Group. We maintain dialogue with our regulators in various jurisdictions on the impact of legal and regulatory obligations on our business and customers.

The financial impact on the Group of geopolitical risks in Asia is heightened due to the region's relatively high contribution to the Group's profitability, particularly in Hong Kong.

While it is the Group's policy to comply with all applicable laws and regulations of all jurisdictions in which it operates, geopolitical tensions, and potential ambiguities in the Group's compliance obligations, will continue to present challenges and risks for the Group and could have a material adverse impact on the Group's business, financial condition, results of operations, prospects, strategy and reputation, as well as on the Group's customers.

Mitigating actions

- We closely monitor geopolitical and economic developments in key markets and sectors, and undertake scenario analysis where appropriate. This helps us to take actions to manage our portfolios where necessary, including through enhanced monitoring, amending our risk appetite and/or reducing limits and exposures.
- We stress test portfolios of particular concern to identify sensitivity to loss under a range of scenarios, with management actions being taken to rebalance exposures and manage risk appetite where necessary.
- We regularly review key portfolios – including our commercial real estate portfolio – to help ensure that individual customer or portfolio risks are understood and that our ability to manage the level of facilities offered through any downturn is appropriate.
- We continue to seek to manage sanctions and trade restrictions through the use of reasonably designed policies, procedures and controls, which are subject to ongoing testing, auditing and enhancements.
- We have taken steps, where necessary, to enhance physical security in geographical areas deemed to be at high risk from terrorism and military conflicts.

Technology and cybersecurity risk

Like other organisations, we operate in an extensive and complex technology landscape. We need to remain resilient in order to support customers, our colleagues and financial markets globally. Risks arise where, for example, technology is not understood, maintained or developed appropriately. We also continue to operate in an increasingly complex cyber threat environment globally. These threats include potential unauthorised access to customer accounts and attacks on systems, whether ours or our third-party suppliers'. These threats require ongoing investment in business and technical controls to defend against them.

Mitigating actions

- We continue to upgrade many of our IT systems and are transforming how software solutions are developed, delivered, maintained and tested as part of our investment in the Group's operational resilience capabilities to seek to meet the expectations of our customers and regulators and to help prevent disruptions to our services.
- Our cyber intelligence and threat analysis team continually evaluate threat levels for the most prevalent cyber-attack types and their potential outcomes (see page 98), and we continue to seek to strengthen our controls to help reduce the likelihood and impact of advanced malware, data leakage, exposure through third parties and security vulnerabilities.
- We continue to seek to enhance our cybersecurity capabilities, including Cloud security, identity and access management, metrics and data analytics, and third-party security reviews and to invest in mitigating the potential threats of emerging technologies.
- We regularly report and review cyber risk and control effectiveness at executive level across global businesses, functions and regions, as well as at non-executive Board level to help ensure there is appropriate visibility and governance of the risk and its mitigating actions.
- We participate globally in industry bodies and working groups to collaborate on tactics employed by cyber-crime groups and to work together to seek to prevent, detect and defend against cyber-attacks on financial organisations globally.
- We respond to attempts to compromise our cybersecurity in accordance with our cybersecurity framework, which adheres to applicable laws, rules and regulations. To date, none of these attacks have had a material impact on our business or operations.

Environmental, social and governance ('ESG') risk

We are subject to financial and non-financial risks associated with ESG-related matters. Our current areas of focus include climate risk, nature-related risks and human rights risks. These can impact us both directly and indirectly through our business activities and relationships. For details of how we govern ESG, see page 88.

Our assessment of climate risks covers three distinct time periods, comprising: short term, which is up to 2025; medium term, which is between 2026 and 2035; and long term, which is between 2036 and 2050. These time periods are aligned to the Climate Action 100+ framework v1.2.

We may face credit losses if our customers' business models fail to align to a net zero economy or if our customers face disruption to their operations or deterioration to their assets as a result of extreme weather.

We may face trading losses if climate change results in changes to macroeconomic and financial variables that negatively impact our trading book exposures.

We may face impacts from physical risk on our own operations and premises, owing to the increase in frequency and severity of weather events and chronic shifts in weather patterns, which could affect our ability to conduct our day-to-day operations.

We may face increased reputational, legal, and regulatory compliance risks if we fail to make sufficient progress towards our net zero ambition, and ESG-related targets, commitments and ambitions, if we fail to meet evolving regulatory expectations and requirements on the management of climate risk and broader ESG risks, or if we knowingly or unknowingly make inaccurate, unclear, misleading, or unsubstantiated claims regarding sustainability to our stakeholders.

Requirements, policy objectives, expectations or views may vary by jurisdiction and stakeholder in relation to ESG-related matters. We may be subject to potentially conflicting approaches to ESG matters in certain jurisdictions, which may impact our ability to conduct certain business within those jurisdictions or result in additional regulatory compliance, reputational, political or litigation risks. These risks may also arise from divergence in the implementation of ESG, climate policy and financial regulation in the many regions in which we operate, including initiatives to apply and enforce policy and regulation with extraterritorial effect.

We may face financial reporting risk in relation to our climate-related and broader ESG disclosures, as any data, methodologies, scenarios and reporting standards we have used may evolve over time in line with market practice, regulation or developments in science. We may also face the risk of making reporting errors due to issues relating to the availability, accuracy and verifiability of data, and system, process and control challenges. Any changes and reporting errors could result in revisions to our internal frameworks and reported data and could mean that reported figures are not reconcilable or comparable year on year. We may also have to re-evaluate our progress towards our climate-related targets in the future.

We may face model risk, as the uncertain and evolving impacts of climate change and data and methodology limitations present challenges to creating reliable and accurate model outputs.

We may face climate and broader ESG-related litigation and regulatory enforcement risks, either directly if stakeholders think that we are not adequately managing climate and broader ESG-related risks, or indirectly if our clients and customers are themselves the subject of litigation, potentially resulting in the revaluation of client assets.

We may also be exposed to nature-related risks beyond climate change. These risks arise when the provision of ecosystem services, such as water availability, air quality and soil quality, is compromised by human activity. Nature risk can manifest through macroeconomic, market, credit, reputational, legal and regulatory risks, for both HSBC and our customers.

Regulation and disclosure requirements in relation to human rights, and to modern slavery in particular, are increasing. Businesses are expected to be transparent about their efforts to identify and respond to the risk of negative human rights impacts arising from their business activities and relationships.

Mitigating actions

- A dedicated Environmental Risk Oversight Forum is responsible for shaping and overseeing our approach and providing support in managing climate and sustainability risk. For further details of the Group's ESG governance structure, see page 88.
- Our climate risk programme continues to support the development of our climate risk management capabilities across four key pillars: governance and risk appetite, risk management, stress testing and scenario analysis, and disclosures. We continue to enhance our approach and mitigation of the risk of greenwashing.
- In January 2024, we updated our energy policy covering the broader energy system including upstream oil and gas, oil and gas power generation, coal, hydrogen, renewables and hydropower, nuclear, biomass and energy from waste. We also updated our thermal coal phase-out policy, which aims to drive thermal coal phase-out aligned to science-based timeframes. We take a risk-based approach in the way that we identify transactions and clients to which our energy and thermal coal phase-out policies apply, and report on relevant exposures, adopting approaches proportionate to risk and materiality. For further details of our sustainability risk policies, see page 67.
- In 2023, we conducted pilot exercises to assess nature risk exposures, focusing on our continental Europe portfolios in line with regulatory expectations.
- In 2023, we provided practical guidance and training, where relevant, to our colleagues across the Group on how to identify and manage human rights risk. For further details, see page 89.
- We have expanded the scope of financial reporting risk to explicitly include oversight over accuracy and completeness of climate-related and broader ESG disclosures. In 2023, we updated the risk appetite statement to reference our ESG and climate-related disclosures. We also updated our internal controls to incorporate requirements for addressing the risk of misstatement in climate-related and broader ESG disclosures. To support this, we have developed a framework to guide control implementation over climate-related and broader ESG disclosures, which includes areas such as process and data governance, and risk assessment.
- We continue to engage with our customers, investors and regulators proactively on the management of climate-related and broader ESG risks. We also engage with initiatives, including the Climate Financial Risk Forum, Equator Principles, Task Force on Climate-related Financial Disclosures and CDP (formerly the Carbon Disclosure Project) to help drive best practice for climate risk management.

For further details of our approach to climate risk management, see 'Climate risk' on page 221.

For further details of ESG risk management, see 'Financial crime risk' on page 231 and 'Regulatory compliance risk' on page 231.

Our ESG review can be found on page 42.

Financial crime risk

Financial institutions remain under considerable regulatory scrutiny regarding their ability to detect and prevent financial crime. In 2023, these risks were exacerbated by rising geopolitical tensions and ongoing macroeconomic factors. These challenging developments require managing conflicting laws and approaches to legal and regulatory regimes, and implementing increasingly complex and less predictable sanctions and trade restrictions.

Amid high levels of inflation and increasing cost of living pressures, we face increasing regulatory expectations with respect to managing internal and external fraud and protecting vulnerable customers. In addition, the accessibility and increasing sophistication of generative AI brings financial crime risks. While there is potential for the technology to support financial crime detection, there is also a risk that criminals use generative AI to perpetrate fraud, particularly scams.

The digitisation of financial services continues to have an impact on the payments ecosystem, with an increasing number of new market entrants and payment mechanisms, not all of which are subject to the same level of regulatory scrutiny or regulations as banks. Developments around digital assets and currencies have continued at pace, with an increasing regulatory and enforcement focus on the financial crimes linked to these types of assets.

Expectations continue to increase with respect to the intersection of ESG issues and financial crime, as our organisation, customers and suppliers transition to net zero. These are particularly focused on potential 'greenwashing', human rights issues and environmental crimes. In addition, climate change itself could heighten risks linked to vulnerable migrant populations in countries where financial crime is already more prevalent.

We also continue to face increasing challenges presented by national data privacy requirements, which may affect our ability to manage financial crime risks across markets.

Mitigating actions

- We continue to seek to manage sanctions and trade restrictions through the use of reasonably designed policies, procedures and controls, which are subject to ongoing testing, auditing and enhancements.
- We continue to develop our fraud controls and invest in capabilities to fight financial crime through the application of

advanced analytics and AI, while monitoring technological developments and engaging with third parties.

- We are looking at the impact of a rapidly changing payments ecosystem, as well as risks associated with direct and indirect exposure to digital assets and currencies, in an effort to maintain appropriate financial crime controls.
- We regularly review our existing policies and control framework so that developments relating to ESG are considered and the financial crime risks are mitigated to the extent possible.
- We engage with regulators, policymakers and relevant international bodies, seeking to address data privacy challenges through international standards, guidance and legislation.

Digitalisation and technological advances risk

Developments in technology and changes to regulations are enabling new entrants to the industry, particularly with respect to payments. This challenges us to continue innovating to address evolving customer requirements, drive efficiency and adapt our products to attract and retain customers. As a result, we may need to increase our investment in our business to adapt or develop products and services to respond to our customers' evolving needs. We also need to ensure that new digital capabilities do not weaken our resilience or wider risk management capabilities.

New technologies such as generative AI, large language models blockchain and quantum computing offer both business opportunities and potential risks for HSBC. As with the use of all technologies, we aim to maximise their potential while seeking to ensure a robust control environment is in place to help manage the inherent risks, such as the impact on encryption algorithms.

Mitigating actions:

- We continue to monitor this emerging risk and advances in technology, as well as changes in customer behaviours, to understand how these may impact our business.
- We assess new technologies to help develop appropriate controls and maintain resilience.
- We closely monitor and assess financial crime risk and the impact on payment transparency and architecture.

Evolving regulatory environment risk

We aim to keep abreast of the emerging regulatory compliance and conduct risk agenda. Current focus areas include but are not limited to: ESG agenda developments, including in particular managing the risk of 'greenwashing'; ensuring good customer outcomes, including addressing customer vulnerabilities due to cost of living pressures; enhancements to regulatory reporting controls; and employee compliance, including the use of e-communication channels.

The competitive landscape in which the Group operates may be impacted by future regulatory changes and government intervention.

Mitigating actions

- We monitor regulatory developments to understand the evolving regulatory landscape, and seek to respond with changes in a timely manner.
- We engage with governments and regulators, and respond to consultations with a view to help shape regulations that can be implemented effectively.
- We hold regular meetings with relevant authorities to discuss strategic contingency plans, including those arising from geopolitical issues.
- Our purpose-led conduct approach aligns to our purpose and values, in particular the value 'we take responsibility'.

Internally driven

Data risk

We use multiple systems and growing quantities of data to support our customers. Risk arises if data is incorrect, unavailable, misused, or unprotected. Along with other banks and financial institutions, we need to meet external regulatory obligations and laws that cover data, such as the Basel Committee on Banking Supervision's 239 guidelines and the General Data Protection Regulation.

Mitigating actions

- Through our global data management framework, we monitor the quality, availability and security of data that supports our customers and internal processes. We work towards resolving any identified data issues in a timely manner.
- We continue to make improvements to our data policies and to our control framework – which includes trusted sources, data flows and data quality – in order to enhance the end-to-end management of data risk.
- We have established a global data management utility and continue to simplify and unify data management activities across the Group.
- We seek to protect customer data through our data privacy framework, which establishes practices, design principles and guidelines that enable us to demonstrate compliance with data privacy laws and regulations.
- We continue to modernise our data and analytics infrastructure through investments in Cloud technology, data visualisation, machine learning and AI.
- We continue to educate our employees on data risk and data management. We have delivered regular mandatory training globally on how to protect and manage data appropriately.

Risks arising from the receipt of services from third parties

We use third parties to provide a range of goods and services. It is critical that we ensure we have appropriate risk management policies, processes and practices over the selection, governance and oversight of third parties and their supply chain, particularly for key activities that could affect our operational resilience. Any deficiency in the management of risks associated with our third parties could affect our ability to support our customers and meet regulatory expectations.

Mitigating actions

- We continue to monitor the effectiveness of the controls operated by our third-party providers and request third-party control reports, where required.
- We continue to enhance the effective management of our intra-Group arrangements using the same control standards as we have for external third-party arrangements.
- We have strengthened the way third-party risk is overseen and managed across all non-financial risks, and have enhanced our processes, framework and reporting capabilities to help improve the visibility of risk and enable more robust management of our material third parties by our global businesses, functions and regions.
- We are implementing the changes required by new regulations as set by our regulators.

Model risk

Model risk arises whenever business decision making includes reliance on models. We use models in both financial and non-financial contexts, as well as in a range of business applications such as customer selection, product pricing, financial crime transaction monitoring, creditworthiness evaluation and financial reporting. Assessing model performance is a continuous undertaking. Models can need redevelopment as market conditions change. Significant increases in global inflation and interest rates have impacted the reliability and accuracy of both credit and market risk models.

We continued to prioritise the redevelopment of internal ratings-based ('IRB') and internal model methods ('IMM') models, in relation to counterparty credit, as part of the IRB repair and Basel III programmes, with a key focus on enhancing the quality of data used as model inputs. Some models have been approved and a number are pending approval decisions from the UK's Prudential Regulation Authority ('PRA') and other key regulators. Some IMM and internal model approach ('IMA') models have been approved for use, and feedback has been received for some IRB models. Climate risk modelling is a key focus for the Group as HSBC's commitment to ESG has become a key part of the Group's strategy. Focus is also on AI and machine learning where the pace of technological advances is driving significant changes in modelling techniques.

Model risk remains a key area of focus given the regulatory scrutiny in this area, with local regulatory exams taking place in many jurisdictions and the PRA's publication of supervisory statement 1/23 (SS1/23) which provided revised principles on how model risk should be managed, as well as further developments in policy expected from other regulators.

Mitigating actions

- We have continued to embed the enhanced monitoring, review and challenge of expected credit loss model performance through our Model Risk Management function as part of a broader quarterly process to determine loss levels. The Model Risk Management team aims to provide effective review and challenge of any future redevelopment of these models.
- A programme of work is in progress to address the requirements of the new PRA guidance for managing model risk.
- Model Risk Governance committees at the Group, business and functional levels continue to provide oversight of model risk.
- A full review of the Group's model landscape is being undertaken across the organisation to ensure models are being deployed in line with global business strategy.
- Model Risk Management works closely with businesses to ensure that IRB/IMM/IMA models in development meet risk management, pricing and capital management needs. Global Internal Audit provides assurance over the risk management framework for models.
- Additional assurance work is performed by the model risk governance teams, which act as second lines of defence. The teams test whether controls implemented by model users comply with model risk policy and if model risk standards are adequate.
- Models using AI or generative AI techniques are validated and monitored to help ensure that risks that are determined by the algorithms have adequate oversight and review. A framework to manage the range of risks that are generated by these advanced techniques, and to recognise the multidisciplinary nature of these risks, is being developed.

Change execution risk

The needs of our customers are evolving faster than ever, particularly with regard to technological advancements and the global transition to a low-carbon economy. The resulting scale, complexity and pace of strategic and regulatory change have elevated the level of risk for executing such changes safely and efficiently.

Mitigating actions

- Change execution risk is part of our risk taxonomy and control library so that it is defined, assessed, managed, reported and overseen in the same way as our other material risks.
- Our change framework provides colleagues across all levels of the Group who deliver on strategic and organisational initiatives with a common and consistent understanding of their role in achieving value and outcomes.
- The Change Prioritisation and Oversight Committee oversees the prioritisation, strategic alignment and management of execution risk for all strategic change portfolios and initiatives.

Risks associated with workforce capability, capacity and environmental factors with potential impact on growth

Our global businesses and functions in all of our markets are exposed to risks associated with workforce capacity challenges, including challenges to retain, develop and attract high-performing employees in key labour markets, and compliance with employment laws and regulations. Failure to manage these risks may have an impact on the delivery of our strategic objectives. It could also result in poor customer outcomes or a breach of employment laws and regulations, which may lead to regulatory sanctions or legal claims.

Mitigating actions

- We seek to promote a diverse and inclusive workforce and provide health and well-being support. We continue to build our speak-up culture through active campaigns.
- We monitor hiring activities and levels of employee attrition, with each business and function putting in place plans to help ensure they have effective workforce forecasting to meet business demands.
- We monitor people risks that could arise due to organisational restructuring, helping to ensure we manage redundancies sensitively and support impacted employees. We encourage our people leaders to focus on talent retention at all levels, with an empathetic mindset and approach, while ensuring the whole proposition of working at HSBC is well understood.
- Our Future Skills curriculum helps provides skills that will help to enable employees and HSBC to be successful in the future.
- We develop succession plans for key management roles, with oversight from the Group Executive Committee.

Our material banking risks

The material risk types associated with our banking and insurance manufacturing operations are described in the following tables:

Description of risks – banking operations

<table>
<tr><th>Risks</th><th>Arising from</th><th>Measurement, monitoring and management of risk</th></tr>
<tr><td colspan="3">Credit risk (see page 147)</td></tr>
<tr><td>Credit risk is the risk of financial loss if a customer or counterparty fails to meet an obligation under a contract.</td><td>Credit risk arises principally from direct lending, trade finance and leasing business, but also from other products such as guarantees and derivatives.</td><td>Credit risk is:
– measured as the amount that could be lost if a customer or counterparty fails to make repayments;
– monitored using various internal risk management measures and within limits approved by individuals within a framework of delegated authorities; and
– managed through a robust risk control framework, which outlines clear and consistent policies, principles and guidance for risk managers; and by setting limits and appetite across geographical markets, portfolios or sectors.</td></tr>
<tr><td colspan="3">Treasury risk (see page 203)</td></tr>
<tr><td>Treasury risk is the risk of having insufficient capital, liquidity or funding resources to meet financial obligations and satisfy regulatory requirements, including the risk of adverse impact on earnings or capital due to structural and transactional foreign exchange exposures and changes in market interest rates, together with pension and insurance risk.</td><td>Treasury risk arises from changes to the respective resources and risk profiles driven by customer behaviour, management decisions or the external environment.</td><td>Treasury risk is:
– measured through risk appetite and more granular limits, set to provide an early warning of increasing risk, minimum ratios of relevant regulatory metrics, and metrics to monitor the key risk drivers impacting treasury resources;
– monitored and projected against appetites and by using operating plans based on strategic objectives together with stress and scenario testing; and
– managed through control of resources in conjunction with risk profiles, strategic objectives and cash flows.</td></tr>
<tr><td colspan="3">Market risk (see page 218)</td></tr>
<tr><td>Market risk is the risk of an adverse financial impact on trading activities arising from changes in market parameters such as interest rates, foreign exchange rates, asset prices, volatilities, correlations and credit spreads.</td><td>Market risk arises from both trading portfolios and non-trading portfolios.
Market risk for non-trading portfolios is discussed in the Treasury risk section on page 215.
Market risk exposures arising from our insurance operations are discussed on page 235.</td><td>Market risk is:
– measured using sensitivities, value at risk and stress testing, giving a detailed picture of potential gains and losses for a range of market movements and scenarios, as well as tail risks over specified time horizons;
– monitored using value at risk, stress testing and other measures; and
– managed using risk limits approved by the Group Risk Management Meeting and the risk management meetings in various global businesses.</td></tr>
<tr><td colspan="3">Climate risk (see page 221)</td></tr>
<tr><td>Climate risk relates to the financial and non-financial impacts that may arise as a result of climate change and the move to a net zero economy.</td><td>Climate risk can materialise through:
– physical risk, which arises from the increased frequency and severity of weather events;
– transition risk, which arises from the process of moving to a low-carbon economy;
– net zero alignment risk, which arises from failing to meet our net zero commitments or to meet external expectations related to net zero because of inadequate ambition and/or plans, poor execution, or inability to adapt to changes in the external environment; and
– the risk of greenwashing, which arises from the act of knowingly or unknowingly making inaccurate, unclear, misleading or unsubstantiated claims regarding sustainability to stakeholders.</td><td>Climate risk is:
– measured using risk metrics and stress testing;
– monitored against risk appetite statements; and
– managed through adherence to risk appetite thresholds, through specific policies, and through enhancements to processes and development of tools including the development of product market controls to manage the risk of greenwashing and the development of portfolio steering capabilities to manage our net zero targets.</td></tr>
<tr><td colspan="3">Resilience risk (see page 230)</td></tr>
<tr><td>Resilience risk is the risk of sustained and significant business disruption from execution, delivery, physical security or safety events, causing the inability to provide critical services to our customers, affiliates, and counterparties.</td><td>Resilience risk arises from failures or inadequacies in processes, people, systems or external events.</td><td>Resilience risk is:
– measured using a range of metrics with defined maximum acceptable impact tolerances, and against our agreed risk appetite;
– monitored through oversight of enterprise processes, risks, controls and strategic change programmes; and
– managed by continual monitoring and thematic reviews.</td></tr>
</table>

Description of risks – banking operations (continued)

Risks	Arising from	Measurement, monitoring and management of risk
Regulatory compliance risk (see page 231)		
Regulatory compliance risk is the risk associated with breaching our duty to clients and other counterparties, inappropriate market conduct (including unauthorised trading) and breaching related financial services regulatory standards.	Regulatory compliance risk arises from the failure to observe relevant laws, codes, rules and regulations and can manifest itself in poor market or customer outcomes and lead to fines, penalties and reputational damage to our business.	Regulatory compliance risk is: – measured by reference to risk appetite, identified metrics, incident assessments, regulatory feedback and the judgement and assessment of our regulatory compliance teams; – monitored against the first line of defence risk and control assessments, the results of the monitoring and control assurance activities of the second line of defence functions, and the results of internal and external audits and regulatory inspections; and – managed by establishing and communicating appropriate policies and procedures, training employees in them and monitoring activity to help ensure their observance. Proactive risk control and/or remediation work is undertaken where required.
Financial crime risk (see page 231)		
Financial crime risk is the risk that HSBC's products and services will be exploited for criminal activity. This includes fraud, bribery and corruption, tax evasion, sanctions and export control violations, money laundering, terrorist financing and proliferation financing.	Financial crime risk arises from day-to-day banking operations involving customers, third parties and employees.	Financial crime risk is: – measured by reference to risk appetite, identified metrics, incident assessments, regulatory feedback and the judgement of, and assessment by, our compliance teams; – monitored against the first line of defence risk and control assessments, the results of the monitoring and control assurance activities of the second line of defence functions, and the results of internal and external audits and regulatory inspections; and – managed by establishing and communicating appropriate policies and procedures, training employees in them and monitoring activity to help ensure their observance. Proactive risk control and/or remediation work is undertaken where required.
Model risk (see page 232)		
Model risk is the risk of the potential for adverse consequences from model errors or the inappropriate use of modelled outputs to inform business decisions.	Model risk arises in both financial and non-financial contexts whenever business decision making includes reliance on models.	Model risk is: – measured by reference to model performance tracking and the output of detailed technical reviews, with key metrics including model review statuses and findings; – monitored against model risk appetite statements, insight from the independent validations completed by the model risk management team, feedback from internal and external audits, and regulatory reviews; and – managed by creating and communicating appropriate policies, procedures and guidance, training colleagues in their application, and supervising their adoption to ensure operational effectiveness.

Our insurance manufacturing subsidiaries are regulated separately from our banking operations. Risks in our insurance entities are managed using methodologies and processes that are subject to Group oversight. Our insurance operations are also subject to many of the same risks as our banking operations, and these are covered by the Group's risk management processes. However, there are specific risks inherent to the insurance operations as noted below.

Description of risks – insurance manufacturing operations

Risks	Arising from	Measurement, monitoring and management of risk
Financial risk (see page 235)		
For insurance entities, financial risk includes the risk of not being able to effectively match liabilities arising under insurance contracts with appropriate investments and that the expected sharing of financial performance with policyholders under certain contracts is not possible.	Exposure to financial risk arises from: – market risk affecting the fair values of financial assets or their future cash flows; – credit risk; and – liquidity risk of entities being unable to make payments to policyholders as they fall due.	Financial risk is: – measured for credit risk, in terms of economic capital and the amount that could be lost if a counterparty fails to make repayments; for market risk, in terms of economic capital, internal metrics and fluctuations in key financial variables; and for liquidity risk, in terms of internal metrics including stressed operational cash flow projections; – monitored through a framework of approved limits and delegated authorities; and – managed through a robust risk control framework, which outlines clear and consistent policies, principles and guidance. This includes using product design, asset liability matching and bonus rates.
Insurance risk (see page 237)		
Insurance risk is the risk that, over time, the cost of insurance policies written, including claims and benefits, may exceed the total amount of premiums and investment income received.	The cost of claims and benefits can be influenced by many factors, including mortality and morbidity experience, as well as lapse and surrender rates.	Insurance risk is: – measured in terms of life insurance liabilities and economic capital allocated to insurance underwriting risk; – monitored through a framework of approved limits and delegated authorities; and – managed through a robust risk control framework, which outlines clear and consistent policies, principles and guidance. This includes using product design, underwriting, reinsurance and claims-handling procedures.

Credit risk

Contents

Overview

Credit risk is the risk of financial loss if a customer or counterparty fails to meet an obligation under a contract. Credit risk arises principally from direct lending, trade finance and leasing business, but also from other products such as guarantees and derivatives.

Credit risk management

Key developments in 2023

There were no material changes to the policies and practices for the management of credit risk in 2023. We continued to apply the requirements of IFRS 9 'Financial Instruments' within the Credit Risk sub-function. For our wholesale portfolios, we introduced new policies for the management of country risk, subordinated debt assessments, and a revised risk appetite framework. Implementation of these changes did not have a material impact on our wholesale portfolios.

We actively managed the risks related to macroeconomic uncertainties, including interest rates, inflation, fiscal and monetary policy, broader geopolitical uncertainties and conflicts.

For further details, see 'Top and emerging risks' on page 140.

Governance and structure

We have established Group-wide credit risk management and related IFRS 9 processes. We continue to assess the impact of economic developments in key markets on specific customers, customer segments or portfolios. As credit conditions change, we take mitigating actions, including the revision of risk appetites or limits and tenors, as appropriate. In addition, we continue to evaluate the terms under which we provide credit facilities within the context of individual customer requirements, the quality of the relationship, local regulatory requirements, market practices and our local market position.

Credit Risk sub-function

(Audited)

Credit approval authorities are delegated by the Board to the Group Chief Executive together with the authority to sub-delegate them. The Credit Risk sub-function in Group Risk and Compliance is responsible for the key policies and processes for managing credit risk, which include formulating Group credit policies and risk rating frameworks, guiding the Group's appetite for credit risk exposures, undertaking independent reviews and objective assessment of credit risk, and monitoring performance and management of portfolios.

The principal objectives of our credit risk management are:

- to maintain across HSBC a strong culture of responsible lending, and robust risk policies and control frameworks;
- to both partner and challenge our businesses in defining, implementing and continually re-evaluating our risk appetite under actual and scenario conditions; and
- to ensure there is independent, expert scrutiny of credit risks, their costs and their mitigation.

Key risk management processes

IFRS 9 'Financial Instruments' process

The IFRS 9 process comprises three main areas: modelling and data; implementation; and governance.

Modelling, data and forward economic guidance

We have established IFRS 9 modelling and data processes in various geographies, which are subject to internal model risk governance including independent review of significant model developments.

We have a centralised process for generating unbiased and independent global economic scenarios. Scenarios are subject to a process of review and challenge by a dedicated central team and individually for each region. Each quarter, the scenarios and probability weights are reviewed and checked for consistency with the economic conjuncture and current economic and financial risks. These are subject to final review and approval by senior management in a Forward Economic Guidance Global Business Impairment Committee.

Implementation

A centralised impairment engine performs the expected credit losses calculation using data, which is subject to a number of validation checks and enhancements, from a variety of client, finance and risk systems. Where possible, these checks and processes are performed in a globally consistent and centralised manner.

Governance

Regional management review forums are established in key sites and regions in order to review and approve the impairment results. Regional management review forums have representatives from Credit Risk and Finance. The key site and regional approvals are reported up to the relevant global business impairment committee for final approval of the Group's ECL for the period. Required members of the committee are the Wholesale Global Chief Corporate Credit Officer and Chief Risk and Compliance Officer for Wealth and Personal Banking Risk, as well as the relevant global business's Chief Financial Officer and the Global Financial Controller.

Concentration of exposure

(Audited)

Concentrations of credit risk arise when a number of counterparties or exposures have comparable economic characteristics, or such counterparties are engaged in similar activities or operate in the same geographical areas or industry sectors so that their collective ability to meet contractual obligations is uniformly affected by changes in economic, political or other conditions. We use a number of controls and measures to minimise undue concentration of exposure in our portfolios across industries, countries and global businesses. These include portfolio and counterparty limits, approval and review controls, and stress testing.

Credit quality of financial instruments

(Audited)

Our risk rating system facilitates the internal ratings-based approach under the Basel framework adopted by the Group to support the calculation of our minimum credit regulatory capital requirement. The five credit quality classifications encompass a range of granular internal credit rating grades assigned to wholesale and retail customers, and the external ratings attributed by external agencies to debt securities.

For debt securities and certain other financial instruments, external ratings have been aligned to the five quality classifications based upon the mapping of related customer risk rating ('CRR') to external credit rating.

Wholesale lending

The CRR 10-grade scale summarises a more granular underlying 23-grade scale of obligor probability of default ('PD'). All corporate customers are rated using the 10- or 23-grade scale, depending on the degree of sophistication of the Basel approach adopted for the exposure.

Each CRR band is associated with an external rating grade by reference to long-run default rates for that grade, represented by the average of issuer-weighted historical default rates. This mapping between internal and external ratings is indicative and may vary over time.

Retail lending

Retail lending credit quality is based on a 12-month point-in-time probability-weighted PD.

Credit quality classification

	Sovereign debt securities and bills	Other debt securities and bills	Wholesale lending and derivatives		Retail lending	
	External credit rating	External credit rating	Internal credit rating	12-month Basel probability of default %	Internal credit rating	12 month probability-weighted PD %
Quality classification[1,2]						
Strong	**BBB and above**	**A- and above**	**CRR 1 to CRR 2**	**0–0.169**	**Band 1 and 2**	**0.000–0.500**
Good	**BBB- to BB**	**BBB+ to BBB-**	**CRR 3**	**0.170–0.740**	**Band 3**	**0.501–1.500**
Satisfactory	**BB- to B and unrated**	**BB+ to B and unrated**	**CRR 4 to CRR 5**	**0.741–4.914**	**Band 4 and 5**	**1.501–20.000**
Sub-standard	**B- to C**	**B- to C**	**CRR 6 to CRR 8**	**4.915–99.999**	**Band 6**	**20.001–99.999**
Credit impaired	**Default**	**Default**	**CRR 9 to CRR 10**	**100**	**Band 7**	**100**

1 *Customer risk rating ('CRR').*
2 *12-month point-in-time probability-weighted probability of default ('PD').*

Quality classification definitions

- 'Strong' exposures demonstrate a strong capacity to meet financial commitments, with negligible or low probability of default and/or low levels of expected loss.
- 'Good' exposures require closer monitoring and demonstrate a good capacity to meet financial commitments, with low default risk.
- 'Satisfactory' exposures require closer monitoring and demonstrate an average-to-fair capacity to meet financial commitments, with moderate default risk.
- 'Sub-standard' exposures require varying degrees of special attention and default risk is of greater concern.
- 'Credit-impaired' exposures have been assessed as described on Note 1.2(i) on the financial statements.

Forborne loans and advances

(Audited)

Forbearance measures consist of concessions towards an obligor that is experiencing or about to experience difficulties in meeting its financial commitments.

We continue to class loans as forborne when we modify the contractual payment terms due to having significant concerns about the borrowers' ability to meet contractual payments when they were due. Our definition of forborne captures non-payment-related concessions, such as covenant waivers.

For details of our policy on forbearance, see Note 1.2(i) in the financial statements.

Credit quality of forborne loans

For wholesale lending, where payment-related forbearance measures result in a diminished financial obligation, or if there are other indicators of impairment, the loan will be classified as credit impaired if it is not already so classified. All facilities with a customer, including loans that have not been modified, are considered credit impaired following the identification of a payment-related forborne loan. For retail lending, where a material payment-related concession has been granted, the loan will be classified as credit impaired. In isolation, non-payment forbearance measures may not result in the loan being classified as credit impaired unless combined with other indicators of credit impairment. These are classed as performing forborne loans for both wholesale and retail lending.

Wholesale and retail lending forborne loans are classified as credit impaired until there is sufficient evidence to demonstrate a significant reduction in the risk of non-payment of future cash flows, observed over a minimum one-year period, and there are no other indicators of impairment. Any forborne loans not considered credit impaired will remain forborne for a minimum of two years from the date that credit impairment no longer applies. For wholesale and retail lending, any forbearance measures granted on a loan already classed as forborne results in the customer being classed as credit impaired.

Forborne loans and recognition of expected credit losses

(Audited)

Forborne loans expected credit loss assessments reflect the higher rates of losses typically experienced with these types of loans such that they are in stage 2 and stage 3. The higher rates are more pronounced in unsecured retail lending requiring further segmentation. For wholesale lending, forborne loans are typically assessed individually. Credit risk ratings are intrinsic to the impairment assessments. The individual impairment assessment takes into account the higher risk of the future non-payment inherent in forborne loans.

Impairment assessment

(Audited)

For details of our impairment policies on loans and advances and financial investments, see Note 1.2(i) on the financial statements.

Write-off of loans and advances

(Audited)

Under IFRS 9, write-off should occur when there is no reasonable expectation of recovering further cash flows from the financial asset.

This principle does not prohibit early write-off, which is defined in local policies to ensure effectiveness in the management of customers in the collections process.

Unsecured personal facilities, including credit cards, are generally written off at between 150 and 210 days past due. The standard period runs until the end of the month in which the account becomes 180 days contractually delinquent. However, in exceptional circumstances, to avoid unfair customer outcomes, deliver customer duty or meet regulatory expectations, the period may be extended further.

For secured facilities, write-off should occur upon repossession of collateral, receipt of proceeds via settlement, or determination that recovery of the collateral will not be pursued. Where these assets are maintained on the balance sheet beyond 60 months of consecutive delinquency-driven default, the prospect of recovery is reassessed.

Recovery activity, on both secured and unsecured assets, may continue after write-off.

Any unsecured exposures that are not written off at 180 days past due, and any secured exposures that are in 'default' status for 60 months or greater but are not written off, are subject to additional monitoring via the appropriate governance forums.

Credit risk in 2023

At 31 December 2023, gross loans and advances to customers and banks of $1,063bn increased by $23.1bn, compared with 31 December 2022. This included favourable foreign exchange movements of $17.7bn.

Excluding foreign exchange movements, the underlying increase of $5.4bn was driven by a $21.1bn rise in personal loans and advances to customers and a $8.9bn rise in loans and advances to banks. These were partly offset by a $24.6bn decrease in wholesale loans and advances to customers.

The underlying increase in personal loans and advances to customers was mainly driven by an increase in France (up $7.8bn) due to the retention of a portfolio of home loans and other loans previously classified as assets held for sale. It also comprised increases in the UK (up $6.6bn), in Hong Kong (up $5.8bn), in Mexico (up $2.3bn) and in Australia (up $1.4bn) driven by mortgage growth. These were partly offset by a decrease of $1.2bn due to the merger of our business in Oman and a decrease of $1.0bn due to the disposal of our retail mortgage loan portfolio in New Zealand.

The underlying increase in loans and advances to banks was driven by central bank balances and money market lending growth in Singapore (up $6.5bn), Hong Kong (up $5.1bn) and the UK (up $2.8bn). These were partly offset by decreases in mainland China (down $2.6bn), Malaysia (down $1.6bn) and Switzerland (down $1.4bn).

The underlying decrease in wholesale loans and advances to customers was driven by a $31.5bn reduction in corporate and commercial balances, of which $13.7bn in stage 1 and $16.8bn in stage 2. The decrease was observed mainly in Hong Kong (down $18.6bn), in the UK (down $5.4bn) and in mainland China (down $2.2bn), driven by repayments and deleveraging, as well as de-risking measures on mainland China commercial real estate exposures. It also comprised a decrease in Oman (down $2.1bn) due to the merger of our operations in the country. This was partly offset by an increase in balances with non-bank financial institutions (up $6.8bn) mainly in stage 1 in HSBC UK (up $5.2bn) due to the acquisition of SVB UK.

At 31 December 2023, the allowance for ECL of $12.0bn decreased by $0.6bn compared with 31 December 2022, including adverse foreign exchange movements of $0.2bn. The $12.0bn allowance comprised $11.5bn in respect of assets held at amortised cost, $0.4bn in respect of loan commitments and financial guarantees, and $0.1bn in respect of debt instruments measured at fair value through other comprehensive income ('FVOCI').

Excluding foreign exchange movements, the allowance for ECL in relation to loans and advances to customers decreased by $0.6bn from 31 December 2022. This was attributable to:

- a $0.5bn decrease in wholesale loans and advances to customers driven by stages 1 and 2; and
- a $0.1bn decrease in personal loans and advances to customers driven by stages 1 and 2.

Stage 3 balances and allowances for ECL at 31 December 2023 remained broadly stable compared with 31 December 2022, as write-offs and repayments offset new and additional allowances.

In wholesale lending, mainland China's commercial real estate sector continued to deteriorate in 2023, resulting in new and additional stage 3 charges during the year.

The ECL charge for 2023 was $3.4bn, inclusive of recoveries. This was driven by net stage 3 charges, including $1.0bn in the mainland China commercial real estate sector, as well as the impact of continued economic uncertainty in other markets, rising interest rates and inflationary pressures.

The ECL charge comprised: $2.3bn in respect of wholesale lending, of which the stage 3 charge was $2.2bn; $1.0bn in respect of personal lending, of which $0.7bn were in stage 3; and $0.1bn in respect of debt instruments measured at FVOCI.

Income statement movements are analysed further on page 103.

While credit risk arises across most of our balance sheet, ECL have typically been recognised on loans and advances to customers and banks, in addition to securitisation exposures and other structured products. As a result, our disclosures focus primarily on these two areas. For further details of:

- maximum exposure to credit risk, see page 155;
- measurement uncertainty and sensitivity analysis of ECL estimates, see page 156;
- reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees, see page 168;
- credit quality, see page 172;
- total wholesale lending for loans and advances to banks and customers by stage distribution, see page 177;
- wholesale lending collateral, see page 187;
- total personal lending for loans and advances to customers at amortised cost by stage distribution, see page 191; and
- personal lending collateral, see page 197.

Summary of credit risk

We have adopted the recommendations of the Taskforce on Disclosures about Expected Credit Losses ('DECL') to provide disclosures that help investors and other stakeholders better understand the risks we manage.

The DECL Taskforce, which was jointly established by the Financial Conduct Authority, Financial Reporting Council and the Prudential Regulation Authority, was created to help guide ECL disclosure practice and to encourage consistency and comparability across financial institutions.

The following sections of this report include new and redesigned disclosures addressing the taskforce's recommendations from its third report, which was published in September 2022. For further details of:

- stage 2 decomposition for loans and advances to banks and personal lending products, see page 153;
- residual average life for personal and wholesale lending by product, see page 153;
- alignment of management judgemental adjustments to the DECL definition with additional qualitative and quantitative granularity, see page 163;
- reconciliation of management judgemental adjustments to reported ECL, see page 163;
- enhanced wholesale ECL sensitivity to future economic conditions, see page 165;
- enhanced retail ECL sensitivity to future economic conditions, see page 166;
- reconciliation from reported exposure and ECL to sensitised exposure and weighted ECL, see page 168;
- reconciliation of changes in gross carrying amount and allowances for loans and advances to banks and customers, see page 171;
- reconciliation of changes in nominal amount and allowances for loan commitments and financial guarantees, see page 171;

- wholesale lending – credit risk profile by obligor grade for loan and other credit-related commitments and financial guarantees, see page 182;
- first lien residential mortgages – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to customers including loan commitments and financial guarantees, see page 194;
- credit cards – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to customers including loan commitments and financial guarantees, see page 195;
- other personal lending – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to customers including loan commitments and financial guarantees, see page 195;
- enhanced personal lending – credit risk profile by internal PD band for loans and advances to customers at amortised cost, see page 196; and
- Personal lending – credit risk profile by internal PD band for loan and other credit-related commitments and financial guarantees, see page 197.

Comparative information for the prior period has not been presented in the *Annual Report and Accounts 2023* for the majority of the new disclosures as we recognised and prioritised the importance of increasing the comparability of our external disclosures within the timeline recommended by the DECL Taskforce. While prior period information can be valuable in certain contexts, at 31 December 2023 we believed the prospective expansion of the level of disclosures outweighed the benefits of presenting data from prior years. Comparative information is expected to be disclosed from the *Annual Report and Accounts 2024*.

The following disclosure presents the gross carrying/nominal amount of financial instruments to which the impairment requirements in IFRS 9 are applied and the associated allowance for ECL.

Summary of financial instruments to which the impairment requirements in IFRS 9 are applied

(Audited)

	31 Dec 2023		At 31 Dec 2022	
	Gross carrying/ nominal amount	**Allowance for ECL[1]**	Gross carrying/ nominal amount	Allowance for ECL[1]
	$m	**$m**	$m	$m
Loans and advances to customers at amortised cost	**949,609**	**(11,074)**	935,008	(11,447)
Loans and advances to banks at amortised cost	**112,917**	**(15)**	104,544	(69)
Other financial assets measured at amortised cost	**960,271**	**(422)**	954,934	(493)
– cash and balances at central banks	**285,868**	**—**	327,005	(3)
– items in the course of collection from other banks	**6,342**	**—**	7,297	—
– Hong Kong Government certificates of indebtedness	**42,024**	**—**	43,787	—
– reverse repurchase agreements – non-trading	**252,217**	**—**	253,754	—
– financial investments	**148,346**	**(20)**	109,086	(20)
– assets held for sale[2]	**103,186**	**(324)**	102,556	(415)
– prepayments, accrued income and other assets[3]	**122,288**	**(78)**	111,449	(55)
Total gross carrying amount on-balance sheet	**2,022,797**	**(11,511)**	1,994,486	(12,009)
Loans and other credit-related commitments	**661,015**	**(367)**	618,788	(386)
Financial guarantees	**17,009**	**(39)**	18,783	(52)
Total nominal amount off-balance sheet[4]	**678,024**	**(406)**	637,571	(438)
	2,700,821	**(11,917)**	2,632,057	(12,447)

	Fair value	**Memorandum allowance for ECL[5]**	Fair value	Memorandum allowance for ECL[5]
	$m	**$m**	$m	$m
Debt instruments measured at fair value through other comprehensive income ('FVOCI')	**302,348**	**(97)**	265,147	(126)

1 *The total ECL is recognised in the loss allowance for the financial asset unless the total ECL exceeds the gross carrying amount of the financial asset, in which case the ECL is recognised as a provision.*
2 *For further details on gross carrying amounts and allowances for ECL related to assets held for sale, see 'Assets held for sale' on page 154. At 31 December 2023, the gross carrying amount comprised $84,074m of loans and advances to customers and banks (2022: $81,221m) and $19,112m of other financial assets at amortised cost (2022: $21,334m). The corresponding allowance for ECL comprised $303m of loans and advances to customers and banks (2022: $392m) and $21m of other financial assets at amortised cost (2022: $23m).*
3 *Includes only those financial instruments that are subject to the impairment requirements of IFRS 9. 'Prepayments, accrued income and other assets' as presented within the consolidated balance sheet on page 331 comprises both financial and non-financial assets, including cash collateral and settlement accounts.*
4 *Represents the maximum amount at risk should the contracts be fully drawn upon and clients default.*
5 *Debt instruments measured at FVOCI continue to be measured at fair value with the allowance for ECL as a memorandum item. Change in ECL is recognised in 'Change in expected credit losses and other credit impairment charges' in the income statement.*

The following table provides an overview of the Group's credit risk by stage and industry, and the associated ECL coverage. The financial assets recorded in each stage have the following characteristics:

- Stage 1: These financial assets are unimpaired and without significant increase in credit risk on which a 12-month allowance for ECL is recognised.
- Stage 2: A significant increase in credit risk has been experienced on these financial assets since initial recognition for which a lifetime ECL is recognised.
- Stage 3: There is objective evidence of impairment and the financial assets are therefore considered to be in default or otherwise credit impaired on which a lifetime ECL is recognised.
- POCI: Financial assets that are purchased or originated at a deep discount are seen to reflect the incurred credit losses on which a lifetime ECL is recognised.

Summary of credit risk (excluding debt instruments measured at FVOCI) by stage distribution and ECL coverage by industry sector at 31 December 2023

(Audited)

	Gross carrying/nominal amount[1]					Allowance for ECL					ECL coverage %				
	Stage 1	Stage 2	Stage 3	POCI[2]	Total	Stage 1	Stage 2	Stage 3	POCI[2]	Total	Stage 1	Stage 2	Stage 3	POCI[2]	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	%	%	%	%
Loans and advances to customers at amortised cost	809,384	120,871	19,273	81	949,609	(1,130)	(2,964)	(6,950)	(30)	(11,074)	0.1	2.5	36.1	37.0	1.2
– personal	396,534	47,483	3,505	—	447,522	(579)	(1,434)	(854)	—	(2,867)	0.1	3.0	24.4	—	0.6
– corporate and commercial	342,878	69,738	14,958	81	427,655	(499)	(1,500)	(5,774)	(30)	(7,803)	0.1	2.2	38.6	37.0	1.8
– non-bank financial institutions	69,972	3,650	810	—	74,432	(52)	(30)	(322)	—	(404)	0.1	0.8	39.8	—	0.5
Loans and advances to banks at amortised cost	111,479	1,436	2	—	112,917	(10)	(3)	(2)	—	(15)	—	0.2	100.0	—	—
Other financial assets measured at amortised cost	946,873	12,734	664	—	960,271	(109)	(132)	(181)	—	(422)	—	1.0	27.3	—	—
Loan and other credit-related commitments	630,949	28,922	1,140	4	661,015	(153)	(128)	(86)	—	(367)	—	0.4	7.5	—	0.1
– personal	253,183	3,459	355	—	256,997	(23)	—	(2)	—	(25)	—	—	0.6	—	—
– corporate and commercial	246,210	20,928	736	4	267,878	(120)	(119)	(83)	—	(322)	—	0.6	11.3	—	0.1
– financial	131,556	4,535	49	—	136,140	(10)	(9)	(1)	—	(20)	—	0.2	2.0	—	—
Financial guarantees	14,746	1,879	384	—	17,009	(7)	(7)	(25)	—	(39)	—	0.4	6.5	—	0.2
– personal	1,106	13	—	—	1,119	—	—	—	—	—	—	—	—	—	—
– corporate and commercial	10,157	1,290	330	—	11,777	(6)	(6)	(24)	—	(36)	0.1	0.5	7.3	—	0.3
– financial	3,483	576	54	—	4,113	(1)	(1)	(1)	—	(3)	—	0.2	1.9	—	0.1
At 31 Dec 2023	2,513,431	165,842	21,463	85	2,700,821	(1,409)	(3,234)	(7,244)	(30)	(11,917)	0.1	2.0	33.8	35.3	0.4

1 *Represents the maximum amount at risk should the contracts be fully drawn upon and clients default.*
2 *Purchased or originated credit-impaired ('POCI').*

Unless identified at an earlier stage, all financial assets are deemed to have suffered a significant increase in credit risk when they are 30 days past due ('DPD') and are transferred from stage 1 to stage 2. The following disclosure presents the ageing of stage 2 financial assets by those less than 30 DPD and greater than 30 DPD and therefore presents those financial assets classified as stage 2 due to ageing (30 DPD) and those identified at an earlier stage (less than 30 DPD).

Stage 2 days past due analysis at 31 December 2023

(Audited)

	Gross carrying amount				Allowance for ECL				ECL coverage %			
	Stage 2	*Up-to-date*	*1 to 29 DPD[1]*	*30 and > DPD[1]*	Stage 2	*Up-to-date*	*1 to 29 DPD[1]*	*30 and > DPD[1]*	Stage 2	*Up-to-date*	*1 to 29 DPD[1]*	*30 and > DPD[1]*
	$m	*$m*	*$m*	*$m*	$m	*$m*	*$m*	*$m*	%	*%*	*%*	*%*
Loans and advances to customers at amortised cost	120,871	*116,320*	*2,571*	*1,980*	(2,964)	*(2,458)*	*(245)*	*(261)*	2.5	*2.1*	*9.5*	*13.2*
– personal	47,483	*44,634*	*1,785*	*1,064*	(1,434)	*(974)*	*(214)*	*(246)*	3.0	*2.2*	*12.0*	*23.1*
– corporate and commercial	69,738	*68,446*	*697*	*595*	(1,500)	*(1,454)*	*(31)*	*(15)*	2.2	*2.1*	*4.4*	*2.5*
– non-bank financial institutions	3,650	*3,240*	*89*	*321*	(30)	*(30)*	—	—	0.8	*0.9*	—	—
Loans and advances to banks at amortised cost	1,436	*1,424*	—	*12*	(3)	*(3)*	—	—	0.2	*0.2*	—	—
Other financial assets measured at amortised cost	12,734	*12,417*	*171*	*146*	(132)	*(113)*	*(9)*	*(10)*	1.0	*0.9*	*5.3*	*6.8*

1 *The days past due amounts presented above are on a contractual basis.*

Summary of credit risk (excluding debt instruments measured at FVOCI) by stage distribution and ECL coverage by industry sector at 31 December 2022

(Audited)

	Gross carrying/nominal amount[1]					Allowance for ECL					ECL coverage %				
	Stage 1	Stage 2	Stage 3	POCI[2]	Total	Stage 1	Stage 2	Stage 3	POCI[2]	Total	Stage 1	Stage 2	Stage 3	POCI[2]	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	%	%	%	%
Loans and advances to customers at amortised cost	776,299	139,076	19,504	129	935,008	(1,092)	(3,488)	(6,829)	(38)	(11,447)	0.1	2.5	35.0	29.5	1.2
– personal	362,677	48,866	3,339	—	414,882	(561)	(1,504)	(805)	—	(2,870)	0.2	3.1	24.1	—	0.7
– corporate and commercial	351,885	85,492	15,696	129	453,202	(488)	(1,907)	(5,887)	(38)	(8,320)	0.1	2.2	37.5	29.5	1.8
– non-bank financial institutions	61,737	4,718	469	—	66,924	(43)	(77)	(137)	—	(257)	0.1	1.6	29.2	—	0.4
Loans and advances to banks at amortised cost	102,723	1,739	82	—	104,544	(18)	(29)	(22)	—	(69)	—	1.7	26.8	—	0.1
Other financial assets measured at amortised cost	938,798	15,339	797	—	954,934	(95)	(165)	(233)	—	(493)	—	1.1	29.2	—	0.1
Loan and other credit-related commitments	583,383	34,033	1,372	—	618,788	(141)	(180)	(65)	—	(386)	—	0.5	4.7	—	0.1
– personal	239,521	3,686	799	—	244,006	(26)	(1)	—	—	(27)	—	—	—	—	—
– corporate and commercial	241,313	27,323	551	—	269,187	(111)	(166)	(63)	—	(340)	—	0.6	11.4	—	0.1
– financial	102,549	3,024	22	—	105,595	(4)	(13)	(2)	—	(19)	—	0.4	9.1	—	—
Financial guarantees	16,071	2,463	249	—	18,783	(6)	(13)	(33)	—	(52)	—	0.5	13.3	—	0.3
– personal	1,123	11	1	—	1,135	—	—	—	—	—	—	—	—	—	—
– corporate and commercial	11,547	1,793	247	—	13,587	(5)	(12)	(33)	—	(50)	—	0.7	13.4	—	0.4
– financial	3,401	659	1	—	4,061	(1)	(1)	—	—	(2)	—	0.2	—	—	—
At 31 Dec 2022	2,417,274	192,650	22,004	129	2,632,057	(1,352)	(3,875)	(7,182)	(38)	(12,447)	0.1	2.0	32.6	29.5	0.5

1 Represents the maximum amount at risk should the contracts be fully drawn upon and clients default.
2 Purchased or originated credit-impaired ('POCI').

Stage 2 days past due analysis at 31 December 2022

(Audited)

	Gross carrying amount				Allowance for ECL				ECL coverage %			
	Stage 2	*Up-to-date*	*1 to 29 DPD[1]*	*30 and > DPD[1]*	Stage 2	*Up-to-date*	*1 to 29 DPD[1]*	*30 and > DPD[1]*	Stage 2	*Up-to-date*	*1 to 29 DPD[1]*	*30 and > DPD[1]*
	$m	*$m*	*$m*	*$m*	$m	*$m*	*$m*	*$m*	%	*%*	*%*	*%*
Loans and advances to customers at amortised cost	139,076	*134,680*	*2,410*	*1,986*	(3,488)	*(3,017)*	*(234)*	*(237)*	2.5	*2.2*	*9.7*	*11.9*
– personal	48,866	*46,378*	*1,682*	*806*	(1,504)	*(1,080)*	*(214)*	*(210)*	3.1	*2.3*	*12.7*	*26.1*
– corporate and commercial	85,492	*83,976*	*712*	*804*	(1,907)	*(1,860)*	*(20)*	*(27)*	2.2	*2.2*	*2.8*	*3.4*
– non-bank financial institutions	4,718	*4,326*	*16*	*376*	(77)	*(77)*	—	—	1.6	*1.8*	—	—
Loans and advances to banks at amortised cost	1,739	*1,729*	—	*10*	(29)	*(29)*	—	—	1.7	*1.7*	—	—
Other financial assets measured at amortised cost	15,339	*15,103*	*140*	*96*	(165)	*(141)*	*(8)*	*(16)*	1.1	*0.9*	*5.7*	*16.7*

1 The days past due amounts presented above are on a contractual basis.

Stage 2 decomposition

The following table presents the stage 2 decomposition of gross carrying amount and allowances for ECL for loans and advances to customers and banks. It also sets out the reasons why an exposure is classified as stage 2 and therefore presented as a significant increase in credit risk at 31 December 2023.

The quantitative classification shows gross carrying amount and allowances for ECL for which the applicable reporting date probability of default ('PD') measure exceeds defined quantitative thresholds for retail and wholesale exposures, as set out in Note 1.2 'Summary of material accounting policies', on page 348.

The qualitative classification primarily accounts for customer risk rating ('CRR') deterioration, watch-and-worry and retail management judgemental adjustments.

A summary of our current policies and practices for the significant increase in credit risk is set out in 'Summary of material accounting policies' on page 348.

Loans and advances to customers and banks[1,2]

	At 31 Dec 2023							
	Loans and advances to customers						Loans and advances to banks at amortised cost	Total stage 2
		of which:						
	Personal	***first lien mortgage***	***credit cards[3]***	***other personal lending[3]***	**Corporate and commercial**	**Non-bank financial institutions**		
	$m	***$m***	***$m***	***$m***	**$m**	**$m**	**$m**	**$m**
Quantitative	**35,742**	***31,178***	***1,940***	***2,624***	**53,034**	**2,955**	**781**	**92,512**
Qualitative	**11,678**	***7,077***	***2,477***	***2,124***	**16,241**	**653**	**642**	**29,214**
of which: forbearance	***171***	**69**	**34**	**68**	***982***	***2***	**—**	***1,155***
30 DPD backstop[4]	**63**	***32***	***2***	***29***	**463**	**42**	**13**	**581**
Total gross carrying amount	**47,483**	***38,287***	***4,419***	***4,777***	**69,738**	**3,650**	**1,436**	**122,307**
Quantitative	**(1,103)**	***(149)***	***(554)***	***(400)***	**(1,225)**	**(24)**	**(1)**	**(2,353)**
Qualitative	**(324)**	***(50)***	***(142)***	***(132)***	**(270)**	**(6)**	**(2)**	**(602)**
of which: forbearance	***(4)***	**—**	**(1)**	**(3)**	***(11)***	**—**	**—**	***(15)***
30 DPD backstop[4]	**(7)**	***(1)***	***(1)***	***(5)***	**(5)**	**—**	**—**	**(12)**
Total allowance for ECL	**(1,434)**	***(200)***	***(697)***	***(537)***	**(1,500)**	**(30)**	**(3)**	**(2,967)**
ECL coverage %	**3.0**	***0.5***	***15.8***	***11.2***	**2.2**	**0.8**	**0.2**	**2.4**
Residual average life[5] (in years)	**16.0**	***19.3***	**<1.0**	***4.1***	**2.5**	**1.2**	**<1.0**	

Loans and advances to customers[1]

	At 31 Dec 2022								
	Gross carrying amount				Allowance for ECL				ECL coverage
	Personal	Corporate and commercial	Non-bank financial institutions	Total	Personal	Corporate and commercial	Non-bank financial institutions	Total	Total
	$m	$m	$m	$m	$m	$m	$m	$m	%
Quantitative	41,610	66,421	3,679	111,710	(1,302)	(1,642)	(66)	(3,010)	2.7
Qualitative	7,209	18,555	878	26,642	(200)	(262)	(11)	(473)	1.8
30 DPD backstop[4]	47	516	161	724	(2)	(3)	—	(5)	0.7
Total stage 2	48,866	85,492	4,718	139,076	(1,504)	(1,907)	(77)	(3,488)	2.5

1 *Where balances satisfy more than one of the above three criteria for determining a significant increase in credit risk, the corresponding gross exposure and ECL have been assigned in order of categories presented.*
2 *Stage 2 decomposition for loans and advances to banks and personal lending products have been reported for the first time at 31 December 2023 following the adoption of the recommendations of the DECL Taskforce's third report.*
3 *The higher relative contribution of qualitative stage 2 for credit cards and other personal lending is due to management judgemental adjustments, primarily affordability.*
4 *Days past due ('DPD').*
5 *Calculated as the difference between final contractual maturities and the reporting date, weighted based on the contribution of the instrument to the stage 2 total gross carrying amount of the corresponding product or sector.*

Assets held for sale

(Audited)

At 31 December 2023, the most material balances held for sale arose from our banking business in Canada and our retail banking operations in France.

Disclosures relating to assets held for sale are provided in the following credit risk tables, primarily where the disclosure is relevant to the measurement of these financial assets:

- 'Maximum exposure to credit risk' (page 155); and
- 'Distribution of financial instruments by credit quality at 31 December' (page 172);

Although there was a reclassification on the balance sheet, there was no separate income statement reclassification. As a result, charges for changes in expected credit losses and other credit impairment charges shown in the credit risk disclosures include charges relating to financial assets classified as 'assets held for sale'.

'Loans and other credit-related commitments' and 'financial guarantees', as reported in credit disclosures, also include exposures and allowances relating to financial assets classified as 'assets held for sale'.

Loans and advances to customers and banks measured at amortised cost

(Audited)

	2023		2022	
	Total gross loans and advances	**Allowance for ECL**	Total gross loans and advances	Allowance for ECL
	$m	**$m**	$m	$m
As reported	**1,062,526**	**(11,089)**	1,039,552	(11,516)
Reported in 'Assets held for sale'	**84,075**	**(303)**	81,221	(392)
At 31 December	**1,146,601**	**(11,392)**	1,120,773	(11,908)

At 31 December 2023, gross loans and advances of our banking business in Canada were $56.5bn, and the related allowance for ECL was $0.2bn. Gross loans of our retail banking operations in France were $27.3bn, and the related allowance for ECL was $0.1bn.

Lending balances held for sale continue to be measured at amortised cost less allowances for impairment and, therefore, such carrying amounts may differ from fair value.

These lending balances are part of associated disposal groups that are measured in their entirety at the lower of carrying amount and fair value less costs to sell. Any difference between the carrying amount of these assets and their sales price is part of the overall gain or loss on the associated disposal group as a whole.

For further details of the carrying amount and the fair value at 31 December 2023 of loans and advances to banks and customers classified as held for sale, see Note 23 on the financial statements.

Gross loans and allowance for ECL on loans and advances to customers and banks reported in 'Assets held for sale'

(Audited)

	Banking business in Canada		**Retail banking operations in France**		**Other**		**Total**	
	Gross carrying amount	**Allowance for ECL**	**Gross carrying amount**	**Allowance for ECL**	**Gross carrying amount**	**Allowance for ECL**	**Gross carrying amount**	**Allowance for ECL**
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**
Loans and advances to customers at amortised cost	**56,349**	**(220)**	**16,984**	**(82)**	**255**	**(1)**	**73,588**	**(303)**
– personal	**27,071**	**(95)**	**13,920**	**(79)**	**140**	**(1)**	**41,131**	**(175)**
– corporate and commercial	**27,789**	**(120)**	**3,012**	**(3)**	**—**	**—**	**30,801**	**(123)**
– non-bank financial institutions	**1,489**	**(5)**	**52**	**—**	**115**	**—**	**1,656**	**(5)**
Loans and advances to banks at amortised cost	**154**	**—**	**10,333**	**—**	**—**	**—**	**10,487**	**—**
At 31 December 2023	**56,503**	**(220)**	**27,317**	**(82)**	**255**	**(1)**	**84,075**	**(303)**
Loans and advances to customers at amortised cost	55,431	(234)	25,121	(92)	412	(62)	80,964	(388)
– personal	26,637	(75)	22,691	(88)	305	(47)	49,633	(210)
– corporate and commercial	27,128	(154)	2,379	(4)	107	(15)	29,614	(173)
– non-bank financial institutions	1,666	(5)	51	—	—	—	1,717	(5)
Loans and advances to banks at amortised cost	100	—	—	—	157	(4)	257	(4)
At 31 December 2022	55,531	(234)	25,121	(92)	569	(66)	81,221	(392)

The table below analyses the amount of ECL (charges)/releases arising from assets held for sale. The charges during the period primarily relate to our business in Canada.

Changes in expected credit losses and other credit impairment

(Audited)

	2023	2022
	$m	$m
ECL (charges)/releases arising from:		
– assets held for sale	**(49)**	(5)
– assets not held for sale	**(3,398)**	(3,579)
Year ended 31 December	**(3,447)**	(3,584)

Credit exposure

Maximum exposure to credit risk

(Audited)

This section provides information on balance sheet items and their offsets as well as loan and other credit-related commitments. Commentary on consolidated balance sheet movements in 2023 is provided on page 108. The offset of derivatives remains in line with the movements in maximum exposure amounts.

'Maximum exposure to credit risk' table

The following table presents our maximum exposure before taking account of any collateral held or other credit enhancements (unless such enhancements meet accounting offsetting requirements).

The table excludes trading assets, financial assets designated and otherwise mandatorily measured at fair value through profit or loss, and financial investments measured at fair value through other comprehensive income as their carrying amount best represents the net exposure to credit risk. Equity securities are also excluded as they are not subject to credit risk. For the financial assets recognised on the balance sheet, the maximum exposure to credit risk equals their carrying amount and is net of the allowance for ECL. For financial guarantees and other guarantees granted, it is the maximum amount that we would have to pay if the guarantees were called upon. For loan commitments and other credit-related commitments, it is generally the full amount of the committed facilities.

The offset in the table relates to amounts where there is a legally enforceable right of offset in the event of counterparty default and where, as a result, there is a net exposure for credit risk purposes. However, as there is no intention to settle these balances on a net basis under normal circumstances, they do not qualify for net presentation for accounting purposes. No offset has been applied to off-balance sheet collateral. In the case of derivatives, the offset column also includes collateral received in cash and other financial assets.

Other credit risk mitigants

While not disclosed as an offset in the following 'Maximum exposure to credit risk' table, other arrangements are in place that reduce our maximum exposure to credit risk. These include a charge over collateral on borrowers' specific assets, such as residential properties, collateral held in the form of financial instruments that are not held on the balance sheet and short positions in securities. In addition, for financial assets held as part of linked insurance/investment contracts the credit risk is predominantly borne by the policyholder. See page 347 and Note 31 on the financial statements for further details of collateral in respect of certain loans and advances and derivatives.

Collateral available to mitigate credit risk is disclosed in the 'Collateral' section on page 187.

Maximum exposure to credit risk

(Audited)

	2023			2022		
	Maximum exposure	**Offset**	**Net**	Maximum exposure	Offset	Net
	$m	**$m**	**$m**	$m	$m	$m
Loans and advances to customers held at amortised cost	**938,535**	**(22,607)**	**915,928**	923,561	(20,315)	903,246
– personal	**444,655**	**(2,470)**	**442,185**	412,012	(2,575)	409,437
– corporate and commercial	**419,852**	**(18,771)**	**401,081**	444,882	(16,262)	428,620
– non-bank financial institutions	**74,028**	**(1,366)**	**72,662**	66,667	(1,478)	65,189
Loans and advances to banks at amortised cost	**112,902**	**—**	**112,902**	104,475	—	104,475
Other financial assets held at amortised cost	**973,316**	**(13,919)**	**959,397**	970,119	(8,969)	961,150
– cash and balances at central banks	**285,868**	**—**	**285,868**	327,002	—	327,002
– items in the course of collection from other banks	**6,342**	**—**	**6,342**	7,297	—	7,297
– Hong Kong Government certificates of indebtedness	**42,024**	**—**	**42,024**	43,787	—	43,787
– reverse repurchase agreements – non-trading	**252,217**	**(13,919)**	**238,298**	253,754	(8,969)	244,785
– financial investments	**148,326**	**—**	**148,326**	109,066	—	109,066
– assets held for sale	**114,134**	**—**	**114,134**	115,919	—	115,919
– prepayments, accrued income and other assets	**124,405**	**—**	**124,405**	113,294	—	113,294
Derivatives	**229,714**	**(222,059)**	**7,655**	284,159	(273,497)	10,662
Total on-balance sheet exposure to credit risk	**2,254,467**	**(258,585)**	**1,995,882**	2,282,314	(302,781)	1,979,533
Total off-balance sheet	**1,007,885**	**—**	**1,007,885**	934,329	—	934,329
– financial and other guarantees	**111,102**	**—**	**111,102**	106,861	—	106,861
– loan and other credit-related commitments	**896,783**	**—**	**896,783**	827,468	—	827,468
At 31 Dec	**3,262,352**	**(258,585)**	**3,003,767**	3,216,643	(302,781)	2,913,862

Concentration of exposure

We have a number of global businesses with a broad range of products. We operate in a number of geographical markets with the majority of our exposures in Asia and Europe.

For an analysis of:

- financial investments, see Note 16 on the financial statements;
- trading assets, see Note 11 on the financial statements;
- derivatives, see page 190 and Note 15 on the financial statements; and
- loans and advances by industry sector and by the location of the principal operations of the lending subsidiary (or, in the case of the operations of The Hongkong and Shanghai Banking Corporation Limited, HSBC Bank plc, HSBC Bank Middle East Limited and HSBC Bank USA, by the location of the lending branch), see page 176 for wholesale lending and page 190 for personal lending.

Credit deterioration of financial instruments

(Audited)

A summary of our current policies and practices regarding the identification, treatment and measurement of stage 1, stage 2, stage 3 (credit impaired) and POCI financial instruments can be found in Note 1.2 on the financial statements.

Measurement uncertainty and sensitivity analysis of ECL estimates

(Audited)

The recognition and measurement of ECL involves the use of significant judgement and estimation. We form multiple economic scenarios based on economic forecasts, apply these assumptions to credit risk models to estimate future credit losses, and probability weight the results to determine an unbiased ECL estimate.

Management assessed the current economic environment, reviewed the latest economic forecasts and discussed key risks before selecting the economic scenarios and their weightings.

Scenarios were constructed to reflect the latest geopolitical risks and macroeconomic developments, including the Israel-Hamas war and subsequent disruptions in the Red Sea, and current inflation and monetary policy expectations.

Management judgemental adjustments are used where modelled ECL does not fully reflect the identified risks and related uncertainty, or to capture significant late-breaking events.

At 31 December 2023, there was an overall reduction in management judgemental adjustments compared with 31 December 2022, as modelled outcomes better reflected the key risks at 31 December 2023.

Methodology

At 31 December 2023, four scenarios were used to capture the latest economic expectations and to articulate management's view of the range of risks and potential outcomes. Each scenario is updated with the latest economic forecasts and estimates every quarter.

Three scenarios, the Upside, Central and Downside, are drawn from external consensus forecasts, market data and distributional estimates of the entire range of economic outcomes. The fourth scenario, the Downside 2, represents management's view of severe downside risks.

The Central scenario is deemed the 'most likely' scenario, and usually attracts the largest probability weighting. It is created using consensus forecasts, which is the average of a panel of external forecasts.

The outer scenarios represent the tails of the distribution and are less likely to occur. The consensus Upside and Downside scenarios are created with reference to distributions for select markets that capture forecasters' views of the entire range of economic outcomes. In the later years of those scenarios, projections revert to long-term consensus trend expectations. Reversion to trend is done with reference to historically observed quarterly changes in the values of macroeconomic variables.

The fourth scenario, the Downside 2, is designed to represent management's view of severe downside risks. It is a globally consistent, narrative-driven scenario that explores a more extreme economic outcome than those captured by the consensus scenarios. In this scenario, variables do not, by design, revert to long-term trend expectations and may instead explore alternative states of equilibrium, where economic activity moves permanently away from past trends.

The consensus Downside and the consensus Upside scenarios are each calibrated to be consistent with a 10% probability. The Downside 2 is calibrated to a 5% probability. The Central scenario is assigned the remaining 75%. This weighting scheme is deemed appropriate for the unbiased estimation of ECL in most circumstances. However, management may depart from this probability-based scenario weighting approach when the economic outlook and forecasts are determined to be particularly uncertain and risks are elevated.

In the fourth quarter of 2023, the weights were consistent with the calibrated scenario probabilities, as key risk metrics implied a decline in the uncertainty attached to the Central scenario, compared with the fourth quarter of 2022. Economic forecasts for the Central scenario remained stable, and the dispersion within consensus forecast panels remained low, even as the Israel-Hamas war escalated. Risks, including the economic consequences of a broader war in the Middle East, were reflected in the Downside scenarios.

Scenarios produced to calculate ECL are aligned to HSBC's top and emerging risks.

Description of economic scenarios

The economic assumptions presented in this section have been formed by HSBC with reference to external forecasts and estimates, specifically for the purpose of calculating ECL.

Forecasts remain subject to uncertainty and variability. Outer scenarios are constructed so that they capture risks that could alter the trajectory of the economy and are designed to encompass the potential crystallisation of key macro-financial risks.

In our key markets, Central scenario forecasts remained broadly stable in the fourth quarter of 2023, compared with the third quarter of 2023. The key exception was with regard to monetary policy, where expectations for interest rate cuts were brought forward. There continue to be expectations that 2024 will be a period of below trend growth, with inflation remaining above central bank targets.

At the end of 2023, risks to the economic outlook included a number of significant geopolitical issues. Within our Downside scenarios, the economic consequences from the crystallisation of those risks were captured by higher commodity and goods prices, the reacceleration of inflation, a further rise in interest rates and a global recession.

The scenarios used to calculate ECL in the *Annual Report and Accounts 2023* are described below.

The consensus Central scenario

HSBC's Central scenario reflects expectations for a low growth and high interest rate environment across many of our key markets, where GDP growth is expected to be lower in 2024 than in the previous year.

Expectations of lower GDP growth in many markets in 2024 are driven by the assumed lagged effects of higher interest rates and inflation in North America and Europe. In the scenario, household discretionary income remains under pressure and business margins deteriorate amid higher refinancing costs. Growth only returns to its long-term expected trend in later years, once inflation reverts back towards central bank targets and interest rates stabilise at lower levels.

In mainland China and Hong Kong, growth is also expected to be moderately slower in 2024 relative to 2023. The economic boost from post-pandemic reopening has faded, and slower global growth and low trade volumes are expected to moderate activity. In mainland China, the continued fall in investment in the property sector is expected to act as a further brake on the economy, while in Hong Kong, higher interest rates are expected to drive a further decline in property valuations. Despite these headwinds, a steeper downturn is expected to be avoided as the authorities in mainland China increase fiscal and monetary support to the economy. Substantial fiscal expansion is anticipated for 2024, alongside additional credit easing.

Global GDP is expected to grow by 2.2% in 2024 in the Central scenario, and the average rate of global GDP growth is forecast to be 2.6% over the five-year forecast period. This is below the average growth rate over the five-year period prior to the onset of the pandemic of 2.9%.

The key features of our Central scenario are:

- GDP growth rates in our main markets are expected to slow down in 2024, followed by a moderate recovery in 2025. The slowdown in the UK is particularly notable in this scenario, with growth close to zero through much of 2024. In the scenario, weaker growth is caused by high interest rates, which act to deter consumption and investment.
- In most markets, unemployment is expected to rise moderately as economic activity slows, although it remains low by historical standards.

- Inflation is expected to continue to fall as commodity prices decline, supply disruptions abate, and wage growth moderates. It is anticipated that inflation converges towards central banks' target rates by early 2025. In mainland China, weak consumption and excess supply has caused inflation to drop sharply but, in the scenario, deflation is not projected to persist.
- Weak conditions in housing markets are expected to persist through 2024 and 2025 in many of our main markets, including the UK, Hong Kong and mainland China, as higher interest rates and, in many cases, declining prices, depress activity.
- Challenging conditions are also forecast to continue in the commercial property sector in a number of our key markets. Structural changes to demand in the office segment in particular have driven lower valuations.
- Policy interest rates in key markets are forecast to have peaked and are projected to decline in 2024. In the longer term, they are expected to remain at a higher level than in recent years.
- The Brent crude oil price is forecast to average around $75 per barrel over the projection period.

The Central scenario was created with forecasts available in late November, and reviewed continually until the end of December 2023. In accordance with HSBC's scenario framework, a probability weight of 75% has been assigned to the Central scenario across all major markets.

The following tables describe key macroeconomic variables in the consensus Central scenario.

Consensus Central scenario 2024–2028 (as at 4Q23)

	UK	US	Hong Kong	Mainland China	Canada	France	UAE	Mexico
GDP (annual average growth rate, %)								
2024	**0.3**	**1.0**	**2.6**	**4.5**	**0.8**	**0.8**	**3.7**	**1.9**
2025	**1.2**	**1.8**	**2.7**	**4.4**	**2.0**	**1.5**	**4.0**	**2.2**
2026	**1.7**	**2.1**	**2.6**	**4.3**	**2.0**	**1.6**	**3.8**	**2.3**
2027	**1.6**	**2.0**	**2.6**	**3.8**	**2.0**	**1.5**	**3.4**	**2.4**
2028	**1.6**	**2.0**	**2.6**	**3.9**	**2.0**	**1.5**	**3.4**	**2.4**
5-year average[1]	**1.3**	**1.8**	**2.6**	**4.2**	**1.7**	**1.4**	**3.6**	**2.2**
Unemployment rate (%)								
2024	**4.7**	**4.3**	**3.0**	**5.2**	**6.2**	**7.5**	**2.6**	**2.9**
2025	**4.6**	**4.2**	**3.0**	**5.1**	**5.9**	**7.3**	**2.6**	**2.9**
2026	**4.3**	**4.0**	**3.2**	**5.1**	**5.7**	**7.0**	**2.6**	**2.9**
2027	**4.2**	**4.0**	**3.2**	**5.1**	**5.7**	**6.8**	**2.6**	**2.9**
2028	**4.2**	**4.0**	**3.2**	**5.1**	**5.7**	**6.8**	**2.6**	**2.9**
5-year average[1]	**4.4**	**4.1**	**3.1**	**5.1**	**5.8**	**7.1**	**2.6**	**2.9**
House prices (annual average growth rate, %)								
2024	**(5.5)**	**2.9**	**(6.6)**	**(0.6)**	**(4.8)**	**(1.0)**	**12.6**	**6.5**
2025	**0.1**	**2.7**	**(0.7)**	**1.1**	**2.2**	**2.4**	**7.7**	**4.2**
2026	**3.5**	**3.1**	**2.6**	**2.6**	**2.8**	**4.0**	**4.4**	**4.2**
2027	**3.0**	**2.7**	**2.8**	**4.0**	**2.4**	**4.4**	**2.6**	**4.0**
2028	**3.0**	**2.1**	**3.0**	**4.5**	**2.8**	**4.0**	**2.3**	**4.0**
5-year average[1]	**0.8**	**2.7**	**0.2**	**2.3**	**1.1**	**2.8**	**5.9**	**4.6**
Inflation (annual average growth rate, %)								
2024	**3.2**	**2.7**	**2.1**	**1.8**	**2.6**	**2.7**	**2.3**	**4.2**
2025	**2.2**	**2.2**	**2.1**	**2.0**	**2.1**	**1.8**	**2.2**	**3.6**
2026	**2.2**	**2.3**	**2.2**	**2.1**	**2.1**	**1.7**	**2.1**	**3.5**
2027	**2.3**	**2.2**	**2.4**	**2.0**	**2.1**	**1.9**	**2.1**	**3.5**
2028	**2.3**	**2.2**	**2.4**	**2.0**	**2.1**	**2.1**	**2.1**	**3.5**
5-year average	**2.4**	**2.3**	**2.2**	**2.0**	**2.2**	**2.0**	**2.1**	**3.7**
Central bank policy rate (annual average, %)								
2024	**5.0**	**5.0**	**5.4**	**4.1**	**4.7**	**3.6**	**5.1**	**10.4**
2025	**4.3**	**4.0**	**4.4**	**4.2**	**3.9**	**2.8**	**4.1**	**8.6**
2026	**3.9**	**3.7**	**4.1**	**4.4**	**3.4**	**2.6**	**3.7**	**7.9**
2027	**3.8**	**3.7**	**4.1**	**4.6**	**3.2**	**2.6**	**3.7**	**7.9**
2028	**3.7**	**3.8**	**4.1**	**4.8**	**3.3**	**2.7**	**3.8**	**8.1**
5-year average[1]	**4.1**	**4.1**	**4.4**	**4.4**	**3.7**	**2.9**	**4.1**	**8.6**

1 *The five-year average is calculated over a projected period of 20 quarters from 1Q24 to 4Q28.*

Consensus Central scenario 2023–2027 (as at 4Q22)

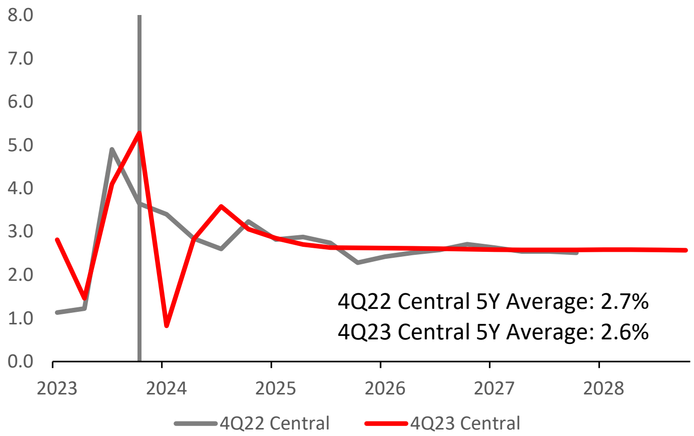
	UK	US	Hong Kong	Mainland China	Canada	France	UAE[2]	Mexico
GDP (annual average growth rate, %)								
2023	(0.8)	0.2	2.7	4.6	0.6	0.2	3.7	1.2
2024	1.3	1.5	3.0	4.8	1.9	1.6	3.7	2.0
2025	1.7	2.0	2.7	4.7	2.0	1.5	3.1	2.3
2026	1.7	2.0	2.6	4.4	1.8	1.4	2.8	2.0
2027	1.7	2.0	2.6	4.4	1.8	1.4	2.9	2.0
5-year average[1]	1.1	1.5	2.7	4.6	1.6	1.2	3.2	1.9
Unemployment rate (%)								
2023	4.4	4.3	3.7	5.2	6.1	7.6	2.9	3.7
2024	4.6	4.5	3.5	5.1	5.9	7.5	2.8	3.7
2025	4.3	4.2	3.4	5.0	6.0	7.3	2.8	3.5
2026	4.1	3.9	3.3	4.9	5.9	7.2	2.8	3.5
2027	4.1	4.0	3.3	4.8	5.9	7.2	2.8	3.5
5-year average[1]	4.3	4.2	3.4	5.0	5.9	7.3	2.8	3.6
House prices (annual average growth rate, %)								
2023	0.2	(2.5)	(10.0)	(0.1)	(15.6)	1.8	5.9	7.9
2024	(3.8)	(3.2)	(3.0)	2.9	(1.2)	2.0	5.2	5.2
2025	0.7	(1.0)	1.7	3.5	4.0	3.1	4.5	4.2
2026	2.1	0.7	2.8	4.1	4.1	3.5	3.3	4.1
2027	2.7	2.5	3.4	4.3	3.0	3.6	2.9	3.9
5-year average[1]	0.4	(0.7)	(1.0)	2.9	(1.1)	2.8	4.4	5.1
Inflation (annual average growth rate,%)								
2023	6.9	4.1	2.1	2.4	3.5	4.6	3.2	5.7
2024	2.5	2.5	2.1	2.2	2.2	2.0	2.2	4.1
2025	2.1	2.2	2.0	2.2	2.1	1.8	2.1	3.7
2026	2.0	2.3	2.1	2.1	2.0	1.7	2.1	3.7
2027	2.0	2.3	2.1	2.1	2.0	1.7	2.1	3.7
5-year average[1]	3.1	2.7	2.1	2.2	2.4	2.4	2.3	4.2
Central bank policy rate (annual average, %)								
2023	4.4	4.7	5.2	4.6	4.3	2.7	6.1	10.3
2024	4.2	3.8	4.3	4.9	3.9	2.7	5.2	8.1
2025	3.7	3.0	3.5	5.1	3.4	2.4	4.4	7.2
2026	3.4	2.9	3.3	5.3	3.1	2.3	4.3	7.3
2027	3.1	2.9	3.3	5.5	3.2	2.3	4.3	7.8
5-year average[1]	3.8	3.5	3.9	5.1	3.6	2.5	4.9	8.1

1 The five-year average is calculated over a projected period of 20 quarters from 1Q23 to 4Q27.

The graphs compare the Central scenario at the year end 2022 with economic expectations at the end of 2023.

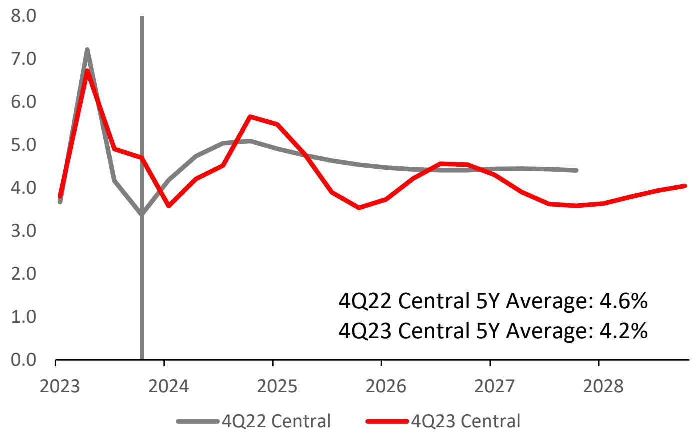
GDP growth: Comparison of Central scenarios

Hong Kong



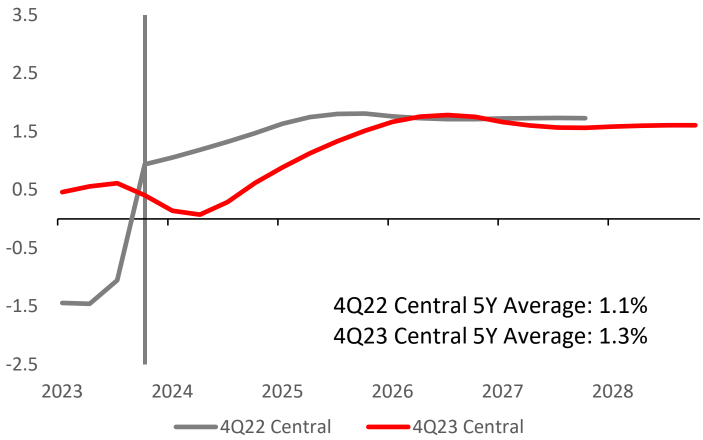
Note: Real GDP shown as year-on-year percentage change.

Mainland China



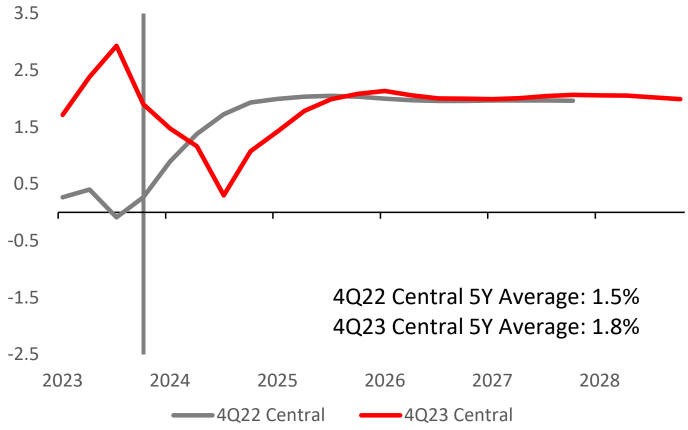
Note: Real GDP shown as year-on-year percentage change.

UK



Note: Real GDP shown as year-on-year percentage change.

US



Note: Real GDP shown as year-on-year percentage change.

The consensus Upside scenario

Compared with the Central scenario, the consensus Upside scenario features stronger economic activity in the near term, before converging to long-run trend expectations. It also incorporates a faster fall in the rate of inflation than incorporated in the Central scenario.

The scenario is consistent with a number of key upside risk themes. These include a faster fall in the rate of inflation that allows central banks to reduce interest rates more quickly, an easing in financial conditions, and a de-escalation in geopolitical tensions as the Israel-Hamas and Russia-Ukraine wars move towards conclusions, and the US-China relationship improves.

The following tables describe key macroeconomic variables in the consensus Upside scenario.

Consensus Upside scenario 2024–2028 (as at 4Q23)

	UK		US		Hong Kong		Mainland China		Canada		France		UAE		Mexico	
GDP level (%, start-to-peak)[1]	**10.8**	**(4Q28)**	**14.3**	**(4Q28)**	**21.8**	**(4Q28)**	**30.4**	**(4Q28)**	**14.9**	**(4Q28)**	**10.4**	**(4Q28)**	**30.7**	**(4Q28)**	**17.8**	**(4Q28)**
Unemployment rate (%, min)[2]	**3.1**	**(4Q24)**	**3.1**	**(2Q25)**	**2.4**	**(3Q24)**	**4.8**	**(4Q25)**	**5.1**	**(4Q25)**	**6.2**	**(4Q25)**	**2.0**	**(4Q25)**	**2.4**	**(3Q24)**
House price index (%, start-to-peak)[1]	**13.0**	**(4Q28)**	**21.9**	**(4Q28)**	**17.9**	**(4Q28)**	**19.7**	**(4Q28)**	**21.0**	**(4Q28)**	**19.6**	**(4Q28)**	**34.2**	**(4Q28)**	**30.6**	**(4Q28)**
Inflation rate (YoY % change, min)[3]	**1.3**	**(2Q25)**	**1.4**	**(1Q25)**	**0.3**	**(4Q24)**	**0.6**	**(3Q24)**	**1.1**	**(1Q25)**	**1.5**	**(3Q24)**	**1.4**	**(1Q25)**	**2.7**	**(1Q25)**
Central bank policy rate (%, min)[2]	**3.7**	**(3Q28)**	**3.7**	**(2Q27)**	**4.1**	**(1Q27)**	**4.0**	**(2Q24)**	**3.2**	**(2Q27)**	**2.6**	**(2Q26)**	**3.7**	**(1Q27)**	**7.8**	**(2Q25)**

1 *Cumulative change to the highest level of the series during the 20-quarter projection.*
2 *Lowest projected unemployment or policy interest rate in the scenario.*
3 *Lowest projected year-on-year percentage change in inflation in the scenario.*

Consensus Upside scenario 2023–2027 (as at 4Q22)

	UK		US		Hong Kong		Mainland China		Canada		France		UAE		Mexico	
GDP level (%, start-to-peak)[1]	14.6	(4Q27)	13.6	(4Q27)	23.3	(4Q27)	31.5	(4Q27)	14.0	(4Q27)	10.2	(4Q27)	26.4	(4Q27)	16.4	(4Q27)
Unemployment rate (%, min)[2]	3.5	(4Q23)	3.1	(3Q23)	3.0	(4Q23)	4.7	(3Q24)	5.2	(3Q24)	6.5	(4Q24)	2.2	(3Q24)	3.1	(3Q23)
House price index (%, start-to-peak)[1]	7.8	(4Q27)	3.9	(4Q27)	8.6	(4Q27)	26.3	(4Q27)	12.3	(4Q27)	17.0	(4Q27)	30.6	(4Q27)	33.0	(4Q27)
Inflation rate (YoY % change, min)[3]	0.7	(1Q24)	1.6	(1Q24)	(0.1)	(4Q23)	0.8	(4Q23)	1.0	(1Q24)	0.8	(4Q23)	1.5	(3Q24)	3.2	(1Q24)
Central bank policy rate (%, min)[2]	3.1	(4Q27)	2.9	(1Q27)	3.3	(1Q27)	4.4	(1Q23)	3.1	(3Q26)	2.3	(3Q26)	4.3	(1Q27)	7.1	(3Q25)

1 *Cumulative change to the highest level of the series during the 20-quarter projection.*
2 *Lowest projected unemployment or policy interest rate in the scenario.*
3 *Lowest projected year-on-year percentage change in inflation in the scenario.*

Downside scenarios

Downside scenarios explore the intensification and crystallisation of a number of key economic and financial risks. These include an escalation of geopolitical tensions, which disrupt key commodity and goods markets, causing inflation and interest rates to rise, and creating a global recession.

As the geopolitical environment remains volatile and complex, risks include:

– a broader and more prolonged conflict in the Middle East that undermines confidence, drives an increase in global energy costs and reduces trade and investment;

– a potential escalation in the Russia-Ukraine war, which expands beyond Ukraine's borders, and further disrupts energy, fertiliser and food supplies; and

– continued differences between the US and China, which could affect economic confidence, the global goods trade and supply chains for critical technologies.

High inflation and higher interest rates also remain key risks. Should geopolitical tensions escalate, energy and food prices could rise and increase pressure on household budgets and firms' costs.

A wage-price spiral, triggered by higher inflation and labour supply shortages, could put sustained upward pressure on wages and services prices, aggravating cost pressures and increasing the squeeze on household real incomes and corporate margins. In turn, it raises the risk of a more forceful policy response from central banks, a steeper trajectory for interest rates, significantly higher defaults and, ultimately, a deep economic recession.

The consensus Downside scenario

In the consensus Downside scenario, economic activity is weaker compared with the Central scenario. In this scenario, GDP declines, unemployment rates rise, and asset prices fall. The scenario features an escalation of geopolitical tensions, which causes a rise in inflation, as supply chain constraints intensify and energy prices rise. The scenario also features a temporary increase in interest rates above the Central scenario, before the effects of weaker consumption demand begin to dominate and commodity prices and inflation fall again.

The following tables describe key macroeconomic variables in the consensus Downside scenario.

Consensus Downside scenario 2024–2028 (as at 4Q23)

	UK		US		Hong Kong		Mainland China		Canada		France		UAE		Mexico	
GDP level (%, start-to-trough)[1]	**(1.0)**	**(2Q25)**	**(1.4)**	**(3Q24)**	**(1.6)**	**(3Q25)**	**(1.5)**	**(1Q24)**	**(1.7)**	**(3Q24)**	**(0.3)**	**(2Q24)**	**1.4**	**(1Q24)**	**(0.3)**	**(4Q24)**
Unemployment rate (%, max)[2]	**6.4**	**(1Q25)**	**5.6**	**(4Q24)**	**4.7**	**(4Q25)**	**6.9**	**(4Q25)**	**7.4**	**(3Q24)**	**8.5**	**(4Q24)**	**3.7**	**(4Q25)**	**3.5**	**(4Q25)**
House price index (%, start-to-trough)[1]	**(12.0)**	**(2Q25)**	**(1.3)**	**(3Q24)**	**(9.6)**	**(4Q24)**	**(7.1)**	**(3Q25)**	**(12.0)**	**(3Q25)**	**(1.2)**	**(3Q24)**	**0.3**	**(1Q24)**	**1.2**	**(1Q24)**
Inflation rate (YoY % change, max)[3]	**4.1**	**(1Q24)**	**3.5**	**(4Q24)**	**3.8**	**(3Q24)**	**3.5**	**(4Q24)**	**3.4**	**(2Q24)**	**3.8**	**(2Q24)**	**3.0**	**(1Q24)**	**6.5**	**(4Q24)**
Central bank policy rate (%, max)[2]	**5.7**	**(1Q24)**	**5.6**	**(1Q24)**	**6.0**	**(1Q24)**	**4.1**	**(3Q24)**	**5.6**	**(1Q24)**	**4.2**	**(1Q24)**	**5.7**	**(1Q24)**	**12.0**	**(3Q24)**

1 Cumulative change to the lowest level of the series during the 20-quarter projection.
2 The highest projected unemployment or policy interest rate in the scenario.
3 The highest projected year-on-year percentage change in inflation in the scenario.

Consensus Downside scenario 2023–2027 (as at 4Q22)

	UK		US		Hong Kong		Mainland China		Canada		France		UAE		Mexico	
GDP level (%, start-to-trough)[1]	(3.0)	(1Q25)	(4.0)	(4Q24)	(2.3)	(3Q24)	(1.7)	(2Q23)	(3.9)	(4Q23)	(0.9)	(2Q23)	0.1	(1Q23)	(2.8)	(4Q24)
Unemployment rate (%, max)[2]	5.8	(2Q24)	5.9	(1Q24)	5.2	(3Q24)	5.9	(4Q23)	7.6	(3Q23)	8.8	(4Q23)	4.1	(3Q23)	4.4	(1Q23)
House price index (%, start-to-trough)[1]	(15.0)	(4Q24)	(11.6)	(4Q25)	(11.9)	(1Q24)	(1.0)	(4Q23)	(20.1)	(4Q24)	(0.7)	(3Q23)	(4.0)	(3Q23)	1.2	(1Q23)
Inflation rate (YoY % change, max)[3]	10.8	(1Q23)	6.2	(1Q23)	3.7	(4Q23)	4.0	(4Q23)	6.0	(1Q23)	7.2	(1Q23)	4.5	(1Q23)	7.9	(1Q23)
Central bank policy rate (%, max)[2]	5.1	(3Q23)	5.2	(3Q23)	5.7	(3Q23)	5.2	(4Q23)	5.6	(3Q23)	3.4	(4Q23)	6.6	(3Q23)	12.1	(3Q23)

1 Cumulative change to the lowest level of the series during the 20-quarter projection.
2 The highest projected unemployment or policy interest rate in the scenario.
3 The highest projected year-on-year percentage change in inflation in the scenario.

Downside 2 scenario

The Downside 2 scenario features a deep global recession and reflects management's view of the tail of the economic distribution. It incorporates the crystallisation of a number of risks simultaneously, including a further escalation of geopolitical crises globally, which creates severe supply disruptions to goods and energy markets.

In the scenario, as inflation surges and central banks tighten monetary policy further, confidence evaporates. However, this impulse is assumed to prove short lived, as recession takes hold, causing commodity prices to correct sharply and global price inflation to fall.

The following tables describe key macroeconomic variables in the Downside 2 scenario.

Downside 2 scenario 2024–2028 (as at 4Q23)

	UK		US		Hong Kong		Mainland China		Canada		France		UAE		Mexico	
GDP level (%, start-to-trough)[1]	**(8.8)**	**(2Q25)**	**(4.6)**	**(1Q25)**	**(8.2)**	**(1Q25)**	**(6.4)**	**(1Q25)**	**(4.8)**	**(1Q25)**	**(6.6)**	**(1Q25)**	**(4.9)**	**(2Q25)**	**(8.1)**	**(2Q25)**
Unemployment rate (%, max)[2]	**8.4**	**(2Q25)**	**9.3**	**(2Q25)**	**6.4**	**(4Q24)**	**7.0**	**(4Q25)**	**11.9**	**(1Q25)**	**10.2**	**(4Q25)**	**4.3**	**(3Q24)**	**4.9**	**(2Q25)**
House price index (%, start-to-trough)[1]	**(30.2)**	**(4Q25)**	**(14.7)**	**(4Q24)**	**(32.8)**	**(3Q26)**	**(25.5)**	**(4Q25)**	**(42.7)**	**(2Q25)**	**(14.5)**	**(2Q26)**	**(2.9)**	**(4Q25)**	**1.2**	**(1Q24)**
Inflation rate (YoY % change, max)[3]	**10.1**	**(2Q24)**	**4.8**	**(2Q24)**	**4.1**	**(3Q24)**	**4.1**	**(4Q24)**	**5.4**	**(2Q24)**	**8.6**	**(2Q24)**	**3.5**	**(2Q24)**	**7.0**	**(4Q24)**
Central bank policy rate (%, max)[2]	**6.0**	**(1Q24)**	**6.1**	**(1Q24)**	**6.4**	**(1Q24)**	**4.8**	**(3Q24)**	**5.8**	**(1Q24)**	**5.2**	**(1Q24)**	**6.1**	**(1Q24)**	**12.7**	**(3Q24)**

1 *Cumulative change to the lowest level of the series during the 20-quarter projection.*
2 *The highest projected unemployment or policy interest rate in the scenario.*
3 *The highest projected year-on-year percentage change in inflation in the scenario.*

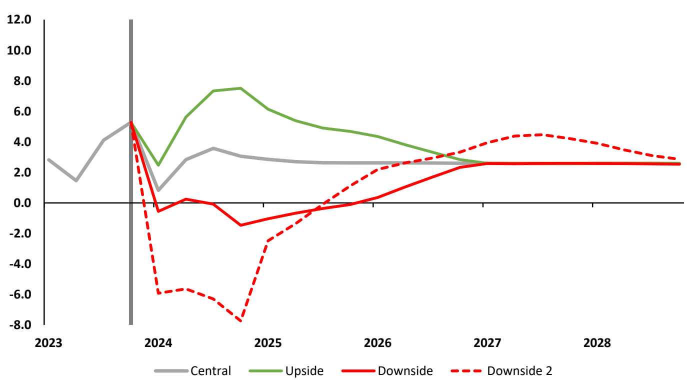
Downside 2 scenario 2023–2027 (as at 4Q22)

	UK		US		Hong Kong		Mainland China		Canada		France		UAE		Mexico	
GDP level (%, start-to-trough)[1]	(7.5)	(2Q24)	(5.2)	(2Q24)	(10.1)	(2Q24)	(6.9)	(1Q24)	(7.1)	(4Q24)	(7.4)	(2Q24)	(4.3)	(2Q24)	(8.2)	(2Q24)
Unemployment rate (%, max)[2]	8.7	(2Q24)	9.5	(4Q24)	5.8	(1Q24)	6.8	(4Q24)	11.6	(2Q24)	10.3	(4Q24)	4.6	(2Q24)	5.6	(2Q24)
House price index (%, start-to-trough)[1]	(32.9)	(1Q25)	(21.6)	(1Q24)	(26.6)	(2Q26)	(23.2)	(4Q24)	(41.2)	(3Q24)	(11.4)	(2Q25)	(4.8)	(2Q24)	1.1	(1Q23)
Inflation rate (YoY % change, max)[3]	13.5	(2Q23)	6.3	(1Q23)	4.3	(4Q23)	4.6	(4Q23)	6.5	(1Q23)	10.4	(2Q23)	4.8	(1Q23)	7.9	(1Q23)
Central bank policy rate (%, max)[2]	5.6	(4Q23)	5.5	(3Q23)	5.9	(3Q23)	5.1	(3Q23)	6.1	(3Q23)	4.1	(4Q23)	6.8	(3Q23)	12.3	(3Q23)

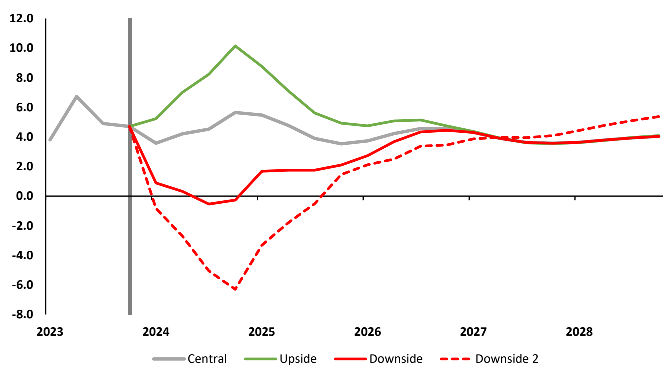
1 *Cumulative change to the lowest level of the series during the 20-quarter projection.*
2 *The highest projected unemployment or policy interest rate in the scenario.*
3 *The highest projected year-on-year percentage change in inflation in the scenario.*

The following graphs show the historical and forecasted GDP growth rate for the various economic scenarios in our four largest markets.

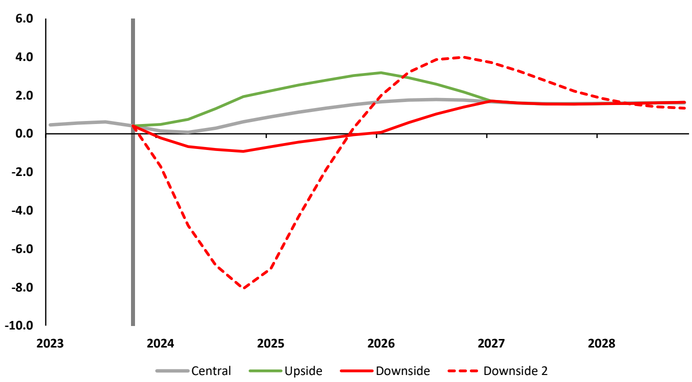
Hong Kong



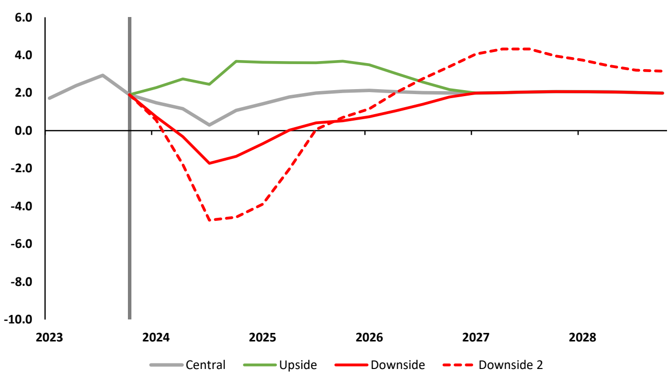
Mainland China



UK



US



Risk review

Scenario weighting

In reviewing the economic environment, the level of risk and uncertainty, management has considered both global and country-specific factors.

In the fourth quarter of 2023, key considerations around uncertainty attached to the Central scenario projections focused on:

- the risk that the Israel-Hamas war escalates and affects economic expectations;
- the lagged impact of elevated interest rates on household finances and businesses, and the implications of recent changes to monetary policy expectations on growth and employment; and
- the outlook for real estate in our key markets, particularly in the US, UK, Hong Kong and mainland China.

Although these risk factors remain significant, management assessed that they were adequately reflected in the scenarios at their calibrated probability. It was noted that despite the escalation of geopolitical risk in the Middle East, economic forecasts had remained stable, and dispersion of forecasts around the consensus were either stable, or have moved lower. Financial market measures of volatility also remained low through the fourth quarter of 2023.

This has led management to assign scenario probabilities that are aligned to the standard scenario probability calibration framework. This entailed assigning a 75% probability weighting to the Central scenario in our major markets. The consensus Upside scenario was awarded a 10% weighting, and the consensus Downside scenario was given 10%. The Downside 2 was assigned a 5% weighting.

In support of the decision, it was noted that in mainland China recent policy announcements suggest fiscal and monetary stimulus will increase significantly through 2024. This suggests that there will be increased official support to current economic headwinds, which would reduce the uncertainty attached to current forecasts.

In the UK, the Central scenario reflects a weak growth environment in which recession risks remain high. Similarly, in the US, the Central scenario reflects expectations for a weaker growth environment in 2024 as the economy adjusts to the higher rates environment.

For the UAE, it was agreed that there has been an increase in geopolitical uncertainty since the outbreak of the Israel-Hamas war, with the potential for regional escalation remaining a risk. However, economic and market impacts have been limited and oil production remains unaffected.

Management concluded that consensus expectations for Mexico, France and Canada were also consistent with its view of the economic outlook, while assessments of uncertainty were also aligned to historical averages.

In the fourth quarter of 2022, management varied the applied scenario weights to reflect greater uncertainty around the inflation and interest rate outlook, amid supply disruption to energy and food commodity markets due to the Ukraine-Russia war. In Hong Kong and mainland China, uncertainty assessments focused on the upside and downside risks of post-pandemic reopening.

Those factors were reflected in the measures of risk and uncertainty used to inform judgements around the Central scenario. In particular, large forecast changes were observed, alongside wide dispersion of forecasts around consensus estimates and heightened financial market volatility.

The following tables describe the probabilities assigned in each scenario.

Scenario weightings, %

	Standard weights	UK	US	Hong Kong	Mainland China	Canada	France	UAE	Mexico
4Q23									
Upside scenario	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Central scenario	**75**	**75**	**75**	**75**	**75**	**75**	**75**	**75**	**75**
Downside scenario	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Downside 2 scenario	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
4Q22									
Upside scenario	10	5	5	20	20	5	5	5	5
Central scenario	75	60	70	55	55	70	60	70	70
Downside scenario	10	25	20	20	20	15	25	20	20
Downside 2 scenario	5	10	5	5	5	10	10	5	5

At 31 December 2023, the consensus Upside and Central scenarios for all markets had a combined weighting of 85%. At 31 December 2022, mainland China, Hong Kong and the US each had a combined weighting of 75% for the consensus Upside and Central scenarios. The UK had a combined weighting of 65%.

Critical estimates and judgements

The calculation of ECL under IFRS 9 involved significant judgements, assumptions and estimates at 31 December 2023. These included:

- the selection of weights to apply to the economic scenarios given the rapidly changing economic conditions and the inherent uncertainty of the underlying forecast under each scenario;
- the selection of scenarios to consider given the changing nature of macroeconomic and geopolitical risks that the Group and wider economy faces; and
- estimating the economic effects of those scenarios on ECL, particularly sector and portfolio-specific risks, and the uncertainty of default and recovery experience under all scenarios.

How economic scenarios are reflected in ECL calculations

Models are used to reflect economic scenarios on ECL estimates. As described above, modelled assumptions and linkages based on historical information could not alone produce relevant information under the conditions experienced in 2023, and management judgemental adjustments were still required to support modelled outcomes.

We have developed globally consistent methodologies for the application of forward economic guidance into the calculation of ECL for wholesale and retail credit risk. These standard approaches are described below, followed by the management judgemental adjustments made, including those to reflect the circumstances experienced in 2023.

For our wholesale portfolios, a global methodology is used for the estimation of the term structure of probability of default ('PD') and loss given default ('LGD'). For PDs, we consider the correlation of forward economic guidance to default rates for a particular industry in a country. For LGD calculations, we consider the correlation of forward economic guidance to collateral values and realisation rates for a particular country and industry. PDs and LGDs are estimated for the entire term structure of each instrument.

For impaired loans, allowance for ECL estimates are derived based on discounted cash flow ('DCF') calculations for internal forward-looking scenarios specific to individual borrower circumstances (see page 348). Probability-weighted outcomes are applied, and depending on materiality and status of the borrower, the number of scenarios considered will change. Where relevant for the case being assessed, forward economic guidance is incorporated as part of these scenarios. LGD-driven proxy and modelled estimates are used for certain less material cases.

For our retail portfolios, the models are predominantly based on historical observations and correlations with default rates and collateral values.

For PD, the impact of economic scenarios is modelled for each portfolio, using historical relationships between default rates and macroeconomic variables. These are included within IFRS 9 ECL estimates using either economic response models or models that contain internal, external and macroeconomic variables. The macroeconomic impact on PD is modelled over the period equal to the remaining maturity of the underlying assets.

For LGD, the impact is modelled for mortgage portfolios by forecasting future loan-to-value profiles for the remaining maturity of the asset, using national level house price index forecasts and applying the corresponding LGD expectation relative to the updated forecast collateral values.

Management judgemental adjustments are described below.

Management judgemental adjustments

In the context of IFRS 9, management judgemental adjustments are typically short-term increases or decreases to the modelled allowance for ECL at either a customer, segment or portfolio level where management believes allowances do not sufficiently reflect the credit risk/expected credit losses at the reporting date. These can relate to risks or uncertainties that are not reflected in the models and/or to any late-breaking events with significant uncertainty, subject to management review and challenge.

This includes refining model inputs and outputs and using adjustments to ECL based on management judgement and quantitative analysis for impacts that are difficult to model.

The effects of management judgemental adjustments are considered for both balances and allowance for ECL when determining whether or not a significant increase in credit risk has occurred and is allocated to a stage where appropriate. This is in accordance with the internal adjustments framework.

Management judgemental adjustments are reviewed under the governance process for IFRS 9 (as detailed in the section 'Credit risk management' on page 147). Review and challenge focuses on the rationale and quantum of the adjustments with a further review carried out by the second line of defence where significant. For some management judgemental adjustments, internal frameworks establish the conditions under which these adjustments should no longer be required and as such are considered as part of the governance process. This internal governance process allows management judgemental adjustments to be reviewed regularly and, where possible, to reduce the reliance on these through model recalibration or redevelopment, as appropriate.

The drivers of management judgemental adjustments continue to evolve with the economic environment and as new risks emerge.

In addition to management judgemental adjustments there are also 'Other adjustments', which are made to address process limitations and data/model deficiencies.

'Management judgemental adjustments' and 'Other adjustments' constitute the total value of adjustments to modelled allowance for ECL. For the wholesale portfolio, defaulted exposures are assessed individually and management judgemental adjustments are made only to the performing portfolio.

At 31 December 2023, there was a $0.2bn reduction in management judgemental adjustments compared with 31 December 2022. For the wholesale portfolio, this was due to modelled outcomes better reflecting the key risks at 31 December 2023. For the retail portfolio, there was an increase in other credit judgements due to the potential delayed impact of economic scenarios on unsecured portfolio defaults, primarily within the UK .

Management judgemental adjustments made in estimating the scenario-weighted reported allowance for ECL at 31 December 2023 are set out in the following table.

Management judgemental adjustments to ECL at 31 December 2023[1]

	Retail	Wholesale[2]	Total
	$bn	$bn	$bn
Modelled ECL (A)[3]	**2.6**	**2.4**	**5.0**
Banks, sovereigns, government entities and low-risk counterparties		**0.0**	**0.0**
Corporate lending adjustments		**0.1**	**0.1**
Inflation related adjustments	**0.1**		**0.1**
Other credit judgements	**0.5**		**0.5**
Total management judgemental adjustments (B)[4]	**0.6**	**0.1**	**0.7**
Other adjustments (C)[5]	**0.0**	**0.0**	**0.0**
Final ECL (A + B + C)[6]	**3.2**	**2.5**	**5.7**

Management judgemental adjustments to ECL at 31 December 2022[1] (continued)

	Retail	Wholesale[2]	Total
	$bn	$bn	$bn
Modelled ECL (A)[3]	3.0	2.6	5.6
Banks, sovereigns, government entities and low-risk counterparties		0.1	0.1
Corporate lending adjustments		0.5	0.5
Inflation-related adjustments	0.1		0.1
Other credit judgements	0.2		0.2
Total management judgemental adjustments (B)[4]	0.3	0.6	0.9
Other adjustments (C)[5]	0.0	(0.1)	(0.1)
Final ECL (A + B + C)[6]	3.3	3.1	6.4

1 Management judgemental adjustments presented in the table reflect increases or (decreases) to allowance for ECL, respectively.
2 The wholesale portfolio corresponds to adjustments to the performing portfolio (stage 1 and stage 2).
3 (A) refers to probability-weighted allowance for ECL before any adjustments are applied.
4 (B) refers to adjustments that are applied where management believes allowance for ECL does not sufficiently reflect the credit risk/expected credit losses of any given portfolio at the reporting date. These can relate to risks or uncertainties that are not reflected in the model and/or to any late-breaking events.
5 (C) refers to adjustments to allowance for ECL made to address process limitations and data/model deficiencies.
6 As presented within our internal credit risk governance (see page 147).

Management judgemental adjustments at 31 December 2023 were an increase to allowance for ECL of $0.1bn for the wholesale portfolio and an increase to ECL of $0.6bn for the retail portfolio.

At 31 December 2023, wholesale management judgemental adjustments were an increase to allowance for ECL of $0.1bn (31 December 2022: $0.6bn increase).

- Management judgemental adjustments to corporate exposures increased allowance for ECL by $0.1bn at 31 December 2023 (31 December 2022: $0.5bn increase), mostly due to management judgements to reflect heightened uncertainty in specific sectors and geographies, including adjustments to exposures to the real estate sectors in mainland China, the UK and the US. The decrease in adjustments to allowances compared with 31 December 2022 is attributed to a crystallisation of existing risks at that date through downgrades, and an improved reflection of emerging risks in macroeconomic scenarios and modelled outcomes.

At 31 December 2023, retail management judgemental adjustments were an increase to allowance for ECL of $0.6bn (31 December 2022: $0.3bn increase). The increase in adjustments to allowance for ECL compared with 31 December 2022 was primarily due to the increase in management judgemental adjustments in other credit judgements (detailed below).

- Management judgemental adjustments in relation to inflation increased allowance for ECL by $0.1bn (31 December 2022: $0.1bn). These adjustments addressed where increasing inflation and interest rates result in affordability risks that were not fully captured by the modelled output.
- Management judgemental adjustments in relation to other credit judgements increased allowance for ECL by $0.5bn (31 December 2022: $0.2bn). These adjustments were primarily to capture the potential delayed impact of economic scenarios on unsecured portfolio defaults in the UK.

Economic scenarios sensitivity analysis of ECL estimates

Management considered the sensitivity of the ECL outcome against the economic forecasts as part of the ECL governance process by recalculating the allowance for ECL under each scenario described above for selected portfolios, applying a 100% weighting to each scenario in turn. The weighting is reflected in both the determination of a significant increase in credit risk and the measurement of the resulting allowances.

The allowance for ECL calculated for the Upside and Downside scenarios should not be taken to represent the upper and lower limits of possible ECL outcomes. The impact of defaults that might occur in the future under different economic scenarios is captured by recalculating allowances for loans at the balance sheet date.

There is a particularly high degree of estimation uncertainty in numbers representing tail risk scenarios when assigned a 100% weighting.

For wholesale credit risk exposures, the sensitivity analysis excludes allowance for ECL and financial instruments related to defaulted (stage 3) obligors. The measurement of stage 3 ECL is relatively more sensitive to credit factors specific to the obligor than future economic scenarios, and therefore the effects of macroeconomic factors are not necessarily the key consideration when performing individual assessments of allowances for obligors in default. Loans to defaulted obligors are a small portion of the overall wholesale lending exposure, even if representing the majority of the allowance for ECL. Due to the range and specificity of the credit factors to which the ECL is sensitive, it is not possible to provide a meaningful alternative sensitivity analysis for a consistent set of risks across all defaulted obligors.

For retail mortgage exposures the sensitivity analysis includes allowance for ECL for defaulted obligors of loans and advances. This is because the retail ECL for secured mortgage portfolios, including loans in all stages, is sensitive to macroeconomic variables.

Wholesale and retail sensitivity

The wholesale and retail sensitivity tables present the 100% weighted results. These exclude portfolios held by the insurance business and small portfolios, and as such cannot be directly compared with personal and wholesale lending presented in other credit risk tables. In both the wholesale and retail analysis, the comparative period results for Downside 2 scenarios are also not directly comparable with the current period, because they reflect different risks relative to the consensus scenarios for the period end.

The wholesale and retail sensitivity analysis is stated inclusive of management judgemental adjustments, as appropriate to each scenario.

For both retail and wholesale portfolios, the gross carrying amount of financial instruments are the same under each scenario. For exposures with similar risk profile and product characteristics, the sensitivity impact is therefore largely the result of changes in macroeconomic assumptions.

Wholesale analysis

IFRS 9 ECL sensitivity to future economic conditions[1,2,3]

By geography at 31 Dec 2023	Reported Gross carrying amount[4] $m	Reported allowance for ECL $m	Consensus Central scenario allowance for ECL $m	Consensus Upside scenario allowance for ECL $m	Consensus Downside scenario allowance for ECL $m	Downside 2 scenario allowance for ECL $m
UK	**426,427**	**820**	**754**	**599**	**1,041**	**2,487**
US	**191,104**	**215**	**199**	**189**	**268**	**441**
Hong Kong	**447,480**	**609**	**566**	**433**	**807**	**1,393**
Mainland China	**129,945**	**258**	**217**	**142**	**414**	**945**
Canada[5]	**84,092**	**89**	**75**	**56**	**107**	**487**
Mexico	**30,159**	**60**	**56**	**46**	**73**	**226**
UAE	**52,074**	**32**	**32**	**30**	**34**	**40**
France	**178,827**	**98**	**102**	**90**	**124**	**141**
Other geographies[6]	**450,271**	**325**	**298**	**245**	**410**	**882**
Total	**1,990,378**	**2,507**	**2,301**	**1,829**	**3,278**	**7,043**
of which:						
Stage 1	***1,820,843***	***754***	***702***	***553***	***860***	***854***
Stage 2	***169,535***	***1,753***	***1,599***	***1,276***	***2,418***	***6,189***
By geography at 31 Dec 2022						
UK	421,685	769	624	484	833	2,240
US	190,858	277	241	227	337	801
Hong Kong	415,875	925	819	592	1,315	2,161
Mainland China	125,466	295	242	144	415	1,227
Canada[5]	83,274	126	80	60	148	579
Mexico	26,096	88	80	67	116	313
UAE	45,064	45	41	30	55	93
France	173,146	110	102	90	121	145
Other geographies[6]	445,758	447	384	304	527	1,054
Total	1,927,222	3,083	2,612	2,000	3,866	8,612

1 *Allowance for ECL sensitivity includes off-balance sheet financial instruments. These are subject to significant measurement uncertainty.*
2 *Includes low credit-risk financial instruments such as debt instruments at FVOCI, which have high carrying amounts but low ECL under all the above scenarios.*
3 *Excludes defaulted obligors. For a detailed breakdown of performing and non-performing wholesale portfolio exposures, see page 176.*
4 *Staging refers only to probability-weighted/reported gross carrying amount. Stage allocation of gross exposures varies by scenario, with higher allocation to stage 2 under the Downside 2 scenario.*
5 *Classified as held for sale at 31 December 2023 and 31 December 2022.*
6 *Includes small portfolios that use less complex modelling approaches and are not sensitive to macroeconomic changes.*

At 31 December 2023, the highest level of 100% scenario-weighted allowance for ECL was observed in the UK and Hong Kong. This higher ECL impact was largely driven by significant exposure in these regions.

Compared with 31 December 2022, the Downside 2 allowance for ECL was lower in Hong Kong and mainland China, mostly due to the crystallisation of defaults for certain high-risk exposures and a decrease of the associated downside uncertainty.

In the wholesale portfolio, off-balance sheet financial instruments have a lower likelihood to be fully converted to a funded exposure at the point of default, and consequently the sensitivity of the allowance for ECL is lower in relation to its nominal amount, when compared with an on-balance sheet exposure with a similar risk profile.

Retail analysis

IFRS 9 ECL sensitivity to future economic conditions[1]

By geography at 31 December 2023	Reported gross carrying amount $m	Reported allowance for ECL $m	Consensus Central scenario allowance for ECL $m	Consensus Upside scenario allowance for ECL $m	Consensus Downside scenario allowance for ECL $m	Downside 2 scenario allowance for ECL $m
UK						
Mortgages	161,127	189	180	172	201	334
Credit cards	7,582	344	340	302	353	486
Other	8,183	341	333	273	383	515
Mexico						
Mortgages	8,666	188	180	150	235	363
Credit cards	2,445	295	286	206	376	489
Other	4,529	513	503	426	600	731
Hong Kong						
Mortgages	106,136	2	2	1	3	5
Credit cards	9,128	287	239	214	395	887
Other	6,269	109	100	88	124	256
UAE						
Mortgages	2,001	25	25	25	25	25
Credit cards	471	24	24	22	25	32
Other	721	20	20	19	21	28
France[3]						
Mortgages	20,589	50	50	50	51	51
Other	1,328	44	44	43	45	48
US						
Mortgages	14,385	8	4	3	4	10
Credit cards	204	15	15	10	15	16
Canada[2]						
Mortgages	25,464	67	65	64	70	99
Credit cards	338	13	13	12	16	15
Other	1,368	13	13	12	14	33
Other geographies						
Mortgages	55,368	152	149	144	158	198
Credit cards	3,655	173	166	151	202	291
Other	2,416	91	86	83	95	137
Total	442,373	2,962	2,835	2,471	3,411	5,049
of which: mortgages						
Stage 1	*347,874*	*101*	*92*	*77*	*145*	*303*
Stage 2	*43,451*	*264*	*249*	*225*	*280*	*429*
Stage 3	*2,412*	*316*	*314*	*307*	*322*	*352*
of which: credit cards						
Stage 1	*18,557*	*249*	*232*	*180*	*329*	*604*
Stage 2	*4,953*	*707*	*657*	*546*	*859*	*1,415*
Stage 3	*312*	*193*	*193*	*192*	*194*	*197*
of which: others						
Stage 1	*19,551*	*218*	*151*	*205*	*272*	*501*
Stage 2	*4,542*	*540*	*423*	*519*	*636*	*868*
Stage 3	*722*	*373*	*370*	*373*	*375*	*379*

IFRS 9 ECL sensitivity to future economic conditions[1] (continued)

By geography at 31 December 2022	Reported gross carrying amount $m	Reported allowance for ECL $m	Consensus Central scenario allowance for ECL $m	Consensus Upside scenario allowance for ECL $m	Consensus Downside scenario allowance for ECL $m	Downside 2 scenario allowance for ECL $m
UK						
Mortgages	147,306	204	188	183	189	399
Credit cards	6,518	455	434	396	442	719
Other	7,486	368	333	274	383	605
Mexico						
Mortgages	6,319	152	127	102	183	270
Credit cards	1,616	198	162	97	233	289
Other	3,447	438	400	318	503	618
Hong Kong						
Mortgages	100,107	1	1	—	1	1
Credit cards	8,003	261	227	180	417	648
Other	5,899	85	81	74	100	123
UAE						
Mortgages	2,170	37	37	36	38	38
Credit cards	441	41	37	21	68	86
Other	718	17	17	15	19	22
France						
Mortgages	21,440	51	50	50	51	52
Other	1,433	54	53	52	55	59
US						
Mortgages	13,489	7	6	6	8	15
Credit cards	219	26	25	23	27	36
Canada						
Mortgages	25,163	45	44	43	46	58
Credit cards	299	10	9	8	11	11
Other	1,399	16	14	13	17	36
Other geographies						
Mortgages	56,383	199	190	183	205	253
Credit cards	3,871	192	176	150	219	324
Other	3,630	115	111	107	119	159
Total	417,356	2,972	2,722	2,331	3,334	4,821

1 *Allowance for ECL sensitivities exclude portfolios utilising less complex modelling approaches.*
2 *Classified as 'assets held for sale' at 31 December 2023.*
3 *Includes balances and allowance for ECL, which have been reclassified from 'loans and advances to customers' to 'assets held for sale' in the balance sheet at 31 December 2023. This also includes any balances and allowance for ECL, which continue to be reported as personal lending in 'loans and advances to customers' that are in accordance with the basis of inclusion for retail sensitivity analysis.*

At 31 December 2023, the most significant level of allowance for ECL sensitivity was observed in the UK, Mexico and Hong Kong. Mortgages reflected the lowest level of allowance for ECL sensitivity across most markets given the significant levels of collateral relative to the exposure values. Credit cards and other unsecured lending across stage 1 and 2 are more sensitive to economic forecasts and therefore reflected the highest level of allowance for ECL sensitivity during 2023.

There is limited sensitivity in credit cards and other unsecured lending in stage 3 as levels of loss on defaulted exposures remain consistent through various economic conditions. The alternative downside is from the tail of the economic distribution where allowance for ECL is more sensitive based on historical experience.

The reported gross carrying amount by stage is representative of the weighted scenario allowance for ECL. The allowance for ECL sensitivity to the other scenarios includes changes in allowance for ECL due to the levels of loss and the migration of additional lending balances in or out of stage 2.

Group ECL sensitivity results

The allowance for ECL of the scenarios and management judgemental adjustments is highly sensitive to movements in economic forecasts. Based upon the sensitivity tables presented above, if the Group allowance for ECL balance was estimated solely on the basis of the Central scenario, Downside scenario or the Downside 2 scenario at 31 December 2023, it would increase/(decrease) as presented in the below table.

Total Group ECL at 31 December 2023	**Retail[1] $bn**	**Wholesale[1] $bn**
Reported allowance for ECL	**3.0**	**2.5**
Scenarios		
100% Consensus Central scenario	**(0.1)**	**(0.2)**
100% Consensus Upside scenario	**(0.5)**	**(0.7)**
100% Consensus Downside scenario	**0.4**	**0.8**
100% Downside 2 scenario	**2.1**	**4.5**
Total Group ECL at 31 December 2022		
Reported allowance for ECL	3.0	3.1
Scenarios		
100% Consensus Central scenario	(0.2)	(0.5)
100% Consensus Upside scenario	(0.6)	(1.1)
100% Consensus Downside scenario	0.4	0.8
100% Downside 2 scenario	1.8	5.5

1 *On the same basis as retail and wholesale sensitivity analysis.*

At 31 December 2023, the Group allowance for ECL remained unchanged in the retail portfolio and decreased by $0.6bn in the wholesale portfolio, compared with 31 December 2022.

The decrease in the Downside 2 scenario sensitivity within the wholesale portfolio since 31 December 2022 has been mostly driven by the crystallisation of defaults of higher risk exposures to the mainland China real estate sector and a reduction of related uncertainty. Within the retail portfolio, the increase in the Downside 2 scenario sensitivity was due to portfolio growth in Mexico and scenario forecast deterioration in Hong Kong.

At 31 December 2023, the sensitivity of the allowance for ECL to the consensus Central and consensus Upside scenarios decreased for both retail and wholesale portfolios due to lower macroeconomic forecast uncertainty, and the return to standardised weighting for the probability-weighted reported allowance.

Reconciliation from reported exposure and ECL to sensitised exposure and weighted ECL

	Wholesale		Retail		Total	
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m
Included in sensitivity analysis	**1,990,378**	**(2,507)**	**442,373**	**(2,962)**	**2,432,751**	**(5,469)**
– Exclusions from sensitivity as described in the section above[1]	**17,024**	**(6,237)**	**308,569**	**(93)**	**325,593**	**(6,330)**
– Debt instruments measured at fair value through other comprehensive income[2]	**(302,348)**	**97**	**—**	**—**	**(302,348)**	**97**
– Performance guarantees[2]	**(93,312)**	**35**	**—**	**—**	**(93,312)**	**35**
– Other financial assets at amortised cost not presented as wholesale or personal lending, including held for sale[2]	**(579,534)**	**93**	**(41,129)**	**174**	**(620,663)**	**267**
– Other[3]	**2,704**	**(84)**	**(4,175)**	**(11)**	**(1,471)**	**(95)**
As reported in the Summary of credit risk (excluding debt instruments measured at FVOCI) by stage distribution and ECL coverage by industry sector at 31 December 2023	**1,034,912**	**(8,603)**	**705,638**	**(2,892)**	**1,740,550**	**(11,495)**
Other financial assets at amortised cost					**960,271**	**(422)**
Total reported in the Summary of credit risk (excluding debt instruments measured at FVOCI) by stage distribution and ECL coverage by industry sector at 31 December 2023					**2,700,821**	**(11,917)**

1 *Comprises wholesale defaulted obligors, retail portfolios utilising less complex modelling approaches, private banking and insurance.*
2 *The sensitivity analysis includes certain items reported in Other assets at amortised cost, which are not allocated to an industry in the credit tables. It also includes FVOCI and performance guarantees, which are presented separately in the credit tables.*
3 *Includes FX and other operational variances.*

Reconciliations of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees

The following disclosure provides a reconciliation by stage of the Group's gross carrying/nominal amount and allowances for loans and advances to banks and customers, including loan commitments and financial guarantees.

In addition, a reconciliation by stage of the Group's gross carrying amount and allowances for loans and advances to banks and customers and a reconciliation by stage of the Group's nominal amount and allowances for loan commitments and financial guarantees were included in this section following the adoption of the recommendations of the DECL Taskforce's third report.

Movements are calculated on a quarterly basis and therefore fully capture stage movements between quarters. If movements were calculated on a year-to-date basis they would only reflect the opening and closing position of the financial instrument.

The transfers of financial instruments represents the impact of stage transfers upon the gross carrying/nominal amount and associated allowance for ECL.

The net remeasurement of ECL arising from transfer of stage represents the increase or decrease due to these transfers, for example, moving from a 12-month (stage 1) to a lifetime (stage 2) ECL measurement basis. Net remeasurement excludes the underlying customer risk rating ('CRR')/probability of default ('PD') movements of the financial instruments transferring stage. This is captured, along with other credit quality movements in the 'changes to risk parameters – credit quality' line item.

Changes in 'Net new and further lending/repayments' represents the impact from volume movements within the Group's lending portfolio and includes 'New financial assets originated or purchased', 'assets derecognised (including final repayments)' and 'changes to risk parameters – further lending/repayment'.

Reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees

(Audited)

	Non-credit impaired				Credit impaired				Total	
	Stage 1		Stage 2		Stage 3		POCI			
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2023	**1,433,643**	**(1,257)**	**177,223**	**(3,710)**	**21,207**	**(6,949)**	**129**	**(38)**	**1,632,202**	**(11,954)**
Transfers of financial instruments:	(18,948)	(1,048)	10,286	2,228	8,662	(1,180)	—	—	—	—
– transfers from stage 1 to stage 2	(150,728)	442	150,728	(442)	—	—	—	—	—	—
– transfers from stage 2 to stage 1	133,079	(1,467)	(133,079)	1,467	—	—	—	—	—	—
– transfers to stage 3	(1,986)	23	(8,600)	1,379	10,586	(1,402)	—	—	—	—
– transfers from stage 3	687	(46)	1,237	(176)	(1,924)	222	—	—	—	—
Net remeasurement of ECL arising from transfer of stage	—	917	—	(973)	—	(124)	—	—	—	(180)
Net new and further lending/repayments	77,693	(185)	(36,795)	661	(4,956)	1,117	(36)	3	35,906	1,596
Changes to risk parameters – credit quality	—	307	—	(1,262)	—	(3,896)	—	21	—	(4,830)
Changes to models used for ECL calculation	—	(22)	—	46	—	7	—	—	—	31
Assets written off	—	—	—	—	(3,922)	3,922	—	—	(3,922)	3,922
Credit-related modifications that resulted in derecognition	—	—	—	—	(119)	95	—	—	(119)	95
Foreign exchange and others[1]	4,417	(12)	2,370	(92)	(73)	(55)	(8)	(16)	6,706	(175)
At 31 Dec 2023	**1,496,805**	**(1,300)**	**153,084**	**(3,102)**	**20,799**	**(7,063)**	**85**	**(30)**	**1,670,773**	**(11,495)**
ECL income statement change for the period		1,017		(1,528)		(2,896)		24		(3,383)
Recoveries										268
Others										(195)
Total ECL income statement change for the period										**(3,310)**

1 *Total includes $7.7bn of gross carrying loans and advances to customers and banks, which were classified to assets held for sale, and a corresponding allowance for ECL of $70m, reflecting business disposals as disclosed in Note 23 'Assets held for sale and liabilities of disposal groups held for sale' on page 401.*

	At 31 Dec 2023		12 months ended 31 Dec 2023
	Gross carrying/ nominal amount	Allowance for ECL	ECL charge
	$m	$m	$m
As above	**1,670,773**	**(11,495)**	**(3,310)**
Other financial assets measured at amortised cost	960,271	(422)	(35)
Non-trading reverse purchase agreement commitments	69,777	—	—
Performance and other guarantees not considered for IFRS 9	—	—	(44)
Summary of financial instruments to which the impairment requirements in IFRS 9 are applied/Summary consolidated income statement	**2,700,821**	**(11,917)**	**(3,389)**
Debt instruments measured at FVOCI	302,348	(97)	(58)
Total allowance for ECL/total income statement ECL change for the period	**n/a**	**(12,014)**	**(3,447)**

As shown in the previous table, the allowance for ECL for loans and advances to customers and banks and relevant loan commitments and financial guarantees decreased $459m during the period from $11,954m at 31 December 2022 to $11,495m at 31 December 2023.

This decrease was driven by:

– $3,922m of assets written off;

– $1,596m relating to volume movements, which included the allowance for ECL associated with new originations, assets derecognised and further lending/repayment;

– $95m relating to credit-related modifications, which resulted in derecognition; and

– $31m of changes to models used for ECL calculation.

These were partly offset by:

– $4,830m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stages;

– $180m relating to the net remeasurement impact of stage transfers; and

– foreign exchange and other movements of $175m.

The ECL charge for the period of $3,383m presented in the previous table consisted of $4,830m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stages and $180m relating to the net remeasurement impact of stage transfers.

This was partly offset by $1,596m relating to underlying net book volume movement and $31m in changes to models used for ECL calculation.

Summary views of the movement in wholesale and personal lending are presented on pages 179 and 192.

Reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees

(Audited)

	Non-credit impaired				Credit impaired					
	Stage 1		Stage 2		Stage 3		POCI		Total	
	Gross exposure	Allowance/ provision for ECL	Gross exposure	Allowance/ provision for ECL	Gross exposure	Allowance/ provision for ECL	Gross exposure	Allowance/ provision for ECL	Gross exposure	Allowance/ provision for ECL
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2022	1,575,808	(1,552)	155,654	(3,323)	19,796	(6,928)	275	(64)	1,751,533	(11,867)
Transfers of financial instruments:	(98,940)	(794)	88,974	1,616	9,966	(822)	—	—	—	—
– transfers from stage 1 to stage 2	(225,458)	469	225,458	(469)	—	—	—	—	—	—
– transfers from stage 2 to stage 1	128,170	(1,211)	(128,170)	1,211	—	—	—	—	—	—
– transfers to stage 3	(2,392)	9	(10,083)	1,132	12,475	(1,141)	—	—	—	—
– transfers from stage 3	740	(61)	1,769	(258)	(2,509)	319	—	—	—	—
Net remeasurement of ECL arising from transfer of stage	—	735	—	(948)	—	(148)	—	—	—	(361)
Net new and further lending/ repayments	99,253	(175)	(44,877)	435	(3,399)	674	(133)	3	50,844	937
Changes to risk parameters – credit quality	—	400	—	(1,671)	—	(3,019)	—	32	—	(4,258)
Changes to models used for ECL calculation	—	4	—	(151)	—	13	—	—	—	(134)
Assets written off	—	—	—	—	(2,791)	2,791	(10)	10	(2,801)	2,801
Credit-related modifications that resulted in derecognition	—	—	—	—	(32)	9	—	—	(32)	9
Foreign exchange and others[1]	(142,478)	125	(22,528)	332	(2,333)	481	(3)	(19)	(167,342)	919
At 31 Dec 2022	1,433,643	(1,257)	177,223	(3,710)	21,207	(6,949)	129	(38)	1,632,202	(11,954)
ECL income statement change for the period	—	964	—	(2,335)	0	(2,480)	—	35	—	(3,816)
Recoveries	—	—	—	—	—	—	—	—	—	316
Others	—	—	—	—	—	—	—	—	—	(28)
Total ECL income statement change for the period	—	—	—	—	—	—	—	—	—	(3,528)

1 *Total includes $82.7bn of gross carrying loans and advances to customers and banks, which were classified to assets held for sale, and a corresponding allowance for ECL of $426m, reflecting business disposals as disclosed in Note 23 'Assets held for sale and liabilities of disposal groups held for sale' on page 401.*

	At 31 Dec 2022		12 months ended 31 Dec 2022
	Gross carrying/ nominal amount	Allowance for ECL	ECL charge
	$m	$m	$m
As above	1,632,202	(11,954)	(3,528)
Other financial assets measured at amortised cost	954,934	(493)	(38)
Non-trading reverse purchase agreement commitments	44,921	—	—
Performance and other guarantees not considered for IFRS 9	—	—	39
Summary of financial instruments to which the impairment requirements in IFRS 9 are applied/Summary consolidated income statement	2,632,057	(12,447)	(3,527)
Debt instruments measured at FVOCI	265,147	(126)	(57)
Total allowance for ECL/total income statement ECL change for the period	n/a	(12,573)	(3,584)

Reconciliation of changes in gross carrying amount and allowances for loans and advances to banks and customers

	Non-credit impaired				Credit impaired					
	Stage 1		Stage 2		Stage 3		POCI		Total	
	Gross carrying amount	Allowance for ECL	Gross carrying amount	Allowance for ECL	Gross carrying amount	Allowance for ECL	Gross carrying amount	Allowance for ECL	Gross carrying amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2023	**879,023**	**(1,109)**	**140,816**	**(3,518)**	**19,586**	**(6,851)**	**129**	**(38)**	**1,039,554**	**(11,516)**
Transfers of financial instruments:	(19,276)	(980)	11,250	2,154	8,026	(1,174)	—	—	—	—
– transfers from stage 1 to stage 2	(108,758)	423	108,758	(423)	—	—	—	—	—	—
– transfers from stage 2 to stage 1	90,655	(1,382)	(90,655)	1,382	—	—	—	—	—	—
– transfers to stage 3	(1,692)	22	(7,975)	1,367	9,667	(1,389)	—	—	—	—
– transfers from stage 3	519	(43)	1,122	(172)	(1,641)	215	—	—	—	—
Net remeasurement of ECL arising from transfer of stage	—	859	—	(934)	—	(118)	—	—	—	(193)
Net new and further lending/ repayments	55,024	(210)	(32,069)	685	(4,233)	1,026	(40)	3	18,682	1,504
Changes to risk parameters – credit quality	—	311	—	(1,292)	—	(3,804)	—	21	—	(4,764)
Changes to models used for ECL calculation	—	(17)	—	28	—	7	—	—	—	18
Assets written off	—	—	—	—	(3,922)	3,922	—	—	(3,922)	3,922
Credit-related modifications that resulted in derecognition	—	—	—	—	(119)	95	—	—	(119)	95
Foreign exchange and others[1]	6,092	6	2,310	(90)	(63)	(55)	(8)	(16)	8,331	(155)
At 31 Dec 2023	**920,863**	**(1,140)**	**122,307**	**(2,967)**	**19,275**	**(6,952)**	**81**	**(30)**	**1,062,526**	**(11,089)**
ECL income statement change for the period		943		(1,513)		(2,889)		24		(3,435)
Recoveries										268
Others										(203)
Total ECL income statement change for the period										**(3,370)**

1 *Total includes $7.7bn of gross carrying loans and advances to customers and banks, which were classified to assets held for sale, and a corresponding allowance for ECL of $70m, reflecting business disposals as disclosed in Note 23 'Assets held for sale and liabilities of disposal groups held for sale' on page 401.*

Reconciliation of changes in nominal amount and allowances for loan commitments and financial guarantees

	Non-credit impaired				Credit impaired					
	Stage 1		Stage 2		Stage 3		POCI		Total	
	Nominal amount	Allowance for ECL	Nominal amount	Allowance for ECL	Nominal amount	Allowance for ECL	Nominal amount	Allowance for ECL	Nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2023	**554,620**	**(148)**	**36,407**	**(192)**	**1,621**	**(98)**	**—**	**—**	**592,648**	**(438)**
Transfers of financial instruments:	328	(68)	(964)	74	636	(6)	—	—	—	—
– transfers from stage 1 to stage 2	(41,970)	19	41,970	(19)	—	—	—	—	—	—
– transfers from stage 2 to stage 1	42,424	(85)	(42,424)	85	—	—	—	—	—	—
– transfers to stage 3	(294)	1	(625)	12	919	(13)	—	—	—	—
– transfers from stage 3	168	(3)	115	(4)	(283)	7	—	—	—	—
Net remeasurement of ECL arising from transfer of stage	—	58	—	(39)	—	(6)	—	—	—	13
Net new and further lending/ repayments	22,669	25	(4,726)	(24)	(723)	91	4	—	17,224	92
Changes to risk parameters – credit quality	—	(4)	—	30	—	(92)	—	—	—	(66)
Changes to models used for ECL calculation	—	(5)	—	18	—	—	—	—	—	13
Foreign exchange and others	(1,675)	(18)	60	(2)	(10)	—	—	—	(1,625)	(20)
At 31 Dec 2023	**575,942**	**(160)**	**30,777**	**(135)**	**1,524**	**(111)**	**4**	**—**	**608,247**	**(406)**
ECL income statement change for the period		74		(15)		(7)		—		52
Recoveries										—
Others										8
Total ECL income statement change for the period										**60**

Credit quality

Credit quality of financial instruments

(Audited)

We assess the credit quality of all financial instruments that are subject to credit risk. The credit quality of financial instruments is a point-in-time assessment of PD, whereas stages 1 and 2 are determined based on relative deterioration of credit quality since initial recognition for the majority of portfolios. Accordingly, for non-credit-impaired financial instruments, there is no direct relationship between the credit quality assessment and stages 1 and 2, although typically the lower credit quality bands exhibit a higher proportion in stage 2.

The five credit quality classifications provided below each encompass a range of granular internal credit rating grades assigned to wholesale and personal lending businesses and the external ratings attributed by external agencies to debt securities, as shown in the table on page 148.

Distribution of financial instruments by credit quality at 31 December 2023

(Audited)

	Gross carrying/notional amount						Allowance for ECL/ other credit provisions	Net
	Strong	Good	Satisfactory	Sub-standard	Credit impaired	Total		
	$m	$m	$m	$m	$m	$m	$m	$m
In-scope for IFRS 9 ECL								
Loans and advances to customers held at amortised cost	497,665	206,476	197,582	28,532	19,354	949,609	(11,074)	938,535
– personal	346,562	62,656	32,314	2,485	3,505	447,522	(2,867)	444,655
– corporate and commercial	118,123	123,713	145,249	25,531	15,039	427,655	(7,803)	419,852
– non-bank financial institutions	32,980	20,107	20,019	516	810	74,432	(404)	74,028
Loans and advances to banks held at amortised cost	101,057	4,640	6,363	855	2	112,917	(15)	112,902
Cash and balances at central banks	284,723	1,068	77	—	—	285,868	—	285,868
Items in the course of collection from other banks	6,327	15	—	—	—	6,342	—	6,342
Hong Kong Government certificates of indebtedness	42,024	—	—	—	—	42,024	—	42,024
Reverse repurchase agreements – non-trading	170,494	46,884	34,206	633	—	252,217	—	252,217
Financial investments	143,333	3,814	1,137	62	—	148,346	(20)	148,326
Assets held for sale	68,501	16,403	14,812	2,939	531	103,186	(324)	102,862
Other assets	99,857	11,967	9,965	366	133	122,288	(78)	122,210
– endorsements and acceptances	2,405	2,666	2,707	161	18	7,957	(18)	7,939
– accrued income and other	97,452	9,301	7,258	205	115	114,331	(60)	114,271
Debt instruments measured at fair value through other comprehensive income[1]	288,959	12,037	7,897	805	5	309,703	(97)	309,606
Out-of-scope for IFRS 9 ECL								
Trading assets	122,695	20,595	20,746	1,326	135	165,497	—	165,497
Other financial assets designated and otherwise mandatorily measured at fair value through profit or loss	52,649	11,517	4,733	84	6	68,989	—	68,989
Derivatives	196,098	27,377	6,041	187	11	229,714	—	229,714
Assets held for sale	12,495	—	—	—	—	12,495	—	12,495
Total gross carrying amount on balance sheet	2,086,877	362,793	303,559	35,789	20,177	2,809,195	(11,608)	2,797,587
Percentage of total credit quality (%)	74.3	12.9	10.8	1.3	0.7	100		
Loan and other credit-related commitments	436,359	142,500	73,230	7,782	1,144	661,015	(367)	660,648
Financial guarantees	7,700	4,146	4,080	699	384	17,009	(39)	16,970
In-scope: Irrevocable loan commitments and financial guarantees	444,059	146,646	77,310	8,481	1,528	678,024	(406)	677,618
Loan and other credit-related commitments	92,509	77,891	61,462	3,896	377	236,135	—	236,135
Performance and other guarantees	39,784	32,231	19,445	1,853	964	94,277	(145)	94,132
Out-of-scope: Revocable loan commitments and non-financial guarantees	132,293	110,122	80,907	5,749	1,341	330,412	(145)	330,267

1 *For the purposes of this disclosure, gross carrying amount is defined as the amortised cost of a financial asset before adjusting for any loss allowance. As such, the gross carrying amount of debt instruments at FVOCI as presented above will not reconcile to the balance sheet as it excludes fair value gains and losses.*

Distribution of financial instruments by credit quality at 31 December 2022 (continued)

(Audited)

	Gross carrying/notional amount						Allowance for ECL/other credit provisions	
	Strong	Good	Satisfactory	Sub-standard	Credit impaired	Total		Net
	$m	$m	$m	$m	$m	$m	$m	$m
In-scope for IFRS 9 ECL								
Loans and advances to customers held at amortised cost	492,711	196,735	196,486	29,443	19,633	935,008	(11,447)	923,561
– personal	333,839	45,590	28,918	3,196	3,339	414,882	(2,870)	412,012
– corporate and commercial	126,521	132,128	153,841	24,887	15,825	453,202	(8,320)	444,882
– non-bank financial institutions	32,351	19,017	13,727	1,360	469	66,924	(257)	66,667
Loans and advances to banks held at amortised cost	92,675	4,833	5,643	1,311	82	104,544	(69)	104,475
Cash and balances at central banks	325,119	1,296	590	—	—	327,005	(3)	327,002
Items in the course of collection from other banks	7,280	12	5	—	—	7,297	—	7,297
Hong Kong Government certificates of indebtedness	43,787	—	—	—	—	43,787	—	43,787
Reverse repurchase agreements – non-trading	170,386	41,659	41,686	20	3	253,754	—	253,754
Financial investments	103,379	3,212	2,334	161	—	109,086	(20)	109,066
Assets held for sale	67,616	17,993	13,972	2,333	642	102,556	(415)	102,141
Other assets	91,006	11,126	8,875	290	152	111,449	(55)	111,394
– endorsements and acceptances	2,350	3,059	2,815	175	25	8,424	(17)	8,407
– accrued income and other	88,656	8,067	6,060	115	127	103,025	(38)	102,987
Debt instruments measured at fair value through other comprehensive income[1]	260,654	9,957	5,730	1,910	7	278,258	(126)	278,132
Out-of-scope for IFRS 9 ECL								
Trading assets	91,330	14,371	23,414	820	133	130,068	—	130,068
Other financial assets designated and otherwise mandatorily measured at fair value through profit or loss	49,602	11,116	3,145	187	—	64,050	—	64,050
Derivatives	241,918	34,181	7,843	181	36	284,159	—	284,159
Assets held for sale	15,254	—	—	—	—	15,254	—	15,254
Total gross carrying amount on balance sheet	2,052,717	346,491	309,723	36,656	20,688	2,766,275	(12,135)	2,754,140
Percentage of total credit quality (%)	74.2	12.6	11.2	1.3	0.7	100	—	—
Loan and other credit-related commitments	402,972	132,402	74,410	7,632	1,372	618,788	(386)	618,402
Financial guarantees	8,281	4,669	4,571	1,013	249	18,783	(52)	18,731
In-scope: Irrevocable loan commitments and financial guarantees	411,253	137,071	78,981	8,645	1,621	637,571	(438)	637,133
Loan and other credit-related commitments	76,098	69,667	59,452	3,360	489	209,066	—	209,066
Performance and other guarantees	37,943	30,029	17,732	2,137	399	88,240	(110)	88,130
Out-of-scope: Revocable loan commitments and non-financial guarantees	114,041	99,696	77,184	5,497	888	297,306	(110)	297,196

1 *For the purposes of this disclosure, gross carrying amount is defined as the amortised cost of a financial asset before adjusting for any loss allowance. As such, the gross carrying amount of debt instruments at FVOCI as presented above will not reconcile to the balance sheet as it excludes fair value gains and losses.*

Distribution of financial instruments to which the impairment requirements in IFRS 9 are applied, by credit quality and stage allocation

(Audited)

	Gross carrying/notional amount							
	Strong	Good	Satisfactory	Sub-standard	Credit impaired	Total	Allowance for ECL	Net
	$m	$m	$m	$m	$m	$m	$m	$m
Loans and advances to customers at amortised cost	**497,665**	**206,476**	**197,582**	**28,532**	**19,354**	**949,609**	**(11,074)**	**938,535**
– stage 1	**478,422**	**177,410**	**147,940**	**5,612**	**—**	**809,384**	**(1,130)**	**808,254**
– stage 2	**19,243**	**29,066**	**49,642**	**22,920**	**—**	**120,871**	**(2,964)**	**117,907**
– stage 3	**—**	**—**	**—**	**—**	**19,273**	**19,273**	**(6,950)**	**12,323**
– POCI	**—**	**—**	**—**	**—**	**81**	**81**	**(30)**	**51**
Loans and advances to banks at amortised cost	**101,057**	**4,640**	**6,363**	**855**	**2**	**112,917**	**(15)**	**112,902**
– stage 1	**101,011**	**4,631**	**5,550**	**287**	**—**	**111,479**	**(10)**	**111,469**
– stage 2	**46**	**9**	**813**	**568**	**—**	**1,436**	**(3)**	**1,433**
– stage 3	**—**	**—**	**—**	**—**	**2**	**2**	**(2)**	**—**
– POCI	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Other financial assets measured at amortised cost	**815,259**	**80,151**	**60,197**	**4,000**	**664**	**960,271**	**(422)**	**959,849**
– stage 1	**814,776**	**78,486**	**53,095**	**516**	**—**	**946,873**	**(109)**	**946,764**
– stage 2	**483**	**1,665**	**7,102**	**3,484**	**—**	**12,734**	**(132)**	**12,602**
– stage 3	**—**	**—**	**—**	**—**	**664**	**664**	**(181)**	**483**
– POCI	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Loan and other credit-related commitments	**436,359**	**142,500**	**73,230**	**7,782**	**1,144**	**661,015**	**(367)**	**660,648**
– stage 1	**432,017**	**135,192**	**61,213**	**2,527**	**—**	**630,949**	**(153)**	**630,796**
– stage 2	**4,342**	**7,308**	**12,017**	**5,255**	**—**	**28,922**	**(128)**	**28,794**
– stage 3	**—**	**—**	**—**	**—**	**1,140**	**1,140**	**(86)**	**1,054**
– POCI	**—**	**—**	**—**	**—**	**4**	**4**	**—**	**4**
Financial guarantees	**7,700**	**4,146**	**4,080**	**699**	**384**	**17,009**	**(39)**	**16,970**
– stage 1	**7,497**	**3,943**	**3,204**	**102**	**—**	**14,746**	**(7)**	**14,739**
– stage 2	**203**	**203**	**876**	**597**	**—**	**1,879**	**(7)**	**1,872**
– stage 3	**—**	**—**	**—**	**—**	**384**	**384**	**(25)**	**359**
– POCI	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
At 31 Dec 2023	**1,858,040**	**437,913**	**341,452**	**41,868**	**21,548**	**2,700,821**	**(11,917)**	**2,688,904**
Debt instruments at FVOCI[1]								
– stage 1	**288,909**	**12,037**	**7,579**	**—**	**—**	**308,525**	**(37)**	**308,488**
– stage 2	**50**	**—**	**318**	**805**	**—**	**1,173**	**(59)**	**1,114**
– stage 3	**—**	**—**	**—**	**—**	**5**	**5**	**(1)**	**4**
– POCI	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
At 31 Dec 2023	**288,959**	**12,037**	**7,897**	**805**	**5**	**309,703**	**(97)**	**309,606**
Loans and advances to customers at amortised cost	492,711	196,735	196,486	29,443	19,633	935,008	(11,447)	923,561
– stage 1	458,706	170,055	142,408	5,130	—	776,299	(1,092)	775,207
– stage 2	34,005	26,680	54,078	24,313	—	139,076	(3,488)	135,588
– stage 3	—	—	—	—	19,504	19,504	(6,829)	12,675
– POCI	—	—	—	—	129	129	(38)	91
Loans and advances to banks at amortised cost	92,675	4,833	5,643	1,311	82	104,544	(69)	104,475
– stage 1	92,377	4,465	5,466	415	—	102,723	(18)	102,705
– stage 2	298	368	177	896	—	1,739	(29)	1,710
– stage 3	—	—	—	—	82	82	(22)	60
– POCI	—	—	—	—	—	—	—	—
Other financial assets measured at amortised cost	808,573	75,298	67,462	2,804	797	954,934	(493)	954,441
– stage 1	807,893	70,794	59,887	224	—	938,798	(95)	938,703
– stage 2	680	4,504	7,575	2,580	—	15,339	(165)	15,174
– stage 3	—	—	—	—	797	797	(233)	564
– POCI	—	—	—	—	—	—	—	—
Loan and other credit-related commitments	402,972	132,402	74,410	7,632	1,372	618,788	(386)	618,402
– stage 1	398,120	121,581	60,990	2,692	—	583,383	(141)	583,242
– stage 2	4,852	10,821	13,420	4,940	—	34,033	(180)	33,853
– stage 3	—	—	—	—	1,372	1,372	(65)	1,307
– POCI	—	—	—	—	—	—	—	—
Financial guarantees	8,281	4,669	4,571	1,013	249	18,783	(52)	18,731
– stage 1	8,189	4,245	3,488	149	—	16,071	(6)	16,065
– stage 2	92	424	1,083	864	—	2,463	(13)	2,450
– stage 3	—	—	—	—	249	249	(33)	216
– POCI	—	—	—	—	—	—	—	—
At 31 Dec 2022	1,805,212	413,937	348,572	42,203	22,133	2,632,057	(12,447)	2,619,610
Debt instruments at FVOCI[1]								
– stage 1	260,411	9,852	5,446	—	—	275,709	(67)	275,642
– stage 2	243	105	284	1,910	—	2,542	(58)	2,484
– stage 3	—	—	—	—	5	5	(1)	4
– POCI	—	—	—	—	2	2	—	2
At 31 Dec 2022	260,654	9,957	5,730	1,910	7	278,258	(126)	278,132

1 *For the purposes of this disclosure, gross carrying amount is defined as the amortised cost of a financial asset before adjusting for any loss allowance. As such, the gross carrying amount of debt instruments at FVOCI as presented above will not reconcile to the balance sheet as it excludes fair value gains and losses.*

Credit-impaired loans

(Audited)

We determine that a financial instrument is credit impaired and in stage 3 by considering relevant objective evidence, primarily whether:

- contractual payments of either principal or interest are past due for more than 90 days;
- there are other indications that the borrower is unlikely to pay, such as when a concession has been granted to the borrower for economic or legal reasons relating to the borrower's financial condition; and
- the loan is otherwise considered to be in default. If such unlikeliness to pay is not identified at an earlier stage, it is deemed to occur when an exposure is 90 days past due. Therefore, the definitions of credit impaired and default are aligned as far as possible so that stage 3 represents all loans that are considered defaulted or otherwise credit impaired.

Forbearance

The following table shows the gross carrying amounts and allowances for ECL of the Group's holdings of forborne loans and advances to customers by industry sector and by stages.

A summary of our current policies and practices for forbearance is set out in 'Credit risk management' on page 147.

Forborne loans and advances to customers at amortised cost by stage allocation

	Performing forborne	Non-performing forborne		Total forborne
	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m
Gross carrying amount				
Personal	**816**	**1,282**	**—**	**2,098**
– first lien residential mortgages	**530**	**815**	**—**	**1,345**
– second lien residential mortgages	**1**	**8**	**—**	**9**
– guaranteed loans in respect of residential property	**24**	**20**	**—**	**44**
– other personal lending which is secured	**1**	**6**	**—**	**7**
– credit cards	**96**	**83**	**—**	**179**
– other personal lending which is unsecured	**155**	**349**	**—**	**504**
– motor vehicle finance	**9**	**1**	**—**	**10**
Wholesale	**5,848**	**5,505**	**68**	**11,421**
– corporate and commercial	**5,778**	**5,459**	**68**	**11,305**
– non-bank financial institutions	**70**	**46**	**—**	**116**
At 31 Dec 2023	**6,664**	**6,787**	**68**	**13,519**
Allowance for ECL				
Personal	**(113)**	**(307)**	**—**	**(420)**
– first lien residential mortgages	**(50)**	**(113)**	**—**	**(163)**
– second lien residential mortgages	**—**	**(3)**	**—**	**(3)**
– guaranteed loans in respect of residential property	**—**	**(2)**	**—**	**(2)**
– other personal lending which is secured	**—**	**(1)**	**—**	**(1)**
– credit cards	**(17)**	**(46)**	**—**	**(63)**
– other personal lending which is unsecured	**(43)**	**(142)**	**—**	**(185)**
– motor vehicle finance	**(3)**	**—**	**—**	**(3)**
Wholesale	**(259)**	**(1,932)**	**(28)**	**(2,219)**
– corporate and commercial	**(257)**	**(1,920)**	**(28)**	**(2,205)**
– non-bank financial institutions	**(2)**	**(12)**	**—**	**(14)**
At 31 Dec 2023	**(372)**	**(2,239)**	**(28)**	**(2,639)**
Gross carrying amount				
Personal	651	1,171	—	1,822
– first lien residential mortgages	369	738	—	1,107
– second lien residential mortgages	—	7	—	7
– guaranteed loans in respect of residential property	—	4	—	4
– other personal lending which is secured	5	13	—	18
– credit cards	93	75	—	168
– other personal lending which is unsecured	179	334	—	513
– motor vehicle finance	5	—	—	5
Wholesale	4,873	4,576	107	9,556
– corporate and commercial	4,859	4,562	107	9,528
– non-bank financial institutions	14	14	—	28
At 31 Dec 2022	5,524	5,747	107	11,378
Allowance for ECL				
Personal	(124)	(302)	—	(426)
– first lien residential mortgages	(49)	(118)	—	(167)
– second lien residential mortgages	—	(3)	—	(3)
– guaranteed loans in respect of residential property	—	(3)	—	(3)
– other personal lending which is secured	—	(2)	—	(2)
– credit cards	(19)	(44)	—	(63)
– other personal lending which is unsecured	(54)	(132)	—	(186)
– motor vehicle finance	(2)	—	—	(2)
Wholesale	(152)	(1,497)	(25)	(1,674)
– corporate and commercial	(151)	(1,490)	(25)	(1,666)
– non-bank financial institutions	(1)	(7)	—	(8)
At 31 Dec 2022	(276)	(1,799)	(25)	(2,100)

Forborne loans and advances to customers by legal entities

	HSBC UK Bank plc	HSBC Bank plc	The Hongkong and Shanghai Banking Corporation Limited	HSBC Bank Middle East Limited	HSBC North America Holdings Inc.	Grupo Financiero HSBC, S.A. de C.V.	Other trading entities	Total
	$m	$m	$m	$m	$m	$m	$m	$m
Gross carrying amount								
Performing forborne	**1,478**	**2,081**	**1,574**	**31**	**954**	**503**	**43**	**6,664**
Non-performing forborne	**1,936**	**1,199**	**2,250**	**471**	**430**	**233**	**336**	**6,855**
At 31 Dec 2023	**3,414**	**3,280**	**3,824**	**502**	**1,384**	**736**	**379**	**13,519**
Allowance for ECL								
Performing forborne	**(75)**	**(25)**	**(142)**	**(1)**	**(43)**	**(84)**	**(2)**	**(372)**
Non-performing forborne	**(289)**	**(400)**	**(986)**	**(225)**	**(74)**	**(126)**	**(167)**	**(2,267)**
At 31 Dec 2023	**(364)**	**(425)**	**(1,128)**	**(226)**	**(117)**	**(210)**	**(169)**	**(2,639)**
Gross carrying amount								
Performing forborne	899	2,222	276	435	997	530	165	5,524
Non-performing forborne	1,723	913	1,562	554	209	195	698	5,854
At 31 Dec 2022	2,622	3,135	1,838	989	1,206	725	863	11,378
Allowance for ECL								
Performing forborne	(63)	(31)	(21)	(7)	(50)	(79)	(25)	(276)
Non-performing forborne	(257)	(310)	(525)	(356)	(21)	(111)	(244)	(1,824)
At 31 Dec 2022	(320)	(341)	(546)	(363)	(71)	(190)	(269)	(2,100)

Wholesale lending

This section provides further details on the major legal entities, countries, territories and products comprising wholesale loans and advances to customers and banks. Product granularity is also provided by stage with legal entity data presented for loans and advances to customers, banks, other credit commitments, financial guarantees and similar contracts. Additionally, this section provides a reconciliation of the opening 1 January 2023 to 31 December 2023 closing gross carrying/nominal amounts and the associated allowance for ECL.

At 31 December 2023, wholesale lending for loans and advances to banks and customers of $615bn decreased by $9.6bn compared with 31 December 2022. This included favourable foreign exchange movements of $6.1bn. Excluding foreign exchange movements, the total loans and advances to customers decrease of $24.6bn was driven by a $31.5bn decrease in corporate and commercial balances, partly offset by a $6.9bn increase in balances from non-bank financial institutions. In addition, there was a $8.9bn increase in loans and advances to banks.

The underlying reduction in corporate and commercial lending was mainly driven by decreases in Hong Kong (down $18.6bn), in the UK (down $5.4bn), in mainland China (down $2.2bn), in France (down $1.6bn), in the US (down $1.3bn). These were partly offset by increased lending in India (up $1.8bn). There was a $2.1bn decrease from the merger of our business in Oman.

The underlying decrease in loans advances to corporate and commercial customers within stage 2 included repayments within our commercial real estate portfolio in Hong Kong, together with de-risking measures in our mainland China commercial real estate portfolio. In addition, there was a further decrease in the wholesale and retail trade portfolio in the UK largely from repayments and improvements in the economic outlook that led to upgrades to stage 1.

The underlying growth in loans and advances to non-bank financial institutions was mainly driven by the formation of HSBC Innovation Banking, following the acquisition of SVB UK, in the UK (up $6.4bn). In addition, increases in France (up $1.4bn) were partly offset by decreases in mainland China (down $0.9bn).

The underlying growth in loans and advances to banks was mainly driven by central bank balances and money market lending growth in Singapore (up $6.5bn), Hong Kong (up $5.1bn), the UK (up $2.8bn) and Egypt (up $1.5bn). These were partly offset by reductions in mainland China (down $2.6bn), Malaysia (down $1.6bn), Switzerland (down $1.4bn) and the UAE (down $1.2bn). There was also a $0.6bn decrease from the merger of our business in Oman.

Loan commitments and financial guarantees increased by $27.5bn since 31 December 2022 to $419.9bn at 31 December 2023. Excluding favourable foreign exchange movements of $8.7bn, loan commitments and financial guarantees grew by $18.8bn. This can be mainly attributed to a $23.2bn increase in unsettled reverse repurchase agreements, partly offset by a decrease of $6.3bn in loan commitments with corporate and commercial customers.

The allowance for ECL attributable to loans and advances to banks and customers of $8.2bn at 31 December 2023 decreased from $8.6bn at 31 December 2022. This included adverse foreign exchange movements of $0.1bn.

Excluding foreign exchange movements, the total decrease in the wholesale allowance for ECL attributable to loans and advances to customers and banks was mostly driven by a $0.6bn decrease in corporate and commercial balances, partly offset by a $0.1bn increase in loans to non-bank financial institutions and banks.

The allowance for ECL attributable to loan commitments and financial guarantees at 31 December 2023 remained stable at $0.4bn compared with 31 December 2022.

The table below provides a breakdown by industry sector and stage of the Group's gross carrying amount and allowances for ECL for wholesale loans and advances to banks and customers. Counterparties or exposures are classified when presenting comparable economic characteristics, or engaged in similar activities so that their collective ability to meet contractual obligations is uniformly affected by changes in economic, political or other conditions. Therefore, the industry classification does not adhere to Nomenclature des Activités Économiques dans la Communauté Européenne ('NACE'), which is applicable to other financial regulatory reporting.

Total wholesale lending for loans and advances to banks and customers by stage distribution

	Gross carrying amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Corporate and commercial	342,878	69,738	14,958	81	427,655	(499)	(1,500)	(5,774)	(30)	(7,803)
– agriculture, forestry and fishing	5,207	1,662	312	—	7,181	(13)	(53)	(64)	—	(130)
– mining and quarrying	6,260	638	325	—	7,223	(7)	(11)	(83)	—	(101)
– manufacturing	69,690	13,744	1,877	22	85,333	(89)	(194)	(839)	(21)	(1,143)
– electricity, gas, steam and air-conditioning supply	12,817	1,283	255	—	14,355	(14)	(17)	(88)	—	(119)
– water supply, sewerage, waste management and remediation	2,753	407	102	—	3,262	(5)	(7)	(51)	—	(63)
– real estate and construction	73,701	21,871	5,835	48	101,455	(96)	(629)	(2,554)	(7)	(3,286)
– of which: commercial real estate	*59,883*	*19,107*	*4,552*	*47*	*83,589*	*(73)*	*(603)*	*(2,091)*	*(7)*	*(2,774)*
– wholesale and retail trade, repair of motor vehicles and motorcycles	66,083	10,676	2,358	4	79,121	(80)	(127)	(1,132)	(2)	(1,341)
– transportation and storage	17,117	3,894	445	—	21,456	(18)	(52)	(160)	—	(230)
– accommodation and food	9,681	5,135	1,058	—	15,874	(27)	(118)	(112)	—	(257)
– publishing, audiovisual and broadcasting	17,455	2,066	210	—	19,731	(42)	(81)	(50)	—	(173)
– professional, scientific and technical activities	22,686	3,327	733	7	26,753	(32)	(63)	(306)	—	(401)
– administrative and support services	19,055	2,551	597	—	22,203	(31)	(63)	(174)	—	(268)
– public administration and defence, compulsory social security	1,037	5	—	—	1,042	—	—	—	—	—
– education	1,137	277	46	—	1,460	(3)	(8)	(4)	—	(15)
– health and care	3,245	808	183	—	4,236	(9)	(21)	(26)	—	(56)
– arts, entertainment and recreation	1,666	196	99	—	1,961	(5)	(6)	(31)	—	(42)
– other services	7,065	972	318	—	8,355	(26)	(37)	(90)	—	(153)
– activities of households	684	10	—	—	694	—	—	—	—	—
– extra-territorial organisations and bodies activities	100	1	—	—	101	—	—	—	—	—
– government	5,420	202	205	—	5,827	(2)	—	(10)	—	(12)
– asset-backed securities	19	13	—	—	32	—	(13)	—	—	(13)
Non-bank financial institutions	69,972	3,650	810	—	74,432	(52)	(30)	(322)	—	(404)
Loans and advances to banks	111,479	1,436	2	—	112,917	(10)	(3)	(2)	—	(15)
At 31 Dec 2023	**524,329**	**74,824**	**15,770**	**81**	**615,004**	**(561)**	**(1,533)**	**(6,098)**	**(30)**	**(8,222)**
By legal entity										
HSBC UK Bank plc	76,793	18,735	3,769	—	99,297	(213)	(474)	(593)	—	(1,280)
HSBC Bank plc	82,025	8,452	2,673	40	93,190	(69)	(138)	(1,035)	(7)	(1,249)
The Hongkong and Shanghai Banking Corporation Limited	287,876	37,402	7,077	38	332,393	(185)	(696)	(3,349)	(21)	(4,251)
HSBC Bank Middle East Limited	21,927	1,598	894	3	24,422	(17)	(11)	(571)	(2)	(601)
HSBC North America Holdings Inc.	30,797	5,712	583	—	37,092	(24)	(145)	(127)	—	(296)
Grupo Financiero HSBC, S.A. de C.V.	13,714	1,186	382	—	15,282	(39)	(56)	(231)	—	(326)
Other trading entities	11,164	1,739	392	—	13,295	(14)	(13)	(192)	—	(219)
Holding companies, shared service centres and intra-Group eliminations	33	—	—	—	33	—	—	—	—	—
At 31 Dec 2023	**524,329**	**74,824**	**15,770**	**81**	**615,004**	**(561)**	**(1,533)**	**(6,098)**	**(30)**	**(8,222)**

Total wholesale lending for loans and other credit-related commitments and financial guarantees to banks and customers by stage distribution[1]

	Nominal amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Corporate and commercial	256,367	22,218	1,066	4	279,655	(126)	(125)	(107)	—	(358)
Financial	135,039	5,111	103	—	140,253	(11)	(10)	(2)	—	(23)
At 31 Dec 2023	**391,406**	**27,329**	**1,169**	**4**	**419,908**	**(137)**	**(135)**	**(109)**	**—**	**(381)**
By legal entity										
HSBC UK Bank plc	31,982	5,760	350	—	38,092	(31)	(32)	(56)	—	(119)
HSBC Bank plc	148,980	9,466	310	4	158,760	(20)	(27)	(27)	—	(74)
The Hongkong and Shanghai Banking Corporation Limited	70,436	3,975	79	—	74,490	(59)	(39)	(16)	—	(114)
HSBC Bank Middle East Limited	6,944	323	56	—	7,323	(4)	(1)	(3)	—	(8)
HSBC North America Holdings Inc.	101,067	5,103	248	—	106,418	(14)	(27)	(1)	—	(42)
HSBC Bank Canada	28,156	2,461	66	—	30,683	(8)	(8)	(3)	—	(19)
Grupo Financiero HSBC, S.A. de C.V.	2,092	34	—	—	2,126	(1)	—	—	—	(1)
Other trading entities	1,749	207	60	—	2,016	—	(1)	(3)	—	(4)
At 31 Dec 2023	**391,406**	**27,329**	**1,169**	**4**	**419,908**	**(137)**	**(135)**	**(109)**	**—**	**(381)**

1 *Included in loans and other credit-related commitments and financial guarantees is $70bn relating to unsettled reverse repurchase agreements, which once drawn are classified as 'Reverse repurchase agreements – non-trading'.*

Total wholesale lending for loans and advances to banks and customers by stage distribution (continued)

	Gross carrying amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Corporate and commercial	351,885	85,492	15,696	129	453,202	(488)	(1,907)	(5,887)	(38)	(8,320)
– agriculture, forestry and fishing	4,805	1,505	261	—	6,571	(10)	(44)	(68)	—	(122)
– mining and quarrying	6,424	1,463	232	1	8,120	(5)	(21)	(145)	(1)	(172)
– manufacturing	70,144	15,251	2,016	49	87,460	(93)	(164)	(867)	(29)	(1,153)
– electricity, gas, steam and air-conditioning supply	14,402	1,799	277	—	16,478	(10)	(31)	(67)	—	(108)
– water supply, sewerage, waste management and remediation	2,690	277	26	—	2,993	(3)	(5)	(13)	—	(21)
– real estate and construction	81,830	27,104	5,625	26	114,585	(107)	(954)	(2,229)	(3)	(3,293)
– of which: commercial real estate	*68,120*	*23,608*	*4,648*	*19*	*96,395*	*(82)*	*(865)*	*(1,799)*	—	*(2,746)*
– wholesale and retail trade, repair of motor vehicles and motorcycles	63,752	15,867	2,805	5	82,429	(97)	(225)	(1,341)	(3)	(1,666)
– transportation and storage	19,068	5,062	556	—	24,686	(30)	(65)	(153)	—	(248)
– accommodation and food	9,862	6,523	787	2	17,174	(23)	(139)	(81)	(1)	(244)
– publishing, audiovisual and broadcasting	16,574	1,537	249	28	18,388	(22)	(36)	(58)	(1)	(117)
– professional, scientific and technical activities	15,164	2,229	542	—	17,935	(21)	(51)	(200)	—	(272)
– administrative and support services	20,592	3,505	962	18	25,077	(25)	(90)	(293)	—	(408)
– public administration and defence, compulsory social security	1,166	14	—	—	1,180	—	(1)	—	—	(1)
– education	1,325	181	87	—	1,593	(4)	(5)	(22)	—	(31)
– health and care	2,993	643	266	—	3,902	(6)	(17)	(67)	—	(90)
– arts, entertainment and recreation	1,264	452	146	—	1,862	(4)	(16)	(57)	—	(77)
– other services	10,335	1,547	589	—	12,471	(25)	(30)	(219)	—	(274)
– activities of households	730	14	—	—	744	—	—	—	—	—
– extra-territorial organisations and bodies activities	47	—	—	—	47	—	—	—	—	—
– government	8,699	506	270	—	9,475	(3)	—	(7)	—	(10)
– asset-backed securities	19	13	—	—	32	—	(13)	—	—	(13)
Non-bank financial institutions	61,737	4,718	469	—	66,924	(43)	(77)	(137)	—	(257)
Loans and advances to banks	102,723	1,739	82	—	104,544	(18)	(29)	(22)	—	(69)
At 31 Dec 2022	516,345	91,949	16,247	129	624,670	(549)	(2,013)	(6,046)	(38)	(8,646)
By legal entity										
HSBC UK Bank plc	64,930	18,856	4,439	28	88,253	(165)	(445)	(643)	(1)	(1,254)
HSBC Bank plc	83,174	9,175	2,631	3	94,983	(56)	(181)	(1,075)	—	(1,312)
The Hongkong and Shanghai Banking Corporation Limited	292,022	50,708	6,934	80	349,744	(216)	(1,074)	(3,125)	(24)	(4,439)
HSBC Bank Middle East Limited	21,922	1,777	946	4	24,649	(11)	(21)	(684)	(3)	(719)
HSBC North America Holdings Inc.	30,816	6,861	211	—	37,888	(24)	(194)	(22)	—	(240)
Grupo Financiero HSBC, S.A. de C.V.	9,969	1,979	399	—	12,347	(48)	(62)	(225)	—	(335)
Other trading entities	13,512	2,593	687	14	16,806	(29)	(36)	(272)	(10)	(347)
Holding companies, shared service centres and intra-Group eliminations	—	—	—	—	—	—	—	—	—	—
At 31 Dec 2022	516,345	91,949	16,247	129	624,670	(549)	(2,013)	(6,046)	(38)	(8,646)

Total wholesale lending for loans and other credit-related commitments and financial guarantees by stage distribution[1] (continued)

	Nominal amount					Allowance for ECL				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Corporate and commercial	252,860	29,116	798	—	282,774	(116)	(178)	(96)	—	(390)
Financial	105,950	3,683	23	—	109,656	(5)	(14)	(2)	—	(21)
At 31 Dec 2022	358,810	32,799	821	—	392,430	(121)	(192)	(98)	—	(411)
By legal entity										
HSBC UK Bank plc	26,036	5,527	208	—	31,771	(24)	(45)	(38)	—	(107)
HSBC Bank plc	142,100	11,710	291	—	154,101	(16)	(41)	(47)	—	(104)
The Hongkong and Shanghai Banking Corporation Limited	67,473	6,081	114	—	73,668	(54)	(53)	(9)	—	(116)
HSBC Bank Middle East Limited	6,683	231	14	—	6,928	(2)	(2)	—	—	(4)
HSBC North America Holdings Inc.	88,039	3,959	87	—	92,085	(13)	(32)	(2)	—	(47)
HSBC Bank Canada	24,395	4,671	84	—	29,150	(8)	(15)	—	—	(23)
Grupo Financiero HSBC, S.A. de C.V.	2,468	240	3	—	2,711	(1)	—	—	—	(1)
Other trading entities	1,616	380	20	—	2,016	(3)	(4)	(2)	—	(9)
At 31 Dec 2022	358,810	32,799	821	—	392,430	(121)	(192)	(98)	—	(411)

1 *Included in loans and other credit-related commitments and financial guarantees is $45bn relating to unsettled reverse repurchase agreements, which once drawn are classified as 'Reverse repurchase agreements – non-trading'.*

Wholesale lending – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees

(Audited)

	Non-credit impaired				Credit impaired				Total	
	Stage 1		Stage 2		Stage 3		POCI			
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2023	**830,322**	**(670)**	**124,660**	**(2,205)**	**17,068**	**(6,144)**	**129**	**(38)**	**972,179**	**(9,057)**
Transfers of financial instruments:	(16,804)	(429)	10,247	1,141	6,557	(712)	–	–	–	–
– transfers from stage 1 to stage 2	(93,511)	172	93,511	(172)	–	–	–	–	–	–
– transfers from stage 2 to stage 1	77,772	(605)	(77,772)	605	–	–	–	–	–	–
– transfers to stage 3	(1,444)	20	(6,255)	765	7,699	(785)	–	–	–	–
– transfers from stage 3	379	(16)	763	(57)	(1,142)	73	–	–	–	–
Net remeasurement of ECL arising from transfer of stage	–	354	–	(294)	–	(45)	–	–	–	15
Net new and further lending/repayments	43,282	(138)	(32,082)	311	(3,787)	973	(36)	3	7,377	1,149
Change to risk parameters – credit quality	–	203	–	(621)	–	(2,941)	–	21	–	(3,338)
Changes to models used for ECL calculation	–	(9)	–	25	–	–	–	–	–	16
Assets written off	–	–	–	–	(2,596)	2,596	–	–	(2,596)	2,596
Credit-related modifications that resulted in derecognition	–	–	–	–	(119)	95	–	–	(119)	95
Foreign exchange and others[1]	(10,818)	(9)	(696)	(25)	(184)	(29)	(8)	(16)	(11,706)	(79)
At 31 Dec 2023	**845,982**	**(698)**	**102,129**	**(1,668)**	**16,939**	**(6,207)**	**85**	**(30)**	**965,135**	**(8,603)**
ECL income statement change for the period		410		(579)		(2,013)		24		(2,158)
Recoveries										42
Others										(203)
Total ECL income statement change for the period										(2,319)

1 *Total includes $13.5bn of gross carrying loans and advances to customers and banks, which were classified to assets held for sale during the year, and a corresponding allowance for ECL of $61m, reflecting business disposals as disclosed in Note 23 'Assets held for sale and liabilities of disposal groups held for sale' on page 401.*

As shown in the above table, the allowance for ECL for loans and advances to customers and banks and relevant loan commitments and financial guarantees decreased by $454m during the period from $9,057m at 31 December 2022 to $8,603m at 31 December 2023.

This decrease was driven by:

- $2,596m of assets written off;
- $1,149m relating to volume movements, which included the allowance for ECL associated with new originations, assets derecognised and further lending/repayments;
- $95m relating to credit-related modification, which resulted in derecognition;
- $16m relating to changes to models used for ECL calculation; and
- $15m relating to the net remeasurement impact of stage transfers.

These were partly offset by:

- $3,338m of changes to models used for ECL calculation; and
- foreign exchange and other movements of $79m.

The ECL charge for the period of $2,158m presented in the previous table consisted of $3,338m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stages. This was partly offset by $1,149m relating to underlying net book volume movement, $16m in changes to models used for ECL calculation and $15m relating to the net remeasurement impact of stage transfers.

During the period, there was a net transfer to stage 2 of $15,739m gross carrying/nominal amounts. It was primarily driven by $8,792m in Hong Kong, mainly due to deterioration in the real estate and construction sectors, and $6,273m in the UK, mainly driven by increased interest rates affecting the corporate and commercial portfolio.

Wholesale lending – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to banks and customers including loan commitments and financial guarantees

(Audited)

	Non-credit impaired				Credit impaired				Total	
	Stage 1		Stage 2		Stage 3		POCI			
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2022	880,181	(860)	137,493	(2,103)	14,685	(5,702)	275	(64)	1,032,634	(8,729)
Transfers of financial instruments:	(58,104)	(298)	49,485	942	8,619	(644)	—	—	—	—
– transfers from stage 1 to stage 2	(157,443)	202	157,443	(202)	—	—	—	—	—	—
– transfers from stage 2 to stage 1	100,810	(484)	(100,810)	484	—	—	—	—	—	—
– transfers to stage 3	(1,829)	8	(8,101)	770	9,930	(778)	—	—	—	—
– transfers from stage 3	358	(24)	953	(110)	(1,311)	134	—	—	—	—
Net remeasurement of ECL arising from transfer of stage	—	240	—	(369)	—	(63)	—	—	—	(192)
Net new and further lending/ repayments	68,616	(158)	(45,336)	201	(3,253)	583	(133)	3	19,894	629
Changes to risk parameters – credit quality	—	318	—	(995)	—	(2,196)	—	32	—	(2,841)
Changes to models used for ECL calculation	—	6	—	(56)	—	—	—	—	—	(50)
Assets written off	—	—	—	—	(1,579)	1,579	(10)	10	(1,589)	1,589
Credit-related modifications that resulted in derecognition	—	—	—	—	(32)	9	—	—	(32)	9
Foreign exchange and others[1]	(60,371)	82	(16,982)	175	(1,372)	290	(3)	(19)	(78,728)	528
At 31 Dec 2022	830,322	(670)	124,660	(2,205)	17,068	(6,144)	129	(38)	972,179	(9,057)
ECL income statement change for the period		406		(1,219)		(1,676)		35		(2,454)
Recoveries										33
Others	—	—	—	—	—	—	—	—	—	(25)
Total ECL income statement change for the period										(2,446)

1 *Total includes $33.1bn of gross carrying loans and advances to customers and banks, which were classified to assets held for sale during the year, and a corresponding allowance for ECL of $204m, reflecting business disposals as disclosed in Note 23 'Assets held for sale and liabilities of disposal groups held for sale' on page 401.*

Wholesale lending – distribution of financial instruments to which the impairment requirements of IFRS 9 are applied by credit quality

	Gross carrying amount							
	Strong	**Good**	**Satisfactory**	**Sub-standard**	**Credit impaired**	**Total**	**Allowance for ECL**	**Net**
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**
By legal entity								
HSBC UK Bank plc	**20,777**	**30,245**	**36,206**	**8,300**	**3,769**	**99,297**	**(1,280)**	**98,017**
HSBC Bank plc	**41,149**	**20,962**	**24,164**	**4,202**	**2,713**	**93,190**	**(1,249)**	**91,941**
The Hongkong and Shanghai Banking Corporation Limited	**165,255**	**72,683**	**78,566**	**8,774**	**7,115**	**332,393**	**(4,251)**	**328,142**
HSBC Bank Middle East Limited	**13,660**	**3,082**	**6,270**	**513**	**897**	**24,422**	**(601)**	**23,821**
HSBC North America Holdings Inc.	**6,244**	**13,668**	**13,094**	**3,503**	**583**	**37,092**	**(296)**	**36,796**
Grupo Financiero HSBC, S.A. de C.V.	**1,853**	**6,543**	**5,882**	**622**	**382**	**15,282**	**(326)**	**14,956**
Other trading entities	**3,189**	**1,277**	**7,449**	**988**	**392**	**13,295**	**(219)**	**13,076**
Holding companies, shared service centres and intra-Group eliminations	**33**	**—**	**—**	**—**	**—**	**33**	**—**	**33**
At 31 Dec 2023	**252,160**	**148,460**	**171,631**	**26,902**	**15,851**	**615,004**	**(8,222)**	**606,782**
Percentage of total credit quality (%)	**41.0**	**24.1**	**27.9**	**4.4**	**2.6**	**100.0**		
By legal entity								
HSBC UK Bank plc	17,533	28,685	32,388	5,180	4,467	88,253	(1,254)	86,999
HSBC Bank plc	41,687	21,058	24,560	5,044	2,634	94,983	(1,312)	93,671
The Hongkong and Shanghai Banking Corporation Limited	167,209	81,128	84,661	9,732	7,014	349,744	(4,439)	345,305
HSBC Bank Middle East Limited	13,023	4,119	5,879	678	950	24,649	(719)	23,930
HSBC North America Holdings Inc.	7,226	13,220	12,673	4,558	211	37,888	(240)	37,648
Grupo Financiero HSBC, S.A. de C.V.	1,024	5,540	4,612	772	399	12,347	(335)	12,012
Other trading entities	3,845	2,228	8,438	1,594	701	16,806	(347)	16,459
At 31 Dec 2022	251,547	155,978	173,211	27,558	16,376	624,670	(8,646)	616,024
Percentage of total credit quality (%)	40.3	25.0	27.7	4.4	2.6	100.0		

Our risk rating system facilitates the internal ratings-based approach under the Basel framework adopted by the Group to support calculation of our minimum credit regulatory capital requirement. The credit quality classifications can be found on page 148.

Wholesale lending – credit risk profile by obligor grade for loans and advances at amortised cost

	Basel one-year PD range	Gross carrying amount					Allowance for ECL					ECL coverage	Mapped external rating
		Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total		
	%	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	
Corporate and commercial		342,878	69,738	14,958	81	427,655	(499)	(1,500)	(5,774)	(30)	(7,803)	1.8	
– CRR 1	0.000 to 0.053	34,097	715	—	—	34,812	(4)	(3)	—	—	(7)	—	AA- and above
– CRR 2	0.054 to 0.169	81,131	2,180	—	—	83,311	(23)	(14)	—	—	(37)	—	A+ to A-
– CRR 3	0.170 to 0.740	112,322	11,391	—	—	123,713	(106)	(87)	—	—	(193)	0.2	BBB+ to BBB-
– CRR 4	0.741 to 1.927	72,654	16,904	—	—	89,558	(156)	(130)	—	—	(286)	0.3	BB+ to BB-
– CRR 5	1.928 to 4.914	37,631	18,060	—	—	55,691	(169)	(240)	—	—	(409)	0.7	BB- to B
– CRR 6	4.915 to 8.860	2,675	7,341	—	—	10,016	(24)	(176)	—	—	(200)	2.0	B-
– CRR 7	8.861 to 15.000	1,031	6,319	—	—	7,350	(10)	(246)	—	—	(256)	3.5	CCC+
– CRR 8[1]	15.001 to 99.999	1,337	6,828	—	—	8,165	(7)	(604)	—	—	(611)	7.5	CCC to C
– CRR 9/10	100.000	—	—	14,958	81	15,039	—	—	(5,774)	(30)	(5,804)	38.6	D
Non-bank financial institutions		69,972	3,650	810	—	74,432	(52)	(30)	(322)	—	(404)	0.5	
– CRR 1	0.000 to 0.053	15,475	211	—	—	15,686	(2)	—	—	—	(2)	—	AA- and above
– CRR 2	0.054 to 0.169	16,920	374	—	—	17,294	(6)	(2)	—	—	(8)	—	A+ to A-
– CRR 3	0.170 to 0.740	19,195	912	—	—	20,107	(10)	(4)	—	—	(14)	0.1	BBB+ to BBB-
– CRR 4	0.741 to 1.927	11,480	1,032	—	—	12,512	(19)	(5)	—	—	(24)	0.2	BB+ to BB-
– CRR 5	1.928 to 4.914	6,635	872	—	—	7,507	(9)	(15)	—	—	(24)	0.3	BB- to B
– CRR 6	4.915 to 8.860	232	116	—	—	348	(6)	(1)	—	—	(7)	2.0	B-
– CRR 7	8.861 to 15.000	25	93	—	—	118	—	(2)	—	—	(2)	1.7	CCC+
– CRR 8	15.001 to 99.999	10	40	—	—	50	—	(1)	—	—	(1)	2.0	CCC to C
– CRR 9/10	100.000	—	—	810	—	810	—	—	(322)	—	(322)	39.8	D
Banks		111,479	1,436	2	—	112,917	(10)	(3)	(2)	—	(15)	—	
– CRR 1	0.000 to 0.053	89,112	10	—	—	89,122	(4)	—	—	—	(4)	—	AA- and above
– CRR 2	0.054 to 0.169	11,899	36	—	—	11,935	(2)	—	—	—	(2)	—	A+ to A-
– CRR 3	0.170 to 0.740	4,631	9	—	—	4,640	(1)	—	—	—	(1)	—	BBB+ to BBB-
– CRR 4	0.741 to 1.927	2,488	58	—	—	2,546	(1)	—	—	—	(1)	—	BB+ to BB-
– CRR 5	1.928 to 4.914	3,062	755	—	—	3,817	(2)	(1)	—	—	(3)	0.1	BB- to B
– CRR 6	4.915 to 8.860	22	20	—	—	42	—	—	—	—	—	—	B-
– CRR 7	8.861 to 15.000	1	—	—	—	1	—	—	—	—	—	—	CCC+
– CRR 8	15.001 to 99.999	264	548	—	—	812	—	(2)	—	—	(2)	0.2	CCC to C
– CRR 9/10	100.000	—	—	2	—	2	—	—	(2)	—	(2)	100.0	D
At 31 Dec 2023		524,329	74,824	15,770	81	615,004	(561)	(1,533)	(6,098)	(30)	(8,222)	1.3	

1 *Corporate and commercial lending reported in CRR 8 for stage 1 includes $782m related to the UK Bounce Back Loan Scheme with immaterial allowances for ECL.*

Wholesale lending – credit risk profile by obligor grade for loans and advances at amortised cost (continued)

	Basel one-year PD range	Gross carrying amount					Allowance for ECL					ECL coverage	Mapped external rating
		Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total		
	%	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	
Corporate and commercial		351,885	85,492	15,696	129	453,202	(488)	(1,907)	(5,887)	(38)	(8,320)	1.8	
– CRR 1	0.000 to 0.053	35,574	330	—	—	35,904	(6)	(1)	—	—	(7)	—	AA- and above
– CRR 2	0.054 to 0.169	87,383	3,234	—	—	90,617	(28)	(15)	—	—	(43)	0.1	A+ to A-
– CRR 3	0.170 to 0.740	114,403	17,725	—	—	132,128	(128)	(122)	—	—	(250)	0.2	BBB+ to BBB-
– CRR 4	0.741 to 1.927	74,100	21,550	—	—	95,650	(155)	(210)	—	—	(365)	0.4	BB+ to BB-
– CRR 5	1.928 to 4.914	36,563	21,628	—	—	58,191	(145)	(361)	—	—	(506)	0.9	BB- to B
– CRR 6	4.915 to 8.860	2,512	9,171	—	—	11,683	(16)	(236)	—	—	(252)	2.2	B-
– CRR 7	8.861 to 15.000	1,164	5,477	—	—	6,641	(8)	(336)	—	—	(344)	5.2	CCC+
– CRR 8	15.001 to 99.999	186	6,377	—	—	6,563	(2)	(626)	—	—	(628)	9.6	CCC to C
– CRR 9/10	100.000	—	—	15,696	129	15,825	—	—	(5,887)	(38)	(5,925)	37.4	D
Non-bank financial institutions		61,737	4,718	469	—	66,924	(43)	(77)	(137)	—	(257)	0.4	
– CRR 1	0.000 to 0.053	15,082	421	—	—	15,503	(2)	(1)	—	—	(3)	—	AA- and above
– CRR 2	0.054 to 0.169	16,351	497	—	—	16,848	(3)	(1)	—	—	(4)	—	A+ to A-
– CRR 3	0.170 to 0.740	17,253	1,764	—	—	19,017	(9)	(13)	—	—	(22)	0.1	BBB+ to BBB-
– CRR 4	0.741 to 1.927	7,059	717	—	—	7,776	(19)	(4)	—	—	(23)	0.3	BB+ to BB-
– CRR 5	1.928 to 4.914	5,215	736	—	—	5,951	(10)	(10)	—	—	(20)	0.3	BB- to B
– CRR 6	4.915 to 8.860	716	90	—	—	806	—	(4)	—	—	(4)	0.5	B-
– CRR 7	8.861 to 15.000	46	32	—	—	78	—	(3)	—	—	(3)	3.9	CCC+
– CRR 8	15.001 to 99.999	15	461	—	—	476	—	(41)	—	—	(41)	8.6	CCC to C
– CRR 9/10	100.000	—	—	469	—	469	—	—	(137)	—	(137)	29.2	D
Banks		102,723	1,739	82	—	104,544	(18)	(29)	(22)	—	(69)	0.1	
– CRR 1	0.000 to 0.053	79,217	120	—	—	79,337	(8)	—	—	—	(8)	—	AA- and above
– CRR 2	0.054 to 0.169	13,160	178	—	—	13,338	(2)	—	—	—	(2)	—	A+ to A-
– CRR 3	0.170 to 0.740	4,465	368	—	—	4,833	(3)	—	—	—	(3)	0.1	BBB+ to BBB-
– CRR 4	0.741 to 1.927	2,154	5	—	—	2,159	(1)	—	—	—	(1)	0.1	BB+ to BB-
– CRR 5	1.928 to 4.914	3,312	172	—	—	3,484	(4)	(1)	—	—	(5)	0.1	BB- to B
– CRR 6	4.915 to 8.860	—	5	—	—	5	—	—	—	—	—	—	B-
– CRR 7	8.861 to 15.000	1	861	—	—	862	—	(27)	—	—	(27)	3.1	CCC+
– CRR 8	15.001 to 99.999	414	30	—	—	444	—	(1)	—	—	(1)	0.2	CCC to C
– CRR 9/10	100.000	—	—	82	—	82	—	—	(22)	—	(22)	26.8	D
At 31 Dec 2022		516,345	91,949	16,247	129	624,670	(549)	(2,013)	(6,046)	(38)	(8,646)	1.4	

Wholesale lending – credit risk profile by obligor grade for loan and other credit-related commitments and financial guarantees

	Basel one-year PD range	Nominal amount					Allowance for ECL					ECL coverage	Mapped external rating
		Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total		
	%	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	%	
Loan and other credit-related commitments		**377,766**	**25,463**	**785**	**4**	**404,018**	**(130)**	**(128)**	**(84)**	**—**	**(342)**	**0.1**	
– CRR 1	**0.000 to 0.053**	**65,730**	**1,676**	**—**	**—**	**67,406**	**(5)**	**(1)**	**—**	**—**	**(6)**	**—**	**AA- and above**
– CRR 2	**0.054 to 0.169**	**152,224**	**2,490**	**—**	**—**	**154,714**	**(13)**	**(6)**	**—**	**—**	**(19)**	**—**	**A+ to A-**
– CRR 3	**0.170 to 0.740**	**105,569**	**6,044**	**—**	**—**	**111,613**	**(46)**	**(24)**	**—**	**—**	**(70)**	**0.1**	**BBB+ to BBB-**
– CRR 4	**0.741 to 1.927**	**38,102**	**4,751**	**—**	**—**	**42,853**	**(33)**	**(20)**	**—**	**—**	**(53)**	**0.1**	**BB+ to BB-**
– CRR 5	**1.928 to 4.914**	**14,054**	**5,367**	**—**	**—**	**19,421**	**(28)**	**(31)**	**—**	**—**	**(59)**	**0.3**	**BB- to B**
– CRR 6	**4.915 to 8.860**	**1,170**	**2,453**	**—**	**—**	**3,623**	**(4)**	**(15)**	**—**	**—**	**(19)**	**0.5**	**B-**
– CRR 7	**8.861 to 15.000**	**780**	**848**	**—**	**—**	**1,628**	**(1)**	**(10)**	**—**	**—**	**(11)**	**0.7**	**CCC+**
– CRR 8	**15.001 to 99.999**	**137**	**1,834**	**—**	**—**	**1,971**	**—**	**(21)**	**—**	**—**	**(21)**	**1.1**	**CCC to C**
– CRR 9/10	**100.000**	**—**	**—**	**785**	**4**	**789**	**—**	**—**	**(84)**	**—**	**(84)**	**10.6**	**D**
Financial guarantees		**13,640**	**1,866**	**384**	**—**	**15,890**	**(7)**	**(7)**	**(25)**	**—**	**(39)**	**0.2**	
– CRR 1	**0.000 to 0.053**	**2,553**	**1**	**—**	**—**	**2,554**	**—**	**—**	**—**	**—**	**—**	**—**	**AA- and above**
– CRR 2	**0.054 to 0.169**	**4,212**	**202**	**—**	**—**	**4,414**	**(1)**	**—**	**—**	**—**	**(1)**	**—**	**A+ to A-**
– CRR 3	**0.170 to 0.740**	**3,584**	**202**	**—**	**—**	**3,786**	**(2)**	**—**	**—**	**—**	**(2)**	**0.1**	**BBB+ to BBB-**
– CRR 4	**0.741 to 1.927**	**1,932**	**407**	**—**	**—**	**2,339**	**(2)**	**(1)**	**—**	**—**	**(3)**	**0.1**	**BB+ to BB-**
– CRR 5	**1.928 to 4.914**	**1,266**	**455**	**—**	**—**	**1,721**	**(2)**	**(2)**	**—**	**—**	**(4)**	**0.2**	**BB- to B**
– CRR 6	**4.915 to 8.860**	**91**	**387**	**—**	**—**	**478**	**—**	**(1)**	**—**	**—**	**(1)**	**0.2**	**B-**
– CRR 7	**8.861 to 15.000**	**1**	**76**	**—**	**—**	**77**	**—**	**—**	**—**	**—**	**—**	**—**	**CCC+**
– CRR 8	**15.001 to 99.999**	**1**	**136**	**—**	**—**	**137**	**—**	**(3)**	**—**	**—**	**(3)**	**2.2**	**CCC to C**
– CRR 9/10	**100.000**	**—**	**—**	**384**	**—**	**384**	**—**	**—**	**(25)**	**—**	**(25)**	**6.5**	**D**
At 31 Dec 2023		**391,406**	**27,329**	**1,169**	**4**	**419,908**	**(137)**	**(135)**	**(109)**	**—**	**(381)**	**0.1**	

Commercial real estate

Commercial real estate lending includes the financing of corporate, institutional and high net worth customers who are investing primarily in income-producing assets and, to a lesser extent, in their construction and development. The portfolio has larger concentrations in Hong Kong, the UK, mainland China and the US.

Our global exposure is centred largely on cities with economic, political or cultural significance. In more developed markets, our exposure mainly comprises the financing of investment assets, the redevelopment of existing stock and the augmentation of both commercial and residential markets to support economic and population growth. In less developed commercial real estate markets, our exposures comprise lending for development assets on relatively short tenors with a particular focus on supporting larger, better capitalised developers involved in residential construction or assets supporting economic expansion.

Excluding favourable foreign exchange movements of $1.1bn, commercial real estate lending decreased by $13.8bn, mainly from $7.4bn in Hong Kong due to loan repayments. The decrease included loan sales of $0.5bn in the US as part of an initiative to reduce the portfolio exposure.

Despite the lower exposure, allowance for ECL remained at $2.8bn, reflecting the challenging conditions in the commercial property sector, including the impact of lower valuations in the office segment.

Commercial real estate lending to customers

	HSBC UK Bank plc	HSBC Bank plc	The Hongkong and Shanghai Banking Corporation Limited	HSBC Bank Middle East Limited	HSBC North America Holdings Inc.[1]	Grupo Financiero HSBC, S.A. de C.V.	Other trading entities	Total	*of which:* *UK*	*of which:* *Hong Kong*
	$m	$m	$m	$m	$m	$m	$m	$m	*$m*	*$m*
Gross loans and advances										
Stage 1	**10,304**	**4,218**	**41,307**	**1,126**	**1,803**	**685**	**440**	**59,883**	***10,790***	***28,846***
Stage 2	**3,262**	**400**	**13,229**	**189**	**1,956**	**70**	**1**	**19,107**	***3,294***	***10,375***
Stage 3	**444**	**184**	**3,570**	**145**	**166**	**25**	**18**	**4,552**	***470***	***3,226***
POCI	**—**	**32**	**15**	**—**	**—**	**—**	**—**	**47**	***32***	***15***
At 31 Dec 2023	**14,010**	**4,834**	**58,121**	**1,460**	**3,925**	**780**	**459**	**83,589**	***14,586***	***42,462***
– *of which: forborne loans*	***461***	***69***	***2,454***	***126***	***433***	***52***	**—**	***3,595***	**519**	**2,227**
Allowance for ECL	**(148)**	**(49)**	**(2,399)**	**(55)**	**(98)**	**(15)**	**(10)**	**(2,774)**	***(172)***	***(2,149)***
Gross loans and advances										
Stage 1	11,409	5,083	46,700	1,094	2,096	832	906	68,120	*12,209*	*35,905*
Stage 2	2,763	828	16,311	323	3,249	43	91	23,608	*3,008*	*11,068*
Stage 3	702	277	3,320	264	—	28	57	4,648	*827*	*3,029*
POCI	—	—	19	—	—	—	—	19	—	*19*
At 31 Dec 2022	14,874	6,188	66,350	1,681	5,345	903	1,054	96,395	*16,044*	*50,021*
– *of which: forborne loans*	*215*	*143*	*763*	*449*	*428*	*47*	*23*	*2,068*	336	654
Allowance for ECL	(216)	(153)	(2,094)	(153)	(93)	(24)	(13)	(2,746)	*(323)*	*(1,878)*

1 *During 1Q23, we aligned the classification of commercial real estate across the Group and re-presented commercial real estate exposure in HSBC North America Holdings Inc. at 31 December 2022 as $5.3bn, which had a corresponding ECL charge of $0.1bn.*

Commercial real estate lending to customers by global business

	HSBC UK Bank plc	HSBC Bank plc	The Hongkong and Shanghai Banking Corporation Limited	HSBC Bank Middle East Limited	HSBC North America Holdings Inc.	Grupo Financiero HSBC, S.A. de C.V.	Other trading entities	Total	*of which:* *UK*	*of which:* *Hong Kong*
	$m	$m	$m	$m	$m	$m	$m	$m	*$m*	*$m*
Wealth and Personal Banking	**409**	**377**	**66**	**—**	**2**	**—**	**423**	**1,277**	***409***	***66***
Commercial Banking	**13,601**	**3,322**	**37,826**	**733**	**3,923**	**780**	**36**	**60,221**	***13,686***	***27,811***
Global Banking and Markets	**—**	**1,135**	**20,066**	**727**	**—**	**—**	**—**	**21,928**	***491***	***14,444***
Corporate Centre	**—**	**—**	**163**	**—**	**—**	**—**	**—**	**163**	***—***	***141***
At 31 Dec 2023	**14,010**	**4,834**	**58,121**	**1,460**	**3,925**	**780**	**459**	**83,589**	***14,586***	***42,462***

Commercial real estate lending to customers by global business (continued)

	HSBC UK Bank plc	HSBC Bank plc	The Hongkong and Shanghai Banking Corporation Limited	HSBC Bank Middle East Limited	HSBC North America Holdings Inc.	Grupo Financiero HSBC, S.A. de C.V.	Other trading entities	Total	*of which:* *UK*	*Hong Kong*
	$m	$m	$m	$m	$m	$m	$m	$m	*$m*	*$m*
Wealth and Personal Banking	532	2	70	—	4	—	826	1,434	*534*	*70*
Commercial Banking	14,342	4,390	42,803	951	5,341	903	205	68,935	*14,638*	*33,123*
Global Banking and Markets	—	1,796	23,333	730	—	—	23	25,882	*872*	*16,684*
Corporate Centre	—	—	144	—	—	—	—	144	*—*	*144*
At 31 Dec 2022	14,874	6,188	66,350	1,681	5,345	903	1,054	96,395	*16,044*	*50,021*

Commercial real estate lending to customers by credit quality

	HSBC UK Bank plc	**HSBC Bank plc**	**The Hongkong and Shanghai Banking Corporation Limited**	**HSBC Bank Middle East Limited**	**HSBC North America Holdings Inc.**	**Grupo Financiero HSBC, S.A. de C.V.**	**Other trading entities**	**Total**	***of which:*** ***UK***	***Hong Kong***
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	***$m***	***$m***
Strong	**3,940**	**740**	**12,394**	**255**	**25**	**65**	**16**	**17,435**	***4,191***	***6,527***
Good	**2,555**	**2,054**	**17,777**	**246**	**781**	**130**	**18**	**23,561**	***2,592***	***12,004***
Satisfactory	**6,370**	**1,642**	**19,509**	**634**	**1,691**	**500**	**407**	**30,753**	***6,575***	***16,290***
Sub-standard	**701**	**182**	**4,856**	**180**	**1,262**	**60**	**—**	**7,241**	***726***	***4,400***
Credit impaired	**444**	**216**	**3,585**	**145**	**166**	**25**	**18**	**4,599**	***502***	***3,241***
At 31 Dec 2023	**14,010**	**4,834**	**58,121**	**1,460**	**3,925**	**780**	**459**	**83,589**	***14,586***	***42,462***
Strong	3,951	1,444	16,063	303	352	29	72	22,214	*4,681*	*10,061*
Good	3,094	1,448	20,692	359	864	190	4	26,651	*3,244*	*15,209*
Satisfactory	6,819	2,647	20,930	539	2,397	616	881	34,829	*6,959*	*16,775*
Sub-standard	308	372	5,326	216	1,732	40	40	8,034	*333*	*4,928*
Credit impaired	702	277	3,339	264	—	28	57	4,667	*827*	*3,048*
At 31 Dec 2022	14,874	6,188	66,350	1,681	5,345	903	1,054	96,395	*16,044*	*50,021*

Refinance risk in commercial real estate

Commercial real estate lending tends to require the repayment of a significant proportion of the principal at maturity. Typically, a customer will arrange repayment through the acquisition of a new loan to settle the existing debt. Refinance risk is the risk that a customer, being unable to repay the debt on maturity, fails to refinance it at commercial terms. We monitor our commercial real estate portfolio closely, assessing indicators for signs of potential issues with refinancing.

Commercial real estate gross loans and advances to customers maturity analysis

	HSBC UK Bank plc	**HSBC Bank plc**	**The Hongkong and Shanghai Banking Corporation Limited**	**HSBC Bank Middle East Limited**	**HSBC North America Holdings Inc.**[1]	**Grupo Financiero HSBC, S.A. de C.V.**	**Other trading entities**	**Total**	***of which:*** ***UK***	***Hong Kong***
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	***$m***	***$m***
< 1 year	**3,553**	**1,496**	**25,427**	**396**	**1,472**	**619**	**437**	**33,400**	***3,950***	***19,887***
1–2 years	**4,514**	**474**	**14,144**	**175**	**623**	**60**	**2**	**19,992**	***4,571***	***10,923***
2–5 years	**5,411**	**2,149**	**16,052**	**441**	**1,814**	**71**	**3**	**25,941**	***5,520***	***9,885***
> 5 years	**532**	**715**	**2,498**	**448**	**16**	**30**	**17**	**4,256**	***545***	***1,767***
At 31 Dec 2023	**14,010**	**4,834**	**58,121**	**1,460**	**3,925**	**780**	**459**	**83,589**	***14,586***	***42,462***
< 1 year	8,315	2,059	23,468	423	1,883	241	703	37,092	*9,211*	*18,675*
1–2 years	3,518	1,503	18,007	218	810	115	228	24,399	*3,678*	*13,873*
2–5 years	2,385	1,644	21,804	664	2,624	449	60	29,630	*2,472*	*14,963*
> 5 years	656	982	3,071	376	28	98	63	5,274	*683*	*2,510*
At 31 Dec 2022	14,874	6,188	66,350	1,681	5,345	903	1,054	96,395	*16,044*	*50,021*

1 During 1Q23, we aligned the classification of commercial real estate across the Group and re-presented commercial real estate exposure in HSBC North America Holdings Inc. at 31 December 2022 as $5.3bn, which had a corresponding ECL charge of $0.1bn.

The following table presents the Group's exposure to borrowers classified in the commercial real estate sector where the ultimate parent is based in mainland China, as well as all commercial real estate exposures booked on mainland China balance sheets.

The exposures at 31 December 2023 are split by country/territory and credit quality including allowances for ECL by stage.

Mainland China commercial real estate

(Audited)	Hong Kong	Mainland China	Rest of the Group	Total
	$m	$m	$m	$m
Loans and advances to customers[1]	6,033	4,917	839	11,789
Guarantees issued and others[2]	255	66	37	358
Total mainland China commercial real estate exposure at 31 Dec 2023	6,288	4,983	876	12,147
Distribution of mainland China commercial real estate exposure by credit quality				
Strong	781	1,723	6	2,510
Good	604	953	421	1,978
Satisfactory	679	1,704	261	2,644
Sub-standard	1,298	327	188	1,813
Credit impaired	2,926	276	—	3,202
At 31 Dec 2023	6,288	4,983	876	12,147
Allowance for ECL by credit quality				
Strong	—	(3)	—	(3)
Good	—	(5)	(1)	(6)
Satisfactory	(3)	(27)	—	(30)
Sub-standard	(66)	(87)	(16)	(169)
Credit impaired	(1,726)	(125)	—	(1,851)
At 31 Dec 2023	(1,795)	(247)	(17)	(2,059)
Allowance for ECL by stage distribution				
Stage 1	—	(10)	—	(10)
Stage 2	(69)	(112)	(17)	(198)
Stage 3	(1,726)	(125)	—	(1,851)
At 31 Dec 2023	(1,795)	(247)	(17)	(2,059)
ECL coverage %	28.5	5.0	1.9	17.0

1 *Amounts represent gross carrying amount.*
2 *Amounts represent nominal amount for guarantees and other contingent liabilities.*

Mainland China commercial real estate (continued)

	Hong Kong (audited)[1]	Mainland China (audited)[2]	Rest of the Group (unaudited)[1]	Total (unaudited)[2]
	$m	$m	$m	$m
Loans and advances to customers[2]	9,129	5,752	860	15,741
Guarantees issued and others[3]	249	755	18	1,022
Total mainland China commercial real estate exposure at 31 Dec 2022	9,378	6,507	878	16,763
Distribution of mainland China commercial real estate exposure by credit quality				
Strong	1,425	2,118	220	3,763
Good	697	1,087	370	2,154
Satisfactory	1,269	2,248	77	3,594
Sub-standard	2,887	779	193	3,859
Credit impaired	3,100	275	18	3,393
At 31 Dec 2022	9,378	6,507	878	16,763
Allowance for ECL by credit quality				
Strong	—	(5)	—	(5)
Good	—	(8)	(1)	(9)
Satisfactory	(20)	(81)	—	(101)
Sub-standard	(458)	(42)	(3)	(503)
Credit impaired	(1,268)	(105)	—	(1,373)
At 31 Dec 2022	(1,746)	(241)	(4)	(1,991)
Allowance for ECL by stage distribution				
Stage 1	(1)	(9)	(1)	(11)
Stage 2	(477)	(127)	(3)	(607)
Stage 3	(1,268)	(105)	—	(1,373)
At 31 Dec 2022	(1,746)	(241)	(4)	(1,991)
ECL coverage %	18.6	3.7	0.5	11.9

1 *Disclosures in respect of mainland China commercial real estate exposures in Hong Kong and mainland China form part of the scope of the audit of the Group's* Annual Report and Accounts 2022*. Amounts disclosed for mainland China commercial real estate exposures elsewhere in the Group have not been audited but are provided for completeness.*
2 *Amounts represent gross carrying amount.*
3 *Amounts represent nominal amount for guarantees and other contingent liabilities.*

(Unaudited)

Commercial real estate financing refers to lending that focuses on commercial development and investment in real estate and covers commercial, residential and industrial assets. The exposures in the table are related to companies whose primary activities are focused on these activities. Lending is generally focused on tier 1 and 2 cities. The table also includes financing provided to a corporate or financial entity for the purchase or financing of a property that supports the overall operations of the business. Such exposures are outside of our normal definition of commercial real estate, as applied elsewhere in this report, but are provided here for a more comprehensive view of our mainland China property exposure.

The table above shows 59% ($7.1bn) of total exposure with a credit quality of 'satisfactory' or above, which was slightly higher in proportion compared with 31 December 2022 (57%, $9.5bn). Total 'credit impaired' exposures increased to 26% ($3.2bn) (31 December 2022: 20%, $3.4bn), reflecting sustained stress in the China commercial real estate market, including weakness in both property market fundamentals and financing conditions for borrowers operating in this sector.

Allowances for ECL are substantially against unsecured exposures. For secured exposures, allowances for ECL are minimal, reflecting the nature and value of the security held.

Facilities booked in Hong Kong continued to represent the largest proportion of mainland China commercial real estate exposures, although total exposures reduced to $6.3bn, down $3.1bn since 31 December 2022, as a result of de-risking measures, repayments and write-offs. This portfolio remains relatively higher risk, with 33% (31 December 2022: 36%) of exposure booked with a credit quality of 'satisfactory' or above and 47% 'credit impaired' (31 December 2022: 33%).

At 31 December 2023, the Group had allowances for ECL of $1.8bn (31 December 2022: $1.7bn) held against mainland China commercial real estate exposures booked in Hong Kong. ECL coverage increased to 28.5% (31 December 2022: 18.6%), reflecting a further credit deterioration during the year.

Approximately half of the unimpaired exposure in the Hong Kong portfolio is lending to state-owned enterprises and relatively strong private-owned enterprises. This is reflected in the relatively low allowance for ECL in this part of the portfolio.

Market conditions are likely to remain subdued with a protracted recovery as sentiment and domestic residential demand remain weak, with ongoing refinancing and liquidity risk for corporates operating in this market. The divergence between privately-owned enterprises and state-owned enterprises is likely to continue, with state-owned enterprises achieving above-market sales performance, and benefiting from market share gains and better access to funding.

The Group has additional exposures to mainland China commercial real estate as a result of lending to multinational corporates booked outside of mainland China, which is not incorporated in the table above.

Collateral and other credit enhancements

(Audited)

Although collateral can be an important mitigant of credit risk, it is the Group's practice to lend on the basis of the customer's ability to meet their obligations out of cash flow resources rather than placing primary reliance on collateral and other credit risk enhancements. Depending on the customer's standing and the type of product, facilities may be provided without any collateral or other credit enhancements. For other lending, a charge over collateral is obtained and considered in determining the credit decision and pricing. In the event of default, the Group may utilise the collateral as a source of repayment.

Depending on its form, collateral can have a significant financial effect in mitigating our exposure to credit risk. Where there is sufficient collateral, an expected credit loss is not recognised. This is the case for reverse repurchase agreements and for certain loans and advances to customers where the loan to value ('LTV') is very low.

Mitigants may include a charge on borrowers' specific assets, such as real estate or financial instruments. Other credit risk mitigants include short positions in securities and financial assets held as part of linked insurance/investment contracts where the risk is predominantly borne by the policyholder. Additionally, risk may be managed by employing other types of collateral and credit risk enhancements, such as second charges, other liens and unsupported guarantees. Guarantees are normally taken from corporates and export credit agencies. Corporates would normally provide guarantees as part of a parent/subsidiary relationship and span a number of credit grades. The export credit agencies will normally be investment grade.

Certain credit mitigants are used strategically in portfolio management activities. While single name concentrations arise in portfolios managed by Global Banking and Corporate Banking, it is only in Global Banking that their size requires the use of portfolio level credit mitigants. Across Global Banking, risk limits and utilisations, maturity profiles and risk quality are monitored and managed proactively. This process is key to the setting of risk appetite for these larger, more complex, geographically distributed customer groups. While the principal form of risk management continues to be at the point of exposure origination, through the lending decision-making process, Global Banking also utilises loan sales and credit default swap ('CDS') hedges to manage concentrations and reduce risk.

These transactions are the responsibility of a dedicated Global Banking portfolio management team. Hedging activity is carried out within agreed credit parameters, and is subject to market risk limits and a robust governance structure. Where applicable, CDSs are entered into directly with a central clearing house counterparty. Otherwise, the Group's exposure to CDS protection providers is diversified among mainly banking counterparties with strong credit ratings.

CDS mitigants are held at portfolio level and are not included in the expected credit loss calculations. CDS mitigants are not reported in the following tables.

Collateral on loans and advances

Collateral held is analysed separately for commercial real estate and for other corporate, commercial and financial (non-bank) lending. The following tables include off-balance sheet loan commitments, primarily undrawn credit lines.

The collateral measured in the following tables consists of fixed first charges on real estate, and charges over cash and marketable financial instruments. The values in the tables represent the expected market value on an open market basis. No adjustment has been made to the collateral for any expected costs of recovery. Marketable securities are measured at their fair value.

Other types of collateral such as unsupported guarantees and floating charges over the assets of a customer's business are not measured in the following tables. While such mitigants have value, often providing rights in insolvency, their assignable value is not sufficiently certain and they are therefore assigned no value for disclosure purposes.

The LTV ratios presented are calculated by directly associating loans and advances with the collateral that individually and uniquely supports each facility. When collateral assets are shared by multiple loans and advances, whether specifically or, more generally, by way of an all monies charge, the collateral value is pro-rated across the loans and advances protected by the collateral.

For credit-impaired loans, the collateral values cannot be directly compared with impairment allowances recognised. The LTV figures use open market values with no adjustments. Impairment allowances are calculated on a different basis, by considering other cash flows and adjusting collateral values for costs of realising collateral as explained further on page 348.

Commercial real estate loans and advances

The value of commercial real estate collateral is determined by using a combination of external and internal valuations and physical inspections. For commercial real estate, where the facility exceeds regulatory threshold requirements, Group policy requires an independent review of the valuation at least every three years, or more frequently as the need arises.

In Hong Kong, market practice is typically for lending to major property companies to be either secured by guarantees or unsecured. In Europe, facilities of a working capital nature are generally not secured by a first fixed charge, and are therefore disclosed as not collateralised.

Wholesale lending – commercial real estate loans and advances to customers including loan commitments by level of collateral for key countries/territories (by stage)

(Audited)

	Gross carrying/nominal amount					ECL coverage				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	%	%	%	%	%
Not collateralised	36,754	5,128	2,543	—	44,425	0.1	3.9	72.4	—	4.7
Fully collateralised by LTV ratio	46,212	15,177	1,963	—	63,352	0.1	2.5	12.0	—	1.0
– less than 50%	24,391	7,413	574	—	32,378	0.1	1.9	13.1	—	0.7
– 51% to 75%	16,086	5,240	657	—	21,983	0.1	3.1	9.3	—	1.1
– 76% to 90%	3,140	1,437	454	—	5,031	0.1	3.5	11.8	—	2.1
– 91% to 100%	2,595	1,087	278	—	3,960	0.2	2.3	16.6	—	1.9
Partially collateralised (A): LTV > 100%	7,075	1,487	156	50	8,768	0.1	1.8	30.2	14.5	1.0
– collateral value on A	4,004	1,061	115	26	5,206					
Total at 31 Dec 2023	90,041	21,792	4,662	50	116,545	0.1	2.8	45.6	14.5	2.4
of which: UK										
Not collateralised	4,644	1,288	97	—	6,029	0.4	2.0	12.4	—	0.9
Fully collateralised by LTV ratio	9,762	2,512	295	—	12,569	0.1	1.3	13.9	—	0.7
– less than 50%	3,514	507	51	—	4,072	0.1	1.9	21.6	—	0.6
– 51% to 75%	4,826	1,418	103	—	6,347	0.1	1.1	16.4	—	0.6
– 76% to 90%	749	292	80	—	1,121	0.1	1.3	14.9	—	1.5
– 91% to 100%	673	295	61	—	1,029	0.1	1.6	1.9	—	0.6
Partially collateralised (B): LTV > 100%	1,580	239	82	35	1,936	0.1	1.1	34.2	20.7	2.0
– collateral value on B	524	171	62	17	774					
Total UK at 31 Dec 2023	15,986	4,039	474	35	20,534	0.2	1.5	17.1	20.7	0.9
of which: Hong Kong										
Not collateralised	16,889	2,323	2,215	—	21,427	—	6.5	78.7	—	8.8
Fully collateralised by LTV ratio	20,783	8,447	989	—	30,219	—	2.1	5.0	—	0.8
– less than 50%	15,425	5,604	294	—	21,323	—	1.5	1.4	—	0.5
– 51% to 75%	4,102	2,140	312	—	6,554	0.1	3.8	2.1	—	1.4
– 76% to 90%	657	619	315	—	1,591	0.1	1.8	8.0	—	2.3
– 91% to 100%	599	84	68	—	751	—	0.1	20.5	—	1.9
Partially collateralised (C): LTV > 100%	1,770	616	52	15	2,453	—	0.8	24.5	—	0.7
– collateral value on C	1,569	535	39	8	2,151					
Total Hong Kong at 31 Dec 2023	39,442	11,386	3,256	15	54,099	—	2.9	55.5	—	4.0
Not collateralised	43,987	9,779	2,612	—	56,378	0.1	5.7	53.7	—	3.6
Fully collateralised by LTV ratio	54,003	17,619	1,617	—	73,239	0.1	1.8	10.9	—	0.7
– less than 50%	29,635	6,523	544	—	36,702	0.1	1.9	16.5	—	0.7
– 51% to 75%	18,664	8,312	594	—	27,570	0.1	1.3	4.4	—	0.5
– 76% to 90%	3,220	911	315	—	4,446	0.1	2.1	4.1	—	0.8
– 91% to 100%	2,484	1,873	164	—	4,521	0.2	3.5	28.7	—	2.6
Partially collateralised (A): LTV > 100%	4,965	1,924	513	19	7,421	0.1	2.2	54.2	—	4.4
– collateral value on A	2,804	1,192	293	8	4,297					
Total at 31 Dec 2022[1]	102,955	29,322	4,742	19	137,038	0.1	3.1	39.1	—	2.1
of which: UK										
Not collateralised	5,960	2,511	295	—	8,766	0.3	1.5	35.3	—	1.8
Fully collateralised by LTV ratio	10,293	2,025	372	—	12,690	0.1	0.9	6.5	—	0.4
– less than 50%	2,900	664	53	—	3,617	0.2	0.9	3.8	—	0.4
– 51% to 75%	6,361	1,197	291	—	7,849	0.1	0.9	2.1	—	0.3
– 76% to 90%	556	140	11	—	707	0.2	1.4	18.2	—	0.7
– 91% to 100%	476	24	17	—	517	0.2	0.4	76.5	—	2.8
Partially collateralised (B): LTV > 100%	1,920	179	176	—	2,275	0.2	1.1	68.8	—	5.5
– collateral value on B	1,113	144	72	—	1,329					
Total UK at 31 Dec 2022	18,173	4,715	843	—	23,731	0.2	1.3	29.5	—	1.5
of which: Hong Kong										
Not collateralised	20,263	4,648	2,123	—	27,034	—	10.6	56.9	—	6.3
Fully collateralised by LTV ratio	27,892	7,457	864	—	36,213	—	1.1	5.2	—	0.4
– less than 50%	21,185	3,539	318	—	25,042	—	1.4	2.2	—	0.3
– 51% to 75%	5,365	3,536	205	—	9,106	0.1	1.0	3.4	—	0.5
– 76% to 90%	995	134	264	—	1,393	—	0.1	1.9	—	0.4
– 91% to 100%	347	248	77	—	672	—	0.2	32.5	—	3.9
Partially collateralised (C): LTV > 100%	804	390	73	19	1,286	—	2.8	61.6	—	4.4
– collateral value on C	584	249	39	8	880					
Total Hong Kong at 31 Dec 2022	48,959	12,495	3,060	19	64,533	—	4.7	42.5	—	2.9

1 During 1Q23, we aligned the classification of commercial real estate across the Group and re-presented commercial real estate exposure in HSBC North America Holdings Inc. at 31 December 2022 as $5.3bn, which had a corresponding ECL charge of $0.1bn.

Other corporate, commercial and financial (non-bank) loans and advances

Other corporate, commercial and financial (non-bank) loans are analysed separately in the following table, which focuses on the countries/territories containing the majority of our loans and advances balances. For financing activities in other corporate and commercial lending, collateral value is not strongly correlated to principal repayment performance.

Collateral values are generally refreshed when an obligor's general credit performance deteriorates and we have to assess the likely performance of secondary sources of repayment should it prove necessary to rely on them.

Wholesale lending – other corporate, commercial and financial (non-bank) loans and advances including loan commitments by level of collateral for key countries/territories (by stage)

(Audited)

	Gross carrying/nominal amount					ECL coverage				
	Stage 1	Stage 2	Stage 3	POCI	Total	Stage 1	Stage 2	Stage 3	POCI	Total
	$m	$m	$m	$m	$m	%	%	%	%	%
Not collateralised	**672,142**	**76,261**	**7,702**	**8**	**756,113**	**0.1**	**0.9**	**40.0**	**6.8**	**0.6**
Fully collateralised by LTV ratio	**113,339**	**19,747**	**2,629**	**23**	**135,738**	**0.1**	**1.4**	**10.7**	**89.8**	**0.5**
– less than 50%	**42,953**	**7,069**	**1,168**	**—**	**51,190**	***0.1***	***1.5***	***11.8***	***—***	***0.5***
– 51% to 75%	**24,011**	**8,222**	**887**	**—**	**33,120**	***0.1***	***1.3***	***6.4***	***—***	***0.6***
– 76% to 90%	**10,194**	**2,531**	**421**	**23**	**13,169**	***0.1***	***1.6***	***10.3***	***90.6***	***0.9***
– 91% to 100%	**36,181**	**1,925**	**153**	**—**	**38,259**	***—***	***1.1***	***27.6***	***—***	***0.2***
Partially collateralised (A): LTV > 100%	**53,686**	**9,019**	**2,233**	**3**	**64,941**	**0.1**	**0.7**	**32.2**	**38.4**	**1.3**
– *collateral value on A*	***24,505***	***4,266***	***993***	***1***	***29,765***					
Total at 31 Dec 2023	**839,167**	**105,027**	**12,564**	**34**	**956,792**	**0.1**	**1.0**	**32.5**	**67.1**	**0.6**
of which: UK										
Not collateralised	***117,824***	***20,401***	***3,423***	***—***	***141,648***	***0.2***	***1.9***	***23.2***	***—***	***1.0***
Fully collateralised by LTV ratio	***22,217***	***5,912***	***1,162***	***—***	***29,291***	***0.1***	***1.7***	***3.7***	***—***	***0.6***
– less than 50%	**7,385**	**2,340**	**601**	***—***	***10,326***	***0.1***	***1.2***	***1.3***	***—***	***0.5***
– 51% to 75%	***6,966***	***2,292***	***434***	***—***	***9,692***	***0.1***	***1.7***	***3.6***	***—***	***0.7***
– 76% to 90%	***2,256***	***809***	***106***	***—***	***3,171***	***0.2***	***2.5***	***15.8***	***—***	***1.3***
– 91% to 100%	***5,610***	***471***	***21***	***—***	***6,102***	***0.1***	***2.1***	***14.5***	***—***	***0.3***
Partially collateralised (B): LTV > 100%	***6,335***	***1,732***	***299***	***—***	***8,366***	***0.2***	***1.8***	***18.4***	***—***	***1.2***
– collateral value on B	**3,508**	**1,080**	**175**	**—**	**4,763**					
Total UK at 31 Dec 2023	***146,376***	***28,045***	***4,884***	***—***	***179,305***	***0.2***	***1.8***	***18.3***	***—***	***0.9***
of which: Hong Kong					—					
Not collateralised	***114,025***	***7,523***	***906***	***—***	***122,454***	***—***	***0.4***	***57.5***	***—***	***0.5***
Fully collateralised by LTV ratio	***32,857***	***8,918***	***877***	***22***	***42,674***	***0.1***	***1.3***	***6.6***	***94.7***	***0.5***
– less than 50%	**16,175**	**2,898**	**230**	***—***	***19,303***	***0.1***	***1.4***	***11.8***	***—***	***0.4***
– 51% to 75%	***9,461***	***4,515***	***336***	***—***	***14,312***	***0.1***	***1.2***	***3.1***	***—***	***0.5***
– 76% to 90%	***4,245***	***863***	***253***	***22***	***5,383***	***0.1***	***1.8***	***2.0***	***94.7***	***0.9***
– 91% to 100%	***2,976***	***642***	***58***	***—***	***3,676***	***—***	***0.4***	***27.0***	***—***	***0.5***
Partially collateralised (C): LTV > 100%	***16,152***	***2,887***	***704***	***—***	***19,743***	***—***	***0.6***	***30.2***	***—***	***1.2***
– collateral value on C	**6,619**	**1,306**	**318**	**—**	**8,243**					
Total Hong Kong at 31 Dec 2023	***163,034***	***19,328***	***2,487***	***22***	***184,871***	***0.1***	***0.8***	***31.8***	***94.7***	***0.6***
Not collateralised	*632,889*	*79,009*	*8,278*	*64*	*720,240*	0.1	1.1	38.4	18.8	0.6
Fully collateralised by LTV ratio	*94,789*	*27,422*	*1,948*	*24*	*124,183*	0.1	1.1	13.7	91.7	0.5
– less than 50%	*36,747*	*10,643*	*678*	*—*	*48,068*	*0.1*	*1.1*	*18.6*	*—*	*0.6*
– 51% to 75%	*29,108*	*10,457*	*503*	*1*	*40,069*	*0.1*	*1.2*	*11.3*	*—*	*0.5*
– 76% to 90%	*9,643*	*2,987*	*402*	*23*	*13,055*	*0.1*	*1.0*	*4.7*	*95.7*	*0.6*
– 91% to 100%	*19,291*	*3,335*	*365*	*—*	*22,991*	*0.1*	*0.8*	*17.5*	*—*	*0.4*
Partially collateralised (A): LTV > 100%	*54,794*	*12,830*	*2,120*	*22*	*69,766*	0.1	0.9	37.3	18.2	1.4
– *collateral value on A*	*27,775*	*6,289*	*1,133*	*16*	*35,213*	—	—	—	—	—
Total at 31 Dec 2022	*782,472*	*119,261*	*12,346*	*110*	*914,189*	0.1	1.0	34.3	34.6	0.7
of which: UK										
Not collateralised	*105,126*	*16,886*	*3,783*	*28*	*125,823*	*0.1*	*2.2*	*17.8*	*3.6*	*0.9*
Fully collateralised by LTV ratio	*21,192*	*6,511*	*699*	*—*	*28,402*	*0.1*	*1.3*	*4.6*	*—*	*0.5*
– less than 50%	6,928	2,872	*175*	*—*	*9,975*	*0.1*	*1.0*	*3.4*	*—*	*0.5*
– 51% to 75%	*7,611*	*2,656*	*336*	*—*	*10,603*	*0.1*	*1.5*	*6.5*	*—*	*0.6*
– 76% to 90%	*1,889*	*578*	*102*	*—*	*2,569*	*0.1*	*1.9*	*1.0*	*—*	*0.5*
– 91% to 100%	*4,764*	*405*	*86*	*—*	*5,255*	*—*	*1.2*	*3.5*	*—*	*0.2*
Partially collateralised (B): LTV > 100%	*6,480*	*2,288*	*308*	*—*	*9,076*	*0.1*	*1.2*	*25.6*	*—*	*1.2*
– collateral value on B	3,470	1,197	158	—	4,825	—	—	—	—	
Total UK at 31 Dec 2022	*132,798*	*25,685*	*4,790*	*28*	*163,301*	*0.1*	*1.9*	*16.4*	*3.6*	*0.9*
of which: Hong Kong										
Not collateralised	*109,919*	*9,901*	*939*	*—*	*120,759*	*—*	*0.7*	*56.0*	*—*	*0.5*
Fully collateralised by LTV ratio	*38,083*	*12,693*	*665*	*24*	*51,465*	*0.1*	*1.0*	*3.8*	*91.7*	*0.4*
– less than 50%	*15,695*	*4,577*	*175*	*—*	*20,447*	*0.1*	*0.9*	*1.7*	*—*	*0.3*
– 51% to 75%	*13,893*	*5,413*	*115*	*1*	*19,422*	*0.1*	*1.2*	*7.8*	*—*	*0.5*
– 76% to 90%	*4,964*	*1,479*	*268*	*23*	*6,734*	*0.1*	*0.7*	*0.4*	*95.7*	*0.6*
– 91% to 100%	*3,531*	*1,224*	*107*	*—*	*4,862*	*0.1*	*0.3*	*10.3*	*—*	*0.3*
Partially collateralised (C): LTV > 100%	*17,704*	*3,379*	*777*	*14*	*21,874*	*0.1*	*0.6*	*30.9*	*—*	*1.2*
– collateral value on C	7,737	1,524	397	13	9,671	—	—	—	—	
Total Hong Kong at 31 Dec 2022	*165,706*	*25,973*	*2,381*	*38*	*194,098*	*0.1*	*0.8*	*33.2*	*57.9*	*0.6*

Other credit risk exposures

In addition to collateralised lending, other credit enhancements are employed and methods used to mitigate credit risk arising from financial assets. These are summarised below:

- Some securities issued by governments, banks and other financial institutions benefit from additional credit enhancements provided by government guarantees that cover the assets.
- Debt securities issued by banks and financial institutions include asset-backed securities ('ABSs') and similar instruments, which are supported by underlying pools of financial assets. Credit risk associated with ABSs is reduced through the purchase of credit default swap ('CDS') protection.
- Trading loans and advances mainly pledged against cash collateral are posted to satisfy margin requirements. There is limited credit risk on cash collateral posted since in the event of default of the counterparty this would be set off against the related liability. Reverse repos and stock borrowing are by their nature collateralised.

Collateral accepted as security that the Group is permitted to sell or repledge under these arrangements is described on page 390 of the financial statements.

The Group's maximum exposure to credit risk includes financial guarantees and similar contracts granted, as well as loan and other credit-related commitments. Depending on the terms of the arrangement, we may use additional credit mitigation if a guarantee is called upon or a loan commitment is drawn and subsequently defaults.

For further information on these arrangements, see Note 33 on the financial statements.

Derivatives

We participate in transactions exposing us to counterparty credit risk. Counterparty credit risk is the risk of financial loss if the counterparty to a transaction defaults before satisfactorily settling it. It arises principally from over-the-counter ('OTC') derivatives and securities financing transactions and is calculated in both the trading and non-trading books. Transactions vary in value by reference to a market factor such as an interest rate, exchange rate or asset price.

The counterparty risk from derivative transactions is taken into account when reporting the fair value of derivative positions. The adjustment to the fair value is known as the credit valuation adjustment ('CVA').

For an analysis of CVAs, see Note 12 on the financial statements.

The following table reflects by risk type the fair values and gross notional contract amounts of derivatives cleared through an exchange, central counterparty or non-central counterparty.

Notional contract amounts and fair values of derivatives

	2023			2022[1]		
	Notional amount	**Fair value**		Notional amount	Fair value	
		Assets	**Liabilities**		Assets	Liabilities
	$m	**$m**	**$m**	$m	$m	$m
Total OTC derivatives	**24,551,539**	**337,066**	**343,098**	23,649,591	421,324	423,909
– total OTC derivatives cleared by central counterparties	**11,130,785**	**116,520**	**118,796**	11,360,730	149,193	154,167
– total OTC derivatives not cleared by central counterparties	**13,420,754**	**220,546**	**224,302**	12,288,861	272,131	269,742
Total exchange traded derivatives	**1,111,247**	**9,134**	**8,159**	1,146,426	3,822	2,840
Gross	**25,662,786**	**346,200**	**351,258**	24,796,017	425,146	426,749
Offset		**(116,486)**	**(116,486)**		(140,987)	(140,987)
At 31 Dec		**229,714**	**234,772**		284,159	285,762

1 *From 1 January 2023, we adopted IFRS 17 'Insurance Contracts', which replaced IFRS 4 'Insurance Contracts'. We have restated 2022 comparative data.*

The purposes for which HSBC uses derivatives are described in Note 15 on the financial statements.

The International Swaps and Derivatives Association ('ISDA') master agreement is our preferred agreement for documenting derivatives activity. It is common, and our preferred practice, for the parties involved in a derivative transaction to execute a credit support annex ('CSA') in conjunction with the ISDA master agreement. Under a CSA, collateral is passed between the parties to mitigate the counterparty risk inherent in outstanding positions. The majority of our CSAs are with financial institutional clients.

We manage the counterparty exposure on our OTC derivative contracts by using collateral agreements with counterparties and netting agreements. Currently, we do not actively manage our general OTC derivative counterparty exposure in the credit markets, although we may manage individual exposures in certain circumstances.

We place strict policy restrictions on collateral types and as a consequence the types of collateral received and pledged are, by value, highly liquid and of a strong quality, being predominantly cash.

Where a collateral type is required to be approved outside the collateral policy, approval is required from a committee of senior representatives from Markets, Legal and Risk.

See Note 31 on the financial statements for details regarding legally enforceable right of offset in the event of counterparty default and collateral received in respect of derivatives.

Personal lending

This section presents further disclosures related to personal lending. It provides details of the major legal entities, countries and products that are driving the change observed in personal loans and advances to customers, with the impact of foreign exchange separately identified. Additionally, Hong Kong and UK mortgage book LTV data is provided.

This section also provides reconciliations of the opening 1 January 2023 to 31 December 2023 closing gross carrying/nominal amounts and associated allowance for ECL by product. Further product granularity is also provided by stage, with data for major legal entities presented for loans and advances to customers, loan and other credit-related commitments and financial guarantees.

At 31 December 2023, total personal lending for loans and advances to customers of $447.5bn increased by $32.6bn compared with 31 December 2022. This increase included favourable foreign exchange movements of $11.5bn. Excluding foreign exchange movements, the increase of $21.1bn was mainly driven by growth in the UK (up $6.6bn), in Hong Kong (up $5.8bn), in Mexico (up $2.3bn) and in Australia (up $1.4bn). Additionally, France increased by $7.8bn due to the retention of the home loan portfolio, which is no longer classified as assets held for sale.

The increase was partly offset by a $1.2bn decrease from the merger of our business in Oman and a $1.0bn decrease from the sale of our retail mortgage loan portfolio in New Zealand.

The allowance for ECL attributable to personal lending, excluding off-balance sheet loan commitments and guarantees, remained broadly stable at $2.9bn at 31 December 2023, as net releases were offset by adverse foreign exchange movements of $0.1bn.

Excluding foreign exchange movements and reclassifications to held for sale, mortgage lending balances increased by $15.5bn to $360.9bn at 31 December 2023, mainly in Hong Kong (up $5.9bn), in the UK (up $4.9bn), in Mexico (up $1.7bn), in the US (up $1.5bn) and in Australia (up $1.4bn). The allowance for ECL attributable to mortgages remained broadly stable at $0.6bn when compared with 31 December 2022.

Total personal lending gross carrying amounts in stage 2 decreased by $1.4bn compared with 31 December 2022. Excluding favourable foreign exchange movements of $2.3bn, the decrease of $3.7bn was driven by favourable economic conditions and the model updates for interest-only and offset mortgages at a portfolio level in the UK.

The quality of both our Hong Kong and UK mortgage books remained strong, with low levels of impairment allowances. The average LTV ratio on new mortgage lending in Hong Kong was 64%, compared with an estimated 60% for the overall mortgage portfolio. The average LTV ratio on new lending in the UK was 65%, compared with an estimated 53% for the overall mortgage portfolio.

Excluding foreign exchange movements and reclassifications to held for sale, other personal lending balances at 31 December 2023 increased by $7.8bn compared with 31 December 2022. This was mainly from the retained home loan portfolio in France (up $7.4bn), which is no longer classified as assets held for sale. In addition, our credit card portfolio in Mexico increased by $0.6bn.

The allowance for ECL, excluding foreign exchange movements, attributable to other personal lending of $2.3bn remained unchanged from 31 December 2022. The allowance for ECL attributable to credit cards decreased by $0.1bn, offset by adverse foreign exchange movements of $0.1bn in other personal lending.

Total personal lending for loans and advances to customers at amortised cost by stage distribution

	Gross carrying amount				Allowance for ECL			
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m	$m	$m	$m	$m
By portfolio								
First lien residential mortgages	320,410	38,287	2,212	360,909	(102)	(200)	(269)	(571)
– *of which: interest-only (including offset)*	*21,895*	*2,923*	*139*	*24,957*	*(4)*	*(27)*	*(31)*	*(62)*
– *affordability (including US adjustable rate mortgages)*	*14,380*	*381*	*291*	*15,052*	*(3)*	*(1)*	*(10)*	*(14)*
Other personal lending	76,124	9,196	1,293	86,613	(477)	(1,234)	(585)	(2,296)
– second lien residential mortgages	317	58	21	396	—	(3)	(5)	(8)
– guaranteed loans in respect of residential property	8,001	502	90	8,593	(1)	(5)	(14)	(20)
– other personal lending which is secured	28,900	424	157	29,481	(13)	(5)	(24)	(42)
– credit cards	19,909	4,419	352	24,680	(236)	(697)	(203)	(1,136)
– other personal lending which is unsecured	17,010	3,582	659	21,251	(212)	(505)	(331)	(1,048)
– motor vehicle finance	1,987	211	14	2,212	(15)	(19)	(8)	(42)
At 31 Dec 2023	396,534	47,483	3,505	447,522	(579)	(1,434)	(854)	(2,867)
By legal entity								
HSBC UK Bank plc	146,354	35,190	1,218	182,762	(152)	(490)	(255)	(897)
HSBC Bank plc	14,598	1,747	273	16,618	(24)	(22)	(91)	(137)
The Hongkong and Shanghai Banking Corporation Limited	191,382	7,741	948	200,071	(165)	(402)	(162)	(729)
HSBC Bank Middle East Limited	3,335	397	47	3,779	(19)	(33)	(36)	(88)
HSBC North America Holdings Inc.	18,096	553	364	19,013	(5)	(14)	(16)	(35)
Grupo Financiero HSBC, S.A. de C.V.	12,717	1,740	536	14,993	(197)	(463)	(273)	(933)
Other trading entities	10,052	115	119	10,286	(17)	(10)	(21)	(48)
At 31 Dec 2023	396,534	47,483	3,505	447,522	(579)	(1,434)	(854)	(2,867)

Total personal lending for loans and other credit-related commitments and financial guarantees by stage distribution

	Nominal amount				Allowance for ECL			
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m	$m	$m	$m	$m
HSBC UK Bank plc	52,093	734	88	52,915	(11)	—	(2)	(13)
HSBC Bank plc	1,630	36	4	1,670	—	—	—	—
The Hongkong and Shanghai Banking Corporation Limited	181,967	2,479	223	184,669	(3)	—	—	(3)
HSBC Bank Middle East Limited	1,978	7	1	1,986	—	—	—	—
HSBC North America Holdings Inc.	3,695	72	8	3,775	—	—	—	—
HSBC Bank Canada	6,610	113	30	6,753	—	—	—	—
Grupo Financiero HSBC, S.A. de C.V.	4,308	—	—	4,308	(8)	—	—	(8)
Other trading entities	2,008	31	1	2,040	(1)	—	—	(1)
At 31 Dec 2023	254,289	3,472	355	258,116	(23)	—	(2)	(25)

Total personal lending for loans and advances to customers at amortised cost by stage distribution (continued)

	Gross carrying amount				Allowance for ECL			
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m	$m	$m	$m	$m
By portfolio								
First lien residential mortgages	294,919	39,860	2,042	336,821	(74)	(231)	(270)	(575)
– of which: interest-only (including offset)	*19,636*	*4,485*	*169*	*24,290*	*(3)*	*(46)*	*(41)*	*(90)*
– affordability (including US adjustable rate mortgages)	*14,773*	*369*	*240*	*15,382*	*(5)*	*(3)*	*(4)*	*(12)*
Other personal lending	67,758	9,006	1,297	78,061	(487)	(1,273)	(535)	(2,295)
– second lien residential mortgages	353	20	6	379	(1)	(2)	(3)	(6)
– guaranteed loans in respect of residential property	1,121	121	125	1,367	(1)	(3)	(30)	(34)
– other personal lending which is secured	31,306	594	206	32,106	(15)	(10)	(30)	(55)
– credit cards	16,705	4,423	260	21,388	(225)	(776)	(160)	(1,161)
– other personal lending which is unsecured	16,512	3,681	687	20,880	(234)	(469)	(305)	(1,008)
– motor vehicle finance	1,761	167	13	1,941	(11)	(13)	(7)	(31)
At 31 Dec 2022	362,677	48,866	3,339	414,882	(561)	(1,504)	(805)	(2,870)
By legal entity								
HSBC UK Bank plc	128,590	37,394	1,012	166,996	(135)	(688)	(227)	(1,050)
HSBC Bank plc	6,377	740	127	7,244	(10)	(18)	(38)	(66)
The Hongkong and Shanghai Banking Corporation Limited	185,723	8,698	1,117	195,538	(138)	(362)	(187)	(687)
HSBC Bank Middle East Limited	3,657	184	86	3,927	(26)	(37)	(52)	(115)
HSBC North America Holdings Inc.	16,906	375	270	17,551	(12)	(23)	(6)	(41)
Grupo Financiero HSBC, S.A. de C.V.	9,542	1,099	377	11,018	(213)	(331)	(194)	(738)
Other trading entities	11,882	376	350	12,608	(27)	(45)	(101)	(173)
At 31 Dec 2022	362,677	48,866	3,339	414,882	(561)	(1,504)	(805)	(2,870)

Total personal lending for loans and other credit-related commitments and financial guarantees by stage distribution (continued)

	Nominal amount				Allowance for ECL			
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m	$m	$m	$m	$m
HSBC UK Bank plc	50,535	439	104	51,078	(11)	(1)	—	(12)
HSBC Bank plc	2,440	131	7	2,578	—	—	—	—
The Hongkong and Shanghai Banking Corporation Limited	170,104	2,916	634	173,654	(2)	—	—	(2)
HSBC Bank Middle East Limited	1,717	8	1	1,726	(1)	—	—	(1)
HSBC North America Holdings Inc.	3,914	24	17	3,955	(1)	—	—	(1)
HSBC Bank Canada	6,346	115	30	6,491	—	—	—	—
Grupo Financiero HSBC, S.A. de C.V.	3,198	—	—	3,198	(9)	—	—	(9)
Other trading entities	2,390	64	7	2,461	(2)	—	—	(2)
At 31 Dec 2022	240,644	3,697	800	245,141	(26)	(1)	—	(27)

Exposure to UK interest-only mortgage loans

The following information is presented for HSBC branded interest-only mortgage loans. This excludes offset mortgages in first direct and private banking mortgages.

At the end of 2023, the average LTV ratio of the interest-only mortgage loans was 44% (2022: 41%), and 97% (2022: 99%) had an LTV ratio of 75% or less.

Of the interest-only mortgage loans that expired in 2021, 82% were repaid within 12 months of expiry with a total of 96% being repaid within 24 months of expiry. For those expiring during 2022, 92% were repaid within 12 months of expiry.

At 31 December 2023, interest-only mortgage loan exposures were $15.2bn (2022: $14.4bn) and the maturity profile was as follows:

UK interest-only mortgage loans

	$m
Expired interest-only mortgage loans	**141**
Interest-only mortgage loans by maturity	
– 2024	**141**
– 2025	**242**
– 2026	**315**
– 2027	**436**
– 2028–2032	**2,919**
– post-2032	**11,010**
At 31 Dec 2023	**15,204**

UK interest-only mortgage loans (continued)

	$m
Expired interest-only mortgage loans	134
Interest-only mortgage loans by maturity	
– 2023	219
– 2024	215
– 2025	300
– 2026	383
– 2027–2031	2,951
– post-2031	10,248
At 31 Dec 2022	14,450

Exposure to offset mortgage in first direct

The offset mortgage in first direct is a flexible way for our customers to take control of their finances. It works by grouping together the customer's mortgage, savings and current accounts to offset their credit and debit balances against their mortgage exposure. At 31 December 2023, exposures were worth a total $5.0bn with an average LTV ratio of 29% (2022: $5.5bn exposure and 32% LTV ratio).

Reconciliations of changes in personal lending gross carrying/nominal amount and allowances for loans and advances to customers including loan commitments and financial guarantees

The following disclosure provides a reconciliation by stage of the Group's personal lending gross carrying/nominal amount and allowances for loans and advances to customers, including loan commitments and financial guarantees.

In addition, three reconciliations by stage of the Group's gross carrying/nominal amount and allowances for first lien mortgages, credit cards and other personal lending, including loan commitments and financial guarantees were added at 31 December 2023 following the adoption of the recommendations of the DECL Taskforce's third report.

Personal lending – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to customers including loan commitments and financial guarantees

(Audited)

	Non-credit impaired				Credit impaired			
	Stage 1		Stage 2		Stage 3		Total	
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2023	**603,321**	**(587)**	**52,563**	**(1,505)**	**4,139**	**(805)**	**660,023**	**(2,897)**
Transfers of financial instruments:	**(2,144)**	**(619)**	**39**	**1,087**	**2,105**	**(468)**	**—**	**—**
– transfers from stage 1 to stage 2	(57,217)	270	57,217	(270)	—	—	—	—
– transfers from stage 2 to stage 1	55,307	(862)	(55,307)	862	—	—	—	—
– transfers to stage 3	(542)	3	(2,345)	614	2,887	(617)	—	—
– transfers from stage 3	308	(30)	474	(119)	(782)	149	—	—
Net remeasurement of ECL arising from transfer of stage	**—**	**563**	**—**	**(679)**	**—**	**(79)**	**—**	**(195)**
Net new and further lending/repayments	**34,411**	**(47)**	**(4,713)**	**350**	**(1,169)**	**144**	**28,529**	**447**
Change to risk parameters – credit quality	**—**	**104**	**—**	**(641)**	**—**	**(955)**	**—**	**(1,492)**
Changes to models used for ECL calculation	**—**	**(13)**	**—**	**21**	**—**	**7**	**—**	**15**
Assets written off	**—**	**—**	**—**	**—**	**(1,326)**	**1,326**	**(1,326)**	**1,326**
Foreign exchange and others[1,2]	**15,235**	**(3)**	**3,066**	**(67)**	**111**	**(26)**	**18,412**	**(96)**
At 31 Dec 2023	**650,823**	**(602)**	**50,955**	**(1,434)**	**3,860**	**(856)**	**705,638**	**(2,892)**
ECL income statement change for the period		**607**		**(949)**		**(883)**		**(1,225)**
Recoveries								**226**
Others								**8**
Total ECL income statement change for the period								**(991)**

1 *Total includes $7.8bn of gross carrying loans and advances and a corresponding allowance for ECL of $11m, due to the retention of certain balances previously classified as assets held for sale of our retail banking operations in France. For further details, see Note 23 'Assets held for sale and liabilities of disposal groups held for sale' on page 401.*

2 *Total includes $2.0bn of gross carrying loans and advances to customers, which were classified to assets held for sale, and a corresponding allowance for ECL of $20m, reflecting business disposals, as disclosed in Note 23 'Assets held for sale and liabilities of disposal groups held for sale' on page 401.*

As shown in the above table, the allowance for ECL for loans and advances to customers and relevant loan commitments and financial guarantees decreased by $5m during the period from $2,897m at 31 December 2022 to $2,892m at 31 December 2023.

This decrease was driven by:

- $1,326m of assets written off;
- $447m relating to volume movements, which included the allowance for ECL associated with new originations, assets derecognised and further lending/repayment; and
- $15m of changes to models used for ECL calculation.

These were partly offset by:

- $1,492m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stages;
- $195m relating to the net remeasurement impact of stage transfers; and
- foreign exchange and other movements of $96m.

The ECL charge for the period of $1,225m presented in the above table consisted of $1,492m relating to underlying credit quality changes, including the credit quality impact of financial instruments transferring between stages, and $195m relating to the net remeasurement impact of stage transfers. This was partly offset by $447m relating to underlying net book volume movements and $15m in changes to models used for the calculation of ECL.

During the period, there was a net transfer to stage 2 of $1,910m gross carrying/nominal amounts. This increase was mainly driven by $1,550m in Mexico, due to slight deterioration in the unsecured portfolio.

Personal lending – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to customers including loan commitments and financial guarantees

(Audited)

	Non-credit impaired				Credit impaired			
	Stage 1		Stage 2		Stage 3		Total	
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2022	695,627	(692)	18,161	(1,220)	5,111	(1,226)	718,899	(3,138)
Transfers of financial instruments:	(40,836)	(496)	39,489	674	1,347	(178)	—	—
– transfers from stage 1 to stage 2	(68,016)	268	68,016	(268)	—	—	—	—
– transfers from stage 2 to stage 1	27,359	(730)	(27,359)	730	—	—	—	—
– transfers to stage 3	(561)	2	(1,983)	361	2,544	(363)	—	—
– transfers from stage 3	382	(36)	815	(149)	(1,197)	185	—	—
Net remeasurement of ECL arising from transfer of stage	—	495	—	(579)	—	(85)	—	(169)
Net new and further lending/repayments	30,637	(17)	459	234	(146)	91	30,950	308
Change to risk parameters – credit quality	—	82	—	(676)	—	(823)	—	(1,417)
Changes to models used for ECL calculation	—	(2)	—	(95)	—	13	—	(84)
Assets written off	—	—	—	—	(1,212)	1,212	(1,212)	1,212
Foreign exchange and others[1]	(82,107)	43	(5,546)	157	(961)	191	(88,614)	391
At 31 Dec 2022	603,321	(587)	52,563	(1,505)	4,139	(805)	660,023	(2,897)
ECL income statement change for the period		558		(1,116)		(804)		(1,362)
Recoveries								283
Others								(3)
Total ECL income statement change for the period								(1,082)

1 *Total includes $49.6bn of gross carrying loans and advances to customers, which were classified to assets held for sale, and a corresponding allowance for ECL of $221m, reflecting business disposals, as disclosed in Note 23 'Assets held for sale and liabilities of disposal groups held for sale' on page 401.*

First lien residential mortgages – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to customers including loan commitments and financial guarantees

	Non-credit impaired				**Credit impaired**			
	Stage 1		**Stage 2**		**Stage 3**		**Total**	
	Gross carrying/ nominal amount	**Allowance for ECL**	**Gross carrying/ nominal amount**	**Allowance for ECL**	**Gross carrying/ nominal amount**	**Allowance for ECL**	**Gross carrying/ nominal amount**	**Allowance for ECL**
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**
At 1 Jan 2023	**317,666**	**(74)**	**40,048**	**(231)**	**2,230**	**(270)**	**359,944**	**(575)**
Transfers of financial instruments:	**(1,182)**	**(109)**	**421**	**138**	**761**	**(29)**	**—**	**—**
– transfers from stage 1 to stage 2	**(41,207)**	**28**	**41,207**	**(28)**	**—**	**—**	**—**	**—**
– transfers from stage 2 to stage 1	**40,164**	**(117)**	**(40,164)**	**117**	**—**	**—**	**—**	**—**
– transfers to stage 3	**(354)**	**1**	**(958)**	**100**	**1,312**	**(101)**	**—**	**—**
– transfers from stage 3	**215**	**(21)**	**336**	**(51)**	**(551)**	**72**	**—**	**—**
Net remeasurement of ECL arising from transfer of stage	**—**	**72**	**—**	**(79)**	**—**	**(67)**	**—**	**(74)**
Net new and further lending/repayments	**15,447**	**(3)**	**(3,939)**	**22**	**(751)**	**322**	**10,757**	**341**
Change to risk parameters – credit quality	**—**	**16**	**—**	**(67)**	**—**	**(269)**	**—**	**(320)**
Changes to models used for ECL calculation	**—**	**(2)**	**—**	**28**	**—**	**—**	**—**	**26**
Assets written off	**—**	**—**	**—**	**—**	**(53)**	**53**	**(53)**	**53**
Foreign exchange and others	**8,833**	**(9)**	**1,983**	**(13)**	**71**	**(4)**	**10,887**	**(26)**
At 31 Dec 2023	**340,764**	**(109)**	**38,513**	**(202)**	**2,258**	**(264)**	**381,535**	**(575)**
ECL income statement change for the period		**83**		**(96)**		**(14)**		**(27)**
Recoveries								**10**
Others								**13**
Total ECL income statement change for the period								**(4)**

Credit cards – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to customers including loan commitments and financial guarantees

	Non-credit impaired				Credit impaired			
	Stage 1		Stage 2		Stage 3		Total	
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2023	**140,519**	**(244)**	**6,747**	**(777)**	**353**	**(160)**	**147,619**	**(1,181)**
Transfers of financial instruments:	199	(292)	(848)	496	649	(204)	—	—
– transfers from stage 1 to stage 2	(7,855)	102	7,855	(102)	—	—	—	—
– transfers from stage 2 to stage 1	8,124	(391)	(8,124)	391	—	—	—	—
– transfers to stage 3	(82)	1	(621)	227	703	(228)	—	—
– transfers from stage 3	12	(4)	42	(20)	(54)	24	—	—
Net remeasurement of ECL arising from transfer of stage	—	185	—	(301)	—	(5)	—	(121)
Net new and further lending/repayments	13,206	27	621	169	12	(41)	13,839	155
Change to risk parameters – credit quality	—	82	—	(281)	—	(301)	—	(500)
Changes to models used for ECL calculation	—	(9)	—	15	—	1	—	7
Assets written off	—	—	—	—	(571)	571	(571)	571
Foreign exchange and others	(632)	(2)	27	(19)	7	(5)	(598)	(26)
At 31 Dec 2023	**153,292**	**(253)**	**6,547**	**(698)**	**450**	**(144)**	**160,289**	**(1,095)**
ECL income statement change for the period		285		(398)		(346)		(459)
Recoveries								108
Others								(200)
Total ECL income statement change for the period								**(551)**

Other personal lending – reconciliation of changes in gross carrying/nominal amount and allowances for loans and advances to customers including loan commitments and financial guarantees

	Non-credit impaired				Credit impaired			
	Stage 1		Stage 2		Stage 3		Total	
	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL	Gross carrying/ nominal amount	Allowance for ECL
	$m	$m	$m	$m	$m	$m	$m	$m
At 1 Jan 2023	**145,136**	**(269)**	**5,768**	**(497)**	**1,556**	**(375)**	**152,460**	**(1,141)**
Transfers of financial instruments:	(1,161)	(218)	466	453	695	(235)	—	—
– transfers from stage 1 to stage 2	(8,155)	140	8,155	(140)	—	—	—	—
– transfers from stage 2 to stage 1	7,019	(354)	(7,019)	354	—	—	—	—
– transfers to stage 3	(106)	1	(766)	287	872	(288)	—	—
– transfers from stage 3	81	(5)	96	(48)	(177)	53	—	—
Net remeasurement of ECL arising from transfer of stage	—	306	—	(299)	—	(7)	—	—
Net new and further lending/repayments	5,758	(71)	(1,395)	159	(430)	(137)	3,933	(49)
Change to risk parameters – credit quality	—	6	—	(293)	—	(385)	—	(672)
Changes to models used for ECL calculation	—	(2)	—	(22)	—	6	—	(18)
Assets written off	—	—	—	—	(702)	702	(702)	702
Foreign exchange and others[1]	7,034	8	1,056	(35)	33	(17)	8,123	(44)
At 31 Dec 2023	**156,767**	**(240)**	**5,895**	**(534)**	**1,152**	**(448)**	**163,814**	**(1,222)**
ECL income statement change for the period		239		(455)		(523)		(739)
Recoveries								108
Others								195
Total ECL income statement change for the period								**(436)**

1 *Total includes $7.2bn of gross carrying loans and advances and a corresponding allowance for ECL of $10m, due to the retention of certain balances previously classified as assets held for sale of our retail banking operations in France. For further details, see Note 23 'Assets held for sale and liabilities of disposal groups held for sale' on page 401.*

Personal lending – credit risk profile by internal PD band for loans and advances to customers at amortised cost

		Gross carrying amount				Allowance for ECL				
	PD range[1]	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total	ECL coverage
	%	$m	$m	$m	$m	$m	$m	$m	$m	%
First lien residential mortgages[2]		**320,410**	**38,287**	**2,212**	**360,909**	**(102)**	**(200)**	**(269)**	**(571)**	**0.2**
– Band 1	**0.000 to 0.250**	**229,188**	**3,174**	**—**	**232,362**	**(16)**	**(14)**	**—**	**(30)**	**—**
– Band 2	**0.251 to 0.500**	**54,891**	**12,266**	**—**	**67,157**	**(11)**	**(17)**	**—**	**(28)**	**—**
– Band 3	**0.501 to 1.500**	**28,159**	**16,140**	**—**	**44,299**	**(22)**	**(49)**	**—**	**(71)**	**0.2**
– Band 4	**1.501 to 5.000**	**7,451**	**4,559**	**—**	**12,010**	**(52)**	**(30)**	**—**	**(82)**	**0.7**
– Band 5	**5.001 to 20.000**	**599**	**1,097**	**—**	**1,696**	**—**	**(11)**	**—**	**(11)**	**0.6**
– Band 6	**20.001 to 99.999**	**122**	**1,051**	**—**	**1,173**	**(1)**	**(79)**	**—**	**(80)**	**6.8**
– Band 7	**100.000**	**—**	**—**	**2,212**	**2,212**	**—**	**—**	**(269)**	**(269)**	**12.2**
Credit cards		**19,909**	**4,419**	**352**	**24,680**	**(236)**	**(697)**	**(203)**	**(1,136)**	**4.6**
– Band 1	**0.000 to 0.250**	**9,490**	**1**	**—**	**9,491**	**(32)**	**—**	**—**	**(32)**	**0.3**
– Band 2	**0.251 to 0.500**	**2,481**	**6**	**—**	**2,487**	**(21)**	**(1)**	**—**	**(22)**	**0.9**
– Band 3	**0.501 to 1.500**	**4,799**	**294**	**—**	**5,093**	**(56)**	**(17)**	**—**	**(73)**	**1.4**
– Band 4	**1.501 to 5.000**	**2,787**	**2,291**	**—**	**5,078**	**(93)**	**(158)**	**—**	**(251)**	**4.9**
– Band 5	**5.001 to 20.000**	**352**	**1,374**	**—**	**1,726**	**(34)**	**(258)**	**—**	**(292)**	**16.9**
– Band 6	**20.001 to 99.999**	**—**	**453**	**—**	**453**	**—**	**(263)**	**—**	**(263)**	**58.1**
– Band 7	**100.000**	**—**	**—**	**352**	**352**	**—**	**—**	**(203)**	**(203)**	**57.7**
Other personal lending (excluding credit cards)		**56,215**	**4,777**	**941**	**61,933**	**(241)**	**(537)**	**(382)**	**(1,160)**	**1.9**
– Band 1	**0.000 to 0.250**	**28,115**	**30**	**—**	**28,145**	**(34)**	**(1)**	**—**	**(35)**	**0.1**
– Band 2	**0.251 to 0.500**	**6,634**	**286**	**—**	**6,920**	**(11)**	**(1)**	**—**	**(12)**	**0.2**
– Band 3	**0.501 to 1.500**	**12,935**	**329**	**—**	**13,264**	**(61)**	**(9)**	**—**	**(70)**	**0.5**
– Band 4	**1.501 to 5.000**	**7,215**	**1,447**	**—**	**8,662**	**(79)**	**(46)**	**—**	**(125)**	**1.4**
– Band 5	**5.001 to 20.000**	**1,137**	**2,005**	**—**	**3,142**	**(55)**	**(199)**	**—**	**(254)**	**8.1**
– Band 6	**20.001 to 99.999**	**179**	**680**	**—**	**859**	**(1)**	**(281)**	**—**	**(282)**	**32.8**
– Band 7	**100.000**	**—**	**—**	**941**	**941**	**—**	**—**	**(382)**	**(382)**	**40.6**
At 31 Dec 2023		**396,534**	**47,483**	**3,505**	**447,522**	**(579)**	**(1,434)**	**(854)**	**(2,867)**	**0.6**
First lien residential mortgages[2]		294,919	39,860	2,042	336,821	(74)	(231)	(270)	(575)	0.2
– Band 1	0.000 to 0.250	247,330	21,220	—	268,550	(13)	(4)	—	(17)	—
– Band 2	0.251 to 0.500	19,615	7,900	—	27,515	(4)	(3)	—	(7)	—
– Band 3	0.501 to 1.500	21,323	5,691	—	27,014	(18)	(7)	—	(25)	0.1
– Band 4	1.501 to 5.000	6,594	2,694	—	9,288	(39)	(24)	—	(63)	0.7
– Band 5	5.001 to 20.000	34	1,024	—	1,058	—	(40)	—	(40)	3.8
– Band 6	20.001 to 99.999	23	1,331	—	1,354	—	(153)	—	(153)	11.3
– Band 7	100.000	—	—	2,042	2,042	—	—	(270)	(270)	13.2
Other personal lending		67,758	9,006	1,297	78,061	(487)	(1,273)	(535)	(2,295)	2.9
– Band 1	0.000 to 0.250	30,150	153	—	30,303	(54)	(13)	—	(67)	0.2
– Band 2	0.251 to 0.500	7,219	251	—	7,470	(26)	(1)	—	(27)	0.4
– Band 3	0.501 to 1.500	17,077	1,499	—	18,576	(82)	(44)	—	(126)	0.7
– Band 4	1.501 to 5.000	10,344	2,036	—	12,380	(170)	(103)	—	(273)	2.2
– Band 5	5.001 to 20.000	2,501	3,692	—	6,193	(154)	(520)	—	(674)	10.9
– Band 6	20.001 to 99.999	467	1,375	—	1,842	(1)	(592)	—	(593)	32.2
– Band 7	100.000	—	—	1,297	1,297	—	—	(535)	(535)	41.2
At 31 Dec 2022		362,677	48,866	3,339	414,882	(561)	(1,504)	(805)	(2,870)	0.7

1 *12-month point in time adjusted for multiple economic scenarios.*
2 *PD bands do not consider the impact of any management judgemental adjustments on stage or allowances for ECL including the impact of new models not yet formally implemented. For a list of management judgemental adjustments see page 163.*

Personal lending – credit risk profile by internal PD band for loan and other credit-related commitments and financial guarantees

	PD range[1]	Nominal amount Stage 1	Stage 2	Stage 3	Total	Allowance for ECL Stage 1	Stage 2	Stage 3	Total	ECL coverage
	%	$m	$m	$m	$m	$m	$m	$m	$m	%
Loan and other credit-related commitments		253,183	3,459	355	256,997	(23)	—	(2)	(25)	—
– Band 1	0.000 to 0.250	196,201	114	—	196,315	(15)	—	—	(15)	—
– Band 2	0.251 to 0.500	17,861	63	—	17,924	(1)	—	—	(1)	—
– Band 3	0.501 to 1.500	29,623	1,262	—	30,885	(1)	—	—	(1)	—
– Band 4	1.501 to 5.000	8,550	1,334	—	9,884	(4)	—	—	(4)	—
– Band 5	5.001 to 20.000	508	564	—	1,072	(2)	—	—	(2)	0.2
– Band 6	20.001 to 99.999	440	122	—	562	—	—	—	—	—
– Band 7	100.000	—	—	355	355	—	—	(2)	(2)	0.6
Financial guarantees		1,106	13	—	1,119	—	—	—	—	—
– Band 1	0.000 to 0.250	348	—	—	348	—	—	—	—	—
– Band 2	0.251 to 0.500	386	—	—	386	—	—	—	—	—
– Band 3	0.501 to 1.500	359	1	—	360	—	—	—	—	—
– Band 4	1.501 to 5.000	3	—	—	3	—	—	—	—	—
– Band 5	5.001 to 20.000	2	12	—	14	—	—	—	—	—
– Band 6	20.001 to 99.999	8	—	—	8	—	—	—	—	—
– Band 7	100.000	—	—	—	—	—	—	—	—	—
At 31 Dec 2023		254,289	3,472	355	258,116	(23)	—	(2)	(25)	—

1 *12-month point in time adjusted for multiple economic scenarios.*

Collateral on loans and advances

(Audited)

The following table provides a quantification of the value of fixed charges we hold over specific assets where we have a history of enforcing, and are able to enforce, collateral in satisfying a debt in the event of the borrower failing to meet its contractual obligations, and where the collateral is cash or can be realised by sale in an established market. The collateral valuation excludes any adjustments for obtaining and selling the collateral and, in particular, loans shown as not collateralised or partially collateralised may also benefit from other forms of credit mitigants.

Risk review

Personal lending – residential mortgage loans including loan commitments by level of collateral for key countries/territories by stage

(Audited)

	Gross carrying/nominal amount Stage 1	Stage 2	Stage 3	Total	ECL coverage Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m	%	%	%	%
Fully collateralised by LTV ratio	331,279	38,378	2,129	371,786	—	0.5	10.1	0.1
– less than 50%	140,992	19,715	1,165	161,872	—	0.3	7.1	0.1
– 51% to 70%	113,043	12,636	568	126,247	—	0.6	10.9	0.1
– 71% to 80%	37,866	4,111	229	42,206	—	0.9	15.2	0.2
– 81% to 90%	23,278	1,499	109	24,886	—	1.2	17.3	0.2
– 91% to 100%	16,100	417	58	16,575	—	1.6	28.9	0.2
Partially collateralised (A): LTV > 100%	9,529	136	129	9,794	—	3.4	42.0	0.6
– collateral value on A	*8,968*	*123*	*104*	*9,195*				
Total at 31 Dec 2023	340,808	38,514	2,258	381,580	—	0.5	11.9	0.1
of which: UK								
Fully collateralised by LTV ratio	*146,739*	*33,597*	*759*	*181,095*	—	*0.3*	*9.7*	*0.1*
– less than 50%	*60,403*	*17,629*	*458*	*78,490*	—	*0.2*	*7.9*	*0.1*
– 51% to 70%	*49,945*	*11,248*	*207*	*61,400*	—	*0.4*	*9.4*	*0.1*
– 71% to 80%	*20,293*	*3,275*	*61*	*23,629*	—	*0.6*	*13.4*	*0.1*
– 81% to 90%	*12,946*	*1,161*	*18*	*14,125*	—	*0.8*	*17.5*	*0.1*
– 91% to 100%	*3,152*	*284*	*15*	*3,451*	—	*1.0*	*41.6*	*0.3*
Partially collateralised (B): LTV > 100%	*317*	*19*	*27*	*363*	*0.1*	*1.7*	*17.5*	*1.4*
– collateral value on B	244	15	22	281				
Total UK at 31 Dec 2023	*147,056*	*33,616*	*786*	*181,458*	—	*0.3*	*9.9*	*0.1*
of which: Hong Kong								
Fully collateralised	*97,414*	*1,354*	*93*	*98,861*	—	—	*0.3*	—
– less than 50%	*41,903*	*831*	*66*	*42,800*	—	—	*0.1*	—
– 51% to 70%	*29,762*	*330*	*15*	*30,107*	—	—	*0.5*	—
– 71% to 80%	*5,260*	*48*	*2*	*5,310*	—	*0.1*	*0.4*	—
– 81% to 90%	*8,161*	*61*	*4*	*8,226*	—	*0.1*	*1.9*	—
– 91% to 100%	*12,328*	*84*	*6*	*12,418*	—	*0.3*	*1.8*	—
Partially collateralised (C): LTV > 100%	*8,973*	*86*	*4*	*9,063*	—	*0.9*	*7.8*	—
– collateral value on C	8,535	81	4	8,620				
Total Hong Kong at 31 Dec 2023	*106,387*	*1,440*	*97*	*107,924*	—	*0.1*	*0.7*	—

Personal lending – residential mortgage loans including loan commitments by level of collateral for key countries/territories by stage (continued)

(Audited)

	Gross carrying/nominal amount				ECL coverage			
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
	$m	$m	$m	$m	%	%	%	%
Fully collateralised by LTV ratio	310,705	39,906	2,097	352,708	—	0.6	9.9	0.1
– less than 50%	154,337	12,250	1,077	167,664	—	0.7	7.2	0.1
– 51% to 70%	102,191	16,989	537	119,717	—	0.5	9.5	0.1
– 71% to 80%	25,458	6,770	212	32,440	—	0.5	14.7	0.2
– 81% to 90%	17,106	3,388	147	20,641	—	0.5	17.8	0.2
– 91% to 100%	11,613	509	124	12,246	—	1.1	18.1	0.3
Partially collateralised (A): LTV > 100%	6,964	143	133	7,240	—	6.9	46.9	1.0
– *collateral value on A*	*6,521*	*123*	*79*	*6,723*				
Total at 31 Dec 2022	317,669	40,049	2,230	359,948	—	0.6	12.1	0.2
of which: UK								
Fully collateralised by LTV ratio	*134,044*	*34,541*	*676*	*169,261*	—	*0.4*	*11.1*	*0.1*
– less than 50%	*70,936*	*10,387*	*448*	*81,771*	—	*0.6*	*9.4*	*0.1*
– 51% to 70%	*43,617*	*14,943*	*158*	*58,718*	—	*0.4*	*11.6*	*0.1*
– 71% to 80%	*12,849*	*5,922*	*33*	*18,804*	—	*0.3*	*19.7*	*0.1*
– 81% to 90%	*5,922*	*2,918*	*10*	*8,850*	—	*0.2*	*24.5*	*0.1*
– 91% to 100%	*720*	*371*	*27*	*1,118*	—	*0.2*	*22.5*	*0.6*
Partially collateralised (B): LTV > 100%	*329*	*49*	*12*	*390*	—	*0.3*	*9.8*	*0.3*
– collateral value on B	237	38	4	279				
Total UK at 31 Dec 2022	*134,373*	*34,590*	*688*	*169,651*	—	*0.4*	*11.1*	*0.1*
of which: Hong Kong								
Fully collateralised by LTV ratio	*94,949*	*981*	*237*	*96,167*	—	—	*0.1*	—
– less than 50%	*44,740*	*577*	*105*	*45,422*	—	—	—	—
– 51% to 70%	*28,123*	*256*	*37*	*28,416*	—	—	*0.3*	—
– 71% to 80%	*4,167*	*37*	*25*	*4,229*	—	—	*0.1*	—
– 81% to 90%	*7,883*	*51*	*27*	*7,961*	—	*0.1*	—	—
– 91% to 100%	*10,036*	*60*	*43*	*10,139*	—	*0.2*	—	—
Partially collateralised (C): LTV > 100%	*6,441*	*47*	*1*	*6,489*	—	*0.2*	*0.3*	—
– collateral value on C	6,146	44	1	6,191				
Total Hong Kong at 31 Dec 2022	*101,390*	*1,028*	*238*	*102,656*	—	—	*0.1*	—

Supplementary information

Wholesale lending – loans and advances to customers at amortised cost by country/territory

	Gross carrying amount				Allowance for ECL			
	Corporate and commercial	*of which: real estate and construction*[1]	Non-bank financial institutions	Total	Corporate and commercial	*of which: real estate and construction*[1]	Non-bank financial institutions	Total
	$m	*$m*	$m	$m	$m	*$m*	$m	$m
UK	**105,536**	***17,852***	**18,343**	**123,879**	**(1,451)**	***(246)***	**(231)**	**(1,682)**
– *of which: HSBC UK Bank plc (ring-fenced bank)*	***80,248***	**17,060**	***9,372***	***89,620***	***(1,212)***	**(212)**	***(66)***	***(1,278)***
– *of which: HSBC Bank plc (non-ring-fenced bank)*	***24,791***	**792**	***8,971***	***33,762***	***(240)***	**(34)**	***(165)***	***(405)***
– *of which: Other trading entities*	***497***	**—**	***—***	***497***	***1***	**—**	***—***	***1***
France	**27,017**	***4,796***	**5,701**	**32,718**	**(636)**	***(53)***	**(18)**	**(654)**
Germany	**6,667**	***240***	**632**	**7,299**	**(74)**	***—***	**—**	**(74)**
Switzerland	**1,168**	***423***	**378**	**1,546**	**(12)**	***(1)***	**—**	**(12)**
Hong Kong	**125,340**	***48,594***	**19,319**	**144,659**	**(3,099)**	***(2,147)***	**(57)**	**(3,156)**
Australia	**12,685**	***4,443***	**1,564**	**14,249**	**(49)**	***(1)***	**—**	**(49)**
India	**10,856**	***2,083***	**5,315**	**16,171**	**(47)**	***(7)***	**(4)**	**(51)**
Indonesia	**3,100**	***162***	**411**	**3,511**	**(136)**	***(58)***	**—**	**(136)**
Mainland China	**28,655**	***6,709***	**7,775**	**36,430**	**(313)**	***(212)***	**(11)**	**(324)**
Malaysia	**5,797**	***1,137***	**258**	**6,055**	**(69)**	***(15)***	**—**	**(69)**
Singapore	**15,845**	***3,458***	**948**	**16,793**	**(321)**	***(40)***	**(1)**	**(322)**
Taiwan	**4,512**	***30***	**81**	**4,593**	**—**	***—***	**—**	**—**
Egypt	**899**	***45***	**86**	**985**	**(128)**	***(10)***	**(1)**	**(129)**
UAE	**13,740**	***1,979***	**823**	**14,563**	**(543)**	***(296)***	**—**	**(543)**
US	**26,993**	***5,143***	**9,155**	**36,148**	**(239)**	***(101)***	**(58)**	**(297)**
Mexico	**11,326**	***865***	**1,349**	**12,675**	**(320)**	***(19)***	**(5)**	**(325)**
Other	**27,519**	***3,496***	**2,294**	**29,813**	**(366)**	***(80)***	**(18)**	**(384)**
At 31 Dec 2023	**427,655**	***101,455***	**74,432**	**502,087**	**(7,803)**	***(3,286)***	**(404)**	**(8,207)**

Wholesale lending – loans and advances to customers at amortised cost by country/territory (continued)

	Gross carrying amount				Allowance for ECL			
	Corporate and commercial	*of which: real estate and construction*	Non-bank financial institutions	Total	Corporate and commercial	*of which: real estate and construction*	Non-bank financial institutions	Total
	$m	*$m*	$m	$m	$m	*$m*	$m	$m
UK	104,775	*18,747*	12,662	117,437	(1,522)	*(420)*	(131)	(1,653)
– of which: HSBC UK Bank plc (ring-fenced bank)	78,249	17,121	*2,980*	*81,229*	*(1,247)*	(279)	*(6)*	*(1,253)*
– of which: HSBC Bank plc (non-ring-fenced bank)	26,526	1,625	*9,682*	*36,208*	*(275)*	(141)	*(125)*	*(400)*
France	27,571	*4,607*	4,152	31,723	(621)	*(49)*	(4)	(625)
Germany	6,603	*252*	713	7,316	(154)	—	(3)	(157)
Switzerland	988	*635*	298	1,286	(8)	—	—	(8)
Hong Kong	144,256	*58,531*	20,798	165,054	(2,997)	*(1,980)*	(35)	(3,032)
Australia	11,641	*3,339*	1,157	12,798	(97)	*(1)*	—	(97)
India	9,052	*1,901*	4,267	13,319	(80)	*(26)*	(10)	(90)
Indonesia	3,214	*206*	226	3,440	(187)	*(5)*	—	(187)
Mainland China	31,790	*7,499*	8,908	40,698	(327)	*(174)*	(30)	(357)
Malaysia	5,986	*1,351*	180	6,166	(133)	*(38)*	—	(133)
Singapore	15,905	*4,031*	1,192	17,097	(387)	*(44)*	(1)	(388)
Taiwan	4,701	*36*	65	4,766	(1)	—	—	(1)
Egypt	1,262	*111*	101	1,363	(117)	*(6)*	(1)	(118)
UAE	13,503	*2,091*	149	13,652	(674)	*(342)*	—	(674)
US	28,249	*6,491*	8,640	36,889	(214)	*(95)*	(26)	(240)
Mexico	9,784	*1,081*	717	10,501	(334)	*(34)*	(1)	(335)
Other	33,922	*3,676*	2,699	36,621	(467)	*(79)*	(15)	(482)
At 31 Dec 2022	453,202	*114,585*	66,924	520,126	(8,320)	*(3,293)*	(257)	(8,577)

1 *Real estate lending within this disclosure corresponds solely to the industry of the borrower. Commercial real estate on page 183 includes borrowers in multiple industries investing in income-producing assets and, to a lesser extent, their construction and development.*

Personal lending – loans and advances to customers at amortised cost by country/territory

	Gross carrying amount				Allowance for ECL			
	First lien residential mortgages	**Other personal**	***of which: credit cards***	**Total**	**First lien residential mortgages**	**Other personal**	***of which: credit cards***	**Total**
	$m	**$m**	***$m***	**$m**	**$m**	**$m**	***$m***	**$m**
UK	**168,469**	**19,503**	***8,056***	**187,972**	**(209)**	**(697)**	***(339)***	**(906)**
– of which: HSBC UK Bank plc (ring-fenced bank)	***164,878***	***17,884***	**7,975**	***182,762***	***(205)***	***(692)***	**(336)**	***(897)***
– of which: HSBC Bank plc (non-ring-fenced bank)	***3,226***	***141***	**81**	***3,367***	***(3)***	***(5)***	**(2)**	***(8)***
– of which: Other trading entities	***365***	***1,478***	**—**	***1,843***	***(1)***	**—**	**(1)**	***(1)***
France[1]	**436**	**7,476**	***1***	**7,912**	**(13)**	**(8)**	**—**	**(21)**
Germany	**—**	**165**	**—**	**165**	**—**	**—**	**—**	**—**
Switzerland	**1,770**	**5,466**	**—**	**7,236**	**(1)**	**(20)**	**—**	**(21)**
Hong Kong	**107,182**	**31,248**	***9,663***	**138,430**	**(2)**	**(417)**	***(286)***	**(419)**
Australia	**23,001**	**446**	***396***	**23,447**	**(5)**	**(19)**	***(18)***	**(24)**
India	**1,537**	**680**	***185***	**2,217**	**(4)**	**(16)**	***(12)***	**(20)**
Indonesia	**58**	**288**	***137***	**346**	**(2)**	**(11)**	***(7)***	**(13)**
Mainland China	**7,503**	**754**	***287***	**8,257**	**(3)**	**(49)**	***(39)***	**(52)**
Malaysia	**2,313**	**2,115**	***882***	**4,428**	**(23)**	**(87)**	***(36)***	**(110)**
Singapore	**8,151**	**5,589**	***521***	**13,740**	**—**	**(38)**	***(17)***	**(38)**
Taiwan	**5,607**	**1,370**	***309***	**6,977**	**—**	**(17)**	***(4)***	**(17)**
Egypt	**—**	**341**	***89***	**341**	**—**	**(1)**	***(1)***	**(1)**
UAE	**1,957**	**1,325**	***440***	**3,282**	**(10)**	**(62)**	***(24)***	**(72)**
US	**18,340**	**673**	***199***	**19,013**	**(15)**	**(19)**	***(14)***	**(34)**
Mexico	**8,778**	**6,215**	***2,465***	**14,993**	**(176)**	**(757)**	***(297)***	**(933)**
Other	**5,807**	**2,959**	***1,050***	**8,766**	**(108)**	**(78)**	***(42)***	**(186)**
At 31 Dec 2023	**360,909**	**86,613**	***24,680***	**447,522**	**(571)**	**(2,296)**	***(1,136)***	**(2,867)**

Personal lending – loans and advances to customers at amortised costs by country/territory (continued)

	Gross carrying amount				Allowance for ECL			
	First lien residential mortgages	Other personal	*of which: credit cards*	Total	First lien residential mortgages	Other personal	*of which: credit cards*	Total
	$m	$m	$m	$m	$m	$m	$m	$m
UK	154,519	16,793	*6,622*	171,312	(227)	(838)	*(449)*	(1,065)
– of which: HSBC UK Bank plc (ring-fenced bank)	*151,188*	*15,808*	6,556	*166,996*	*(222)*	*(828)*	(447)	*(1,050)*
– of which: HSBC Bank plc (non-ring-fenced bank)	*3,331*	*985*	66	*4,316*	*(5)*	*(10)*	(2)	*(15)*
France[1]	30	76	*9*	106	(14)	(8)	—	(22)
Germany	—	234	—	234	—	—	—	—
Switzerland	1,378	5,096	—	6,474	—	(20)	—	(20)
Hong Kong	101,478	31,409	*8,644*	132,887	(1)	(352)	*(258)*	(353)
Australia	21,372	456	*396*	21,828	(11)	(18)	*(18)*	(29)
India	1,078	590	*162*	1,668	(4)	(18)	*(13)*	(22)
Indonesia	70	278	*141*	348	(1)	(17)	*(12)*	(18)
Mainland China	9,305	921	*378*	10,226	(3)	(61)	*(49)*	(64)
Malaysia	2,292	2,437	*843*	4,729	(27)	(92)	*(31)*	(119)
Singapore	7,501	6,264	*422*	13,765	—	(35)	*(14)*	(35)
Taiwan	5,428	1,189	*284*	6,617	—	(18)	*(5)*	(18)
Egypt	—	310	*83*	310	—	(2)	*(1)*	(2)
UAE	2,104	1,339	*426*	3,443	(14)	(84)	*(41)*	(98)
US	16,847	704	*213*	17,551	(10)	(31)	*(23)*	(41)
Mexico	6,124	4,894	*1,615*	11,018	(145)	(593)	*(196)*	(738)
Other	7,295	5,071	*1,150*	12,366	(118)	(108)	*(51)*	(226)
At 31 Dec 2022	336,821	78,061	*21,388*	414,882	(575)	(2,295)	*(1,161)*	(2,870)

1 *Included in other personal lending at 31 December 2023 is $7,424m (31 December 2022: nil) guaranteed by Crédit Logement.*

Summary of financial instruments to which the impairment requirements in IFRS 9 are applied – by global business

	Gross carrying/nominal amount					**Allowance for ECL**				
	Stage 1	**Stage 2**	**Stage 3**	**POCI**	**Total**	**Stage 1**	**Stage 2**	**Stage 3**	**POCI**	**Total**
	$m	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**	**$m**
– WPB	**630,661**	**54,069**	**4,233**	**—**	**688,963**	**(621)**	**(1,551)**	**(977)**	**—**	**(3,149)**
– CMB	**464,893**	**66,688**	**12,698**	**49**	**544,328**	**(508)**	**(1,336)**	**(4,995)**	**(23)**	**(6,862)**
– GBM	**696,377**	**14,247**	**3,002**	**32**	**713,658**	**(119)**	**(199)**	**(1,161)**	**(7)**	**(1,486)**
– Corporate Centre	**75,805**	**37**	**6**	**—**	**75,848**	**(1)**	**(13)**	**—**	**—**	**(14)**
Total gross carrying amount on-balance sheet at 31 Dec 2023	**1,867,736**	**135,041**	**19,939**	**81**	**2,022,797**	**(1,249)**	**(3,099)**	**(7,133)**	**(30)**	**(11,511)**
– WPB	**253,333**	**3,811**	**333**	**—**	**257,477**	**(22)**	**—**	**(2)**	**—**	**(24)**
– CMB	**142,206**	**16,238**	**877**	**—**	**159,321**	**(100)**	**(101)**	**(102)**	**—**	**(303)**
– GBM	**250,007**	**10,752**	**314**	**4**	**261,077**	**(38)**	**(34)**	**(7)**	**—**	**(79)**
– Corporate Centre	**149**	**—**	**—**	**—**	**149**	**—**	**—**	**—**	**—**	**—**
Total nominal amount off-balance sheet at 31 Dec 2023	**645,695**	**30,801**	**1,524**	**4**	**678,024**	**(160)**	**(135)**	**(111)**	**—**	**(406)**
– WPB	**124,747**	**406**	**—**	**—**	**125,153**	**(14)**	**(17)**	**—**	**—**	**(31)**
– CMB	**86,021**	**405**	**—**	**—**	**86,426**	**(9)**	**(18)**	**—**	**—**	**(27)**
– GBM	**88,229**	**173**	**1**	**—**	**88,403**	**(13)**	**(6)**	**(1)**	**—**	**(20)**
– Corporate Centre	**2,201**	**165**	**—**	**—**	**2,366**	**(1)**	**(18)**	**—**	**—**	**(19)**
Debt instruments measured at FVOCI at 31 Dec 2023	**301,198**	**1,149**	**1**	**—**	**302,348**	**(37)**	**(59)**	**(1)**	**—**	**(97)**
– WPB	593,424	53,302	3,959	—	650,685	(602)	(1,586)	(980)	—	(3,168)
– CMB	440,638	82,087	13,072	112	535,909	(484)	(1,620)	(4,988)	(38)	(7,130)
– GBM	700,267	20,577	3,344	17	724,205	(116)	(463)	(1,116)	—	(1,695)
– Corporate Centre	83,491	188	8	—	83,687	(3)	(13)	—	—	(16)
Total gross carrying amount on-balance sheet at 31 Dec 2022	1,817,820	156,154	20,383	129	1,994,486	(1,205)	(3,682)	(7,084)	(38)	(12,009)
– WPB	239,357	4,388	770	—	244,515	(25)	(1)	—	—	(26)
– CMB	130,342	20,048	642	—	151,032	(83)	(136)	(81)	—	(300)
– GBM	229,507	12,059	209	—	241,775	(39)	(56)	(17)	—	(112)
– Corporate Centre	248	1	—	—	249	—	—	—	—	—
Total nominal amount off-balance sheet at 31 Dec 2022	599,454	36,496	1,621	—	637,571	(147)	(193)	(98)	—	(438)
– WPB	112,591	1,066	—	1	113,658	(17)	(17)	—	—	(34)
– CMB	71,445	735	—	—	72,180	(9)	(14)	—	—	(23)
– GBM	75,228	434	—	1	75,663	(10)	(8)	—	—	(18)
– Corporate Centre	3,347	299	—	—	3,646	(31)	(19)	(1)	—	(51)
Debt instruments measured at FVOCI at 31 Dec 2022	262,611	2,534	—	2	265,147	(67)	(58)	(1)	—	(126)

Loans and advances to customers and banks – other supplementary information

	Gross carrying amount	*of which: stage 3 and POCI*	Allowance for ECL	*of which: stage 3 and POCI*	Change in ECL	Write-offs	Recoveries
	$m	*$m*	$m	*$m*	$m	$m	$m
First lien residential mortgages	360,909	*2,212*	(571)	*(269)*	(10)	(53)	10
– second lien residential mortgages	396	*21*	(8)	*(5)*	(1)	(1)	2
– guaranteed loans in respect of residential property	8,593	*90*	(20)	*(14)*	2	(8)	2
– other personal lending which is secured	29,481	*157*	(42)	*(24)*	8	(2)	2
– credit cards	24,680	*352*	(1,136)	*(203)*	(577)	(571)	108
– other personal lending which is unsecured	21,251	*659*	(1,048)	*(331)*	(380)	(663)	99
– motor vehicle finance	2,212	*14*	(42)	*(8)*	(61)	(28)	3
Other personal lending	86,613	*1,293*	(2,296)	*(585)*	(1,009)	(1,273)	216
Personal lending	447,522	*3,505*	(2,867)	*(854)*	(1,019)	(1,326)	226
– agriculture, forestry and fishing	7,181	*312*	(130)	*(64)*	(21)	(9)	—
– mining and quarrying	7,223	*325*	(101)	*(83)*	27	(49)	—
– manufacturing	85,333	*1,899*	(1,143)	*(860)*	(355)	(273)	11
– electricity, gas, steam and air-conditioning supply	14,355	*255*	(119)	*(88)*	(26)	(10)	—
– water supply, sewerage, waste management and remediation	3,262	*102*	(63)	*(51)*	(44)	(2)	—
– real estate and construction	101,455	5,883	(3,286)	(2,561)	(1,358)	(1,191)	6
– wholesale and retail trade, repair of motor vehicles and motorcycles	79,121	*2,362*	(1,341)	*(1,134)*	(124)	(447)	12
– transportation and storage	21,456	*445*	(230)	*(160)*	(87)	(42)	—
– accommodation and food	15,874	*1,058*	(257)	*(112)*	(33)	(26)	—
– publishing, audiovisual and broadcasting	19,731	*210*	(173)	*(50)*	(106)	(73)	—
– professional, scientific and technical activities	26,753	*740*	(401)	*(306)*	(262)	(110)	1
– administrative and support services	22,203	*597*	(268)	*(174)*	39	(137)	—
– public administration and defence, compulsory social security	1,042	—	—	—	—	—	—
– education	1,460	*46*	(15)	*(4)*	(1)	(22)	—
– health and care	4,236	*183*	(56)	*(26)*	40	(7)	—
– arts, entertainment and recreation	1,961	*99*	(42)	*(31)*	15	(8)	—
– other services	8,355	*318*	(153)	*(90)*	22	(181)	12
– activities of households	694	—	—	—	—	—	—
– extra-territorial organisations and bodies activities	101	—	—	—	—	—	—
– government	5,827	*205*	(12)	*(10)*	(15)	—	—
– asset-backed securities	32	—	(13)	—	—	—	—
Corporate and commercial	427,655	*15,039*	(7,803)	*(5,804)*	(2,289)	(2,587)	42
Non-bank financial institutions	74,432	*810*	(404)	*(322)*	(168)	(9)	—
Wholesale lending	502,087	*15,849*	(8,207)	*(6,126)*	(2,457)	(2,596)	42
Loans and advances to customers	949,609	*19,354*	(11,074)	*(6,980)*	(3,476)	(3,922)	268
Loans and advances to banks	112,917	*2*	(15)	*(2)*	53	—	—
At 31 Dec 2023	1,062,526	*19,356*	(11,089)	*(6,982)*	(3,423)	(3,922)	268

Loans and advances to customers and banks – other supplementary information (continued)

	Gross carrying amount	*of which: stage 3 and POCI*	Allowance for ECL	*of which: stage 3 and POCI*	Change in ECL	Write-offs	Recoveries
	$m	*$m*	$m	*$m*	$m	$m	$m
First lien residential mortgages	336,821	*2,042*	(575)	*(270)*	180	(48)	26
– second lien residential mortgages	379	*6*	(6)	*(3)*	9	(1)	4
– guaranteed loans in respect of residential property	1,367	*125*	(34)	*(30)*	(11)	(9)	2
– other personal lending which is secured	32,106	*206*	(55)	*(30)*	(16)	(5)	1
– credit cards	21,388	*260*	(1,161)	*(160)*	(638)	(471)	126
– other personal lending which is unsecured	20,880	*687*	(1,008)	*(305)*	(655)	(660)	119
– motor vehicle finance	1,941	*13*	(31)	*(7)*	39	(18)	5
Other personal lending	78,061	*1,297*	(2,295)	*(535)*	(1,272)	(1,164)	257
Personal lending	414,882	*3,339*	(2,870)	*(805)*	(1,092)	(1,212)	283
– agriculture, forestry and fishing	6,571	*261*	(122)	*(68)*	(32)	(42)	—
– mining and quarrying	8,120	*233*	(172)	*(146)*	(24)	(46)	—
– manufacturing	87,460	*2,065*	(1,153)	*(896)*	(191)	(171)	3
– electricity, gas, steam and air-conditioning supply	16,478	*277*	(108)	*(67)*	(75)	(16)	—
– water supply, sewerage, waste management and remediation	2,993	*26*	(21)	*(13)*	3	(1)	—
– real estate and construction	114,585	5,651	(3,293)	(2,232)	(1,630)	(310)	8
– wholesale and retail trade, repair of motor vehicles and motorcycles	82,429	*2,810*	(1,666)	*(1,344)*	(344)	(667)	8
– transportation and storage	24,686	*556*	(248)	*(153)*	(13)	(82)	1
– accommodation and food	17,174	*789*	(244)	*(82)*	103	(29)	—
– publishing, audiovisual and broadcasting	18,388	*277*	(117)	*(59)*	9	(47)	1
– professional, scientific and technical activities	17,935	*542*	(272)	*(200)*	(81)	(31)	1
– administrative and support services	25,077	*980*	(408)	*(293)*	(27)	(27)	1
– public administration and defence, compulsory social security	1,180	—	(1)	—	5	—	—
– education	1,593	*87*	(31)	*(22)*	1	(3)	—
– health and care	3,902	*266*	(90)	*(67)*	(30)	(7)	1
– arts, entertainment and recreation	1,862	*146*	(77)	*(57)*	1	(17)	—
– other services	12,471	*589*	(274)	*(219)*	120	(92)	7
– activities of households	744	—	—	—	—	—	—
– extra-territorial organisations and bodies activities	47	—	—	—	1	—	1
– government	9,475	*270*	(10)	*(7)*	(5)	—	—
– asset-backed securities	32	—	(13)	—	(4)	—	—
Corporate and commercial	453,202	*15,825*	(8,320)	*(5,925)*	(2,213)	(1,588)	32
Non-bank financial institutions	66,924	*469*	(257)	*(137)*	(165)	(1)	1
Wholesale lending	520,126	*16,294*	(8,577)	*(6,062)*	(2,378)	(1,589)	33
Loans and advances to customers	935,008	*19,633*	(11,447)	*(6,867)*	(3,470)	(2,801)	316
Loans and advances to banks	104,544	*82*	(69)	*(22)*	(53)	—	—
At 31 Dec 2022	1,039,552	*19,715*	(11,516)	*(6,889)*	(3,523)	(2,801)	316

HSBC Holdings

(Audited)

Risk in HSBC Holdings is overseen by the HSBC Holdings Asset and Liability Management Committee. The major risks faced by HSBC Holdings are credit risk, liquidity risk and market risk (in the form of interest rate risk and foreign exchange risk).

Credit risk in HSBC Holdings primarily arises from transactions with Group subsidiaries.

In HSBC Holdings, the maximum exposure to credit risk arises from two components:

- financial assets on the balance sheet, where maximum exposure equals the carrying amount (see page 338); and
- financial guarantees and other guarantees, where the maximum exposure is the maximum that we would have to pay if the guarantees were called upon (see Note 34).

In the case of our derivative asset balances (see page 338), there is a legally enforceable right of offset in the event of counterparty default and where, as a result, there is a net exposure for credit risk purposes. However, as there is no intention to settle these balances on a net basis under normal circumstances, they do not qualify for net presentation for accounting purposes. These offsets also include collateral received in cash and other financial assets.

The total offset relating to our derivative asset balances was $3.0bn at 31 December 2023 (2022: $3.1bn).

The credit quality of loans and advances and financial investments, both of which consist of intra-Group lending and US Treasury bills and bonds, is assessed as 'strong', with 100% of the exposure being neither past due nor impaired (2022: 100%). For further details of credit quality classification, see page 148.

Treasury risk

Contents

Overview

Treasury risk is the risk of having insufficient capital, liquidity or funding resources to meet financial obligations and satisfy regulatory requirements, including the risk of adverse impact on earnings or capital due to structural and transactional foreign exchange exposures, as well as changes in market interest rates, together with pension and insurance risk.

Treasury risk arises from changes to the respective resources and risk profiles driven by customer behaviour, management decisions or the external environment.

Approach and policy

(Audited)

Our objective in the management of treasury risk is to maintain appropriate levels of capital, liquidity, funding, foreign exchange and market risk to support our business strategy, and meet our regulatory and stress testing-related requirements.

Our approach to treasury management is driven by our strategic and organisational requirements, taking into account the regulatory, economic and commercial environment. We aim to maintain a strong capital and liquidity base to support the risks inherent in our business and invest in accordance with our strategy, meeting both consolidated and local regulatory requirements at all times.

Our policy is underpinned by our risk management framework. The risk management framework incorporates a number of measures aligned to our assessment of risks for both internal and regulatory purposes. These risks include credit, market, operational, pensions, structural and transactional foreign exchange risk, and interest rate risk in the banking book.

For further details, refer to our Pillar 3 Disclosures at 31 December 2023.

Treasury risk management

Key developments in 2023

- Following high-profile banking failures in the first quarter of 2023, we reviewed our liquidity monitoring and metric assumptions as part of our internal liquidity adequacy assessment process cycle to ensure they continued to cover observed and emerging risks.
- In 2023, we reverted to a policy of paying quarterly dividends, with the Board approving three interim dividends of $0.10 per share. We announced $7bn of share buy-backs during 2023.
- Effective July 2023, the Bank of England's Financial Policy Committee doubled the UK countercyclical capital buffer rate from 1% to 2%, in line with the usual 12-month implementation lag. This change increased our CET1 requirement by 0.2 percentage points.
- We further stabilised our net interest income against a backdrop of fluctuating interest rate expectations as the trajectory of inflation for major economies was reassessed.
- Following the acquisition of SVB UK in the first quarter of 2023, we launched HSBC Innovation Banking in June, which combined the expertise of SVB UK with the reach of our international network. We are in the process of integrating HSBC Innovation Banking into the Group. The acquisition was funded from existing resources, and the impacts on our Group LCR and CET1 ratio were minimal.
- In the fourth quarter of 2023, we reclassified our retail banking operations in France as held for sale, recognising a $2.0bn loss. In the first quarter, we had recognised a $2.1bn partial reversal of impairment for this business. The net result for the year was a favourable $0.1bn impact. On 1 January 2024, we completed the sale of this business with no material incremental impact on CET1.
- Having entered into an agreement to sell our banking business in Canada in 2022, the transaction is expected to complete at the end of the first quarter of 2024. The associated gain on sale is expected to add approximately 1.2 percentage points to the CET1 ratio as it stood at 31 December 2023.

For quantitative disclosures on capital ratios, own funds and risk-weighted assets ('RWAs'), see pages 206 to 207. For quantitative disclosures on liquidity and funding metrics, see pages 210 to 211. For quantitative disclosures on interest rate risk in the banking book, see pages 214 to 216.

Governance and structure

The Global Head of Traded and Treasury Risk Management and Risk Analytics is the accountable risk steward for all treasury risks. The Group Treasurer is the risk owner for all treasury risks, with the exception of pension risk and insurance risk. The Group Treasurer co-owns pension risk with the Group Head of Performance, Reward and Employee Relations. Insurance risk is owned by the Chief Executive Officer for Global Insurance.

Capital risk, liquidity risk, interest rate risk in the banking book, structural foreign exchange risk and transactional foreign exchange risk are the responsibility of the Group Executive Committee and the Group Risk Committee ('GRC'). Global Treasury actively manages these risks on an ongoing basis, supported by the Holdings Asset and Liability Management Committee ('ALCO') and local ALCOs, overseen by Treasury Risk Management and Risk Management Meetings.

Pension risk is overseen by a network of local and regional pension risk management meetings. The Global Pensions Risk Management Meeting provides oversight of all pension plans sponsored by HSBC globally, and is chaired by the accountable risk steward. Insurance risk is overseen by the Global Insurance Risk Management Meeting, chaired by the Chief Risk and Compliance Officer for Global Insurance.

Capital, liquidity and funding risk management processes

Assessment and risk appetite

Our capital management policy is supported by a global capital management framework. The framework sets out our approach to determining key capital risk appetites including CET1, total capital, minimum requirements for own funds and eligible liabilities ('MREL'), the leverage ratio and double leverage. Our internal capital adequacy assessment process ('ICAAP') is an assessment of the Group's capital position, outlining both regulatory and internal capital resources and requirements resulting from HSBC's business model, strategy, risk profile and management, performance and planning, risks to capital, and the implications of stress testing. Our assessment of capital adequacy is driven by an assessment of risks. These risks include credit, market, operational, pensions, insurance, structural foreign exchange, interest rate risk in the banking book and Group risk. Climate risk is also considered as part of the ICAAP, and we are continuing to develop our approach. The Group's ICAAP supports the determination of the consolidated capital risk appetite and target ratios, as well as enables the assessment and determination of capital requirements by regulators. Subsidiaries prepare ICAAPs in line with global guidance, while considering their local regulatory regimes to determine their own risk appetites and ratios.

HSBC Holdings is the provider of MREL to its subsidiaries, including equity and non-equity capital. These investments are funded by HSBC Holdings' own equity capital and MREL-eligible debt. MREL includes own funds and liabilities that can be written down or converted into capital resources in order to absorb losses or recapitalise a bank in the event of its failure. In line with our existing structure and business model, HSBC has three resolution groups – the European resolution group, the Asian resolution group and the US resolution group. There are some smaller entities that fall outside these resolution groups.

HSBC Holdings seeks to maintain a prudent balance between the composition of its capital and its investments in subsidiaries.

As a matter of long-standing policy, the holding company group retains a substantial holdings capital buffer comprising cash and other high-quality liquid assets, which at 31 December 2023 was in excess of $27bn, within risk appetite.

We aim to ensure that management has oversight of our liquidity and funding risks at Group and entity level through robust governance, in line with our risk management framework. We manage liquidity and funding risk at an operating entity level in accordance with globally consistent policies, procedures and reporting standards. This ensures that obligations can be met in a timely manner, in the jurisdiction where they fall due.

Operating entities are required to meet internal minimum requirements and any applicable regulatory requirements at all times. These requirements are assessed through our internal liquidity adequacy assessment process ('ILAAP'), which ensures that operating entities have robust strategies, policies, processes and systems for the identification, measurement, management and monitoring of liquidity risk over an appropriate set of time horizons, including intra-day. The ILAAP informs the validation of risk tolerance and the setting of risk appetite. It also assesses the capability to manage liquidity and funding effectively in each major entity. These metrics are set and managed locally but are subject to robust global review and challenge to ensure consistency of approach and application of the Group's policies and controls.

Planning and performance

Capital and RWA plans form part of the annual financial resource plan that is approved by the Board. Capital and RWA forecasts are submitted to the Group Executive Committee on a monthly basis, and capital and RWAs are monitored and managed against the plan. The responsibility for global capital allocation principles rests with the Group Chief Financial Officer, supported by the Group Capital Management Meeting. This is a specialist forum addressing capital management, reporting into Holdings ALCO.

Through our internal governance processes, we seek to strengthen discipline over our investment and capital allocation decisions, and to ensure that returns on investment meet management's objectives. Our strategy is to allocate capital to businesses and entities to support growth objectives where returns above internal hurdle levels have been identified and in order to meet their regulatory and economic capital needs. We evaluate and manage business returns by using a return on average tangible equity measure and a related economic profit measure.

Funding and liquidity plans also form part of the financial resource plan that is approved by the Board. The Board-level appetite measures are the liquidity coverage ratio ('LCR') and net stable funding ratio ('NSFR'), together with an internal liquidity metric. In addition, we use a wider set of measures to manage an appropriate funding and liquidity profile, including legal entity depositor concentration limits, intra-day liquidity, forward-looking funding assessments and other key measures.

Risks to capital and liquidity

Outside the stress testing framework, other risks may be identified that have the potential to affect our RWAs, capital and/or liquidity position. Downside and Upside scenarios are assessed against our management objectives, and mitigating actions are assigned as necessary. We closely monitor future regulatory developments and continue to evaluate the impact of these upon our capital and liquidity requirements, particularly those related to the UK's implementation of the outstanding measures to be implemented from the Basel III reforms ('Basel 3.1').

Regulatory developments

Future changes to our ratios will occur with the implementation of Basel 3.1. The Prudential Regulation Authority ('PRA') has published its consultation paper on the UK's implementation, with a proposed implementation date of 1 July 2025. The PRA has also published a set of near-final rules in relation to some Basel 3.1 elements. We are currently assessing the impact of implementation.

The RWA output floor under Basel 3.1 is proposed to be subject to a four-and-a-half year transitional provision. Any impact from the output floor is expected be towards the end of the transition period.

Regulatory reporting processes and controls

The quality of regulatory reporting remains a key priority for management and regulators. We are progressing with a comprehensive programme to strengthen our global processes, improve consistency and enhance controls across regulatory reports.

The ongoing programme of work focuses on our material regulatory reports and is being phased over a number of years. This programme includes data enhancement, transformation of the reporting systems and an uplift to the control environment over the report production process.

While this programme continues, there may be further impacts on some of our regulatory ratios, such as the CET1, LCR and NSFR, as we implement recommended changes and continue to enhance our controls across the process.

Stress testing and recovery and resolution planning

The Group uses stress testing to inform management of the capital and liquidity needed to withstand internal and external shocks, including a global economic downturn or a systems failure. Stress testing results are also used to inform risk mitigation actions, input into global business performance measures through tangible equity allocation, and recovery and resolution planning, as well as to re-evaluate business plans where analysis shows capital, liquidity and/or returns do not meet their target.

In addition to a range of internal stress tests, we are subject to supervisory stress testing in many jurisdictions. These include the programmes of the Bank of England ('BoE'), the US Federal Reserve Board, the European Banking Authority, the European Central Bank and the Hong Kong Monetary Authority. The results of regulatory stress testing and our internal stress tests are used when assessing our internal capital and liquidity requirements through the ICAAP and ILAAP. The outcomes of stress testing exercises carried out by the PRA and other regulators feed into the setting of regulatory minimum ratios and buffers.

We maintain recovery plans for the Group and material entities, which set out potential options management could take in a range of stress scenarios that could result in a breach of capital or liquidity buffers.

The Group recovery plan sets out the framework and governance arrangements to support restoring HSBC to a stable and viable position, and so lowering the probability of failure from either idiosyncratic company-specific stress or systemic market-wide issues. Our material entities' recovery plans provide detailed actions that management would consider taking in a stress scenario should their positions deteriorate and threaten to breach risk appetite and regulatory minimum levels. This is to help ensure that HSBC entities can stabilise their financial position and recover from financial losses in a stress environment.

The Group also has capabilities, resources and arrangements in place to address the unlikely event that HSBC might not be recoverable and would therefore need to be resolved by regulators. The Group and the BoE publicly disclosed the status of HSBC's progress against the BoE's Resolvability Assessment Framework in June 2022, following the submission of HSBC's inaugural resolvability self-assessment in October 2021. HSBC has continued to enhance its resolvability capabilities since this time and submitted its second self-assessment in October 2023. A subsequent update was provided to the BoE in January 2024. Further public disclosure by the Group and the BoE as to HSBC's progress against the Resolvability Assessment Framework will be made in June 2024.

Overall, HSBC's recovery and resolution planning helps safeguard the Group's financial and operational stability. The Group is committed to further developing its recovery and resolution capabilities, including in relation to the Resolvability Assessment Framework.

Measurement of interest rate risk in the banking book processes

Assessment and risk appetite

Interest rate risk in the banking book is the risk of an adverse impact to earnings or capital due to changes in market interest rates. It is generated by our non-traded assets and liabilities, specifically loans, deposits and financial instruments that are not held for trading intent or in order to hedge positions held with trading intent. Interest rate risk that can be economically hedged may be transferred to Global Treasury. Hedging is generally executed through interest rate derivatives or fixed-rate government bonds. Any interest rate risk that Global Treasury cannot economically hedge is not transferred and will remain within the global business where the risks originate.

Global Treasury uses a number of measures to monitor and control interest rate risk in the banking book, including:

- net interest income sensitivity;
- banking net interest income sensitivity; and
- economic value of equity sensitivity.

Net interest income and banking net interest income sensitivity

A principal part of our management of non-traded interest rate risk is to monitor the sensitivity of expected net interest income ('NII') under varying interest rate scenarios (i.e. simulation modelling), where all other economic variables are held constant. This monitoring is undertaken at an entity and Group level, where a range of interest rate scenarios are monitored on a one-year basis.

NII sensitivity figures represent the effect of pro forma movements in projected yield curves based on a static balance sheet size and structure, except for certain mortgage products where balances are impacted by interest rate sensitive prepayments. These sensitivity calculations do not incorporate actions that would be taken by Global Treasury or in the business that originates the risk to mitigate the effect of interest rate movements.

The NII sensitivity calculations assume that interest rates of all maturities move by the same amount in the 'up-shock' scenario. The sensitivity calculations in the 'down-shock' scenarios reflect no floors to the shocked market rates. However, customer product-specific interest rate floors are recognised where applicable.

During 2023, we introduced an additional metric to measure and manage the sensitivity of our NII to interest rate shocks. In addition to NII sensitivity, we now also monitor banking NII sensitivity. HSBC has a significant quantity of trading book assets that are funded by banking book liabilities, and the NII sensitivity measure does not include the sensitivity of the internal transfer income from this funding. Banking NII sensitivity includes an adjustment on top of NII sensitivity to reflect this. Going forwards, this will be our primary metric for monitoring and management of interest rate risk in the banking book.

Economic value of equity sensitivity

Economic value of equity ('EVE') represents the present value of the future banking book cash flows that could be distributed to equity holders under a managed run-off scenario. This equates to the current book value of equity plus the present value of future NII in this scenario. An EVE sensitivity represents the expected movement in EVE due to pre-specified interest rate shocks, where all other economic variables are held constant. Operating entities are required to monitor EVE sensitivities as a percentage of capital resources.

Further details of HSBC's risk management of interest rate risk in the banking book can be found in the Group's Pillar 3 Disclosures at 31 December 2023.

Other Group risks

Non-trading book foreign exchange exposures

Structural foreign exchange exposures

Structural foreign exchange exposures arise from net assets or capital investments in foreign operations, together with any associated hedging. A foreign operation is defined as a subsidiary, associate, joint arrangement or branch where the activities are conducted in a currency other than that of the reporting entity. An entity's functional reporting currency is normally that of the primary economic environment in which the entity operates.

Exchange differences on structural exposures are recognised in other comprehensive income ('OCI'). We use the US dollar as our presentation currency in our consolidated financial statements because the US dollar and currencies linked to it form the major currency bloc in which we transact and fund our business. Therefore, our consolidated balance sheet is affected by exchange differences between the US dollar and all the non-US dollar functional currencies of underlying foreign operations.

Our structural foreign exchange exposures are managed with the primary objective of ensuring, where practical, that our consolidated capital ratios and the capital ratios of individual banking subsidiaries are largely protected from the effect of changes in exchange rates. We hedge structural foreign exchange positions where it is capital efficient to do so, and subject to approved limits. This is achieved through a combination of net investment hedges and economic hedges. Hedging positions are monitored and rebalanced periodically to manage RWA or downside risks associated with HSBC's foreign currency investments.

For further details of our structural foreign exchange exposures, see page 213.

Transactional foreign exchange exposures

Transactional foreign exchange risk arises primarily from day-to-day transactions in the banking book generating profit and loss or fair value through other comprehensive income ('FVOCI') reserves in a currency other than the reporting currency of the operating entity. Transactional foreign exchange exposure generated through profit and loss is periodically transferred to Markets and Securities Services and managed within limits, with the exception of limited residual foreign exchange exposure arising from timing differences or for other reasons. Transactional foreign exchange exposure generated through OCI reserves is managed by Global Treasury within approved appetite.

HSBC Holdings risk management

As a financial services holding company, HSBC Holdings has limited market risk activities. Its activities predominantly involve maintaining sufficient capital resources to support the Group's diverse activities; allocating these capital resources across the Group's businesses; earning dividend and interest income on its investments in the businesses; payment of operating expenses; providing dividend payments to its equity shareholders and interest payments to providers of debt capital; and maintaining a supply of short-term liquid assets for deployment under extraordinary circumstances.

The main market risks to which HSBC Holdings is exposed are banking book interest rate risk and foreign currency risk. Exposure to these risks arises from short-term cash balances, funding positions held, loans to subsidiaries, investments in long-term financial assets, financial liabilities including debt capital issued, and structural foreign exchange hedges. The objective of HSBC Holdings' market risk management strategy is to manage volatility in capital resources, cash flows and distributable reserves that could be caused by movements in market parameters. Market risk for HSBC Holdings is monitored by Holdings ALCO in accordance with its risk appetite statement.

HSBC Holdings uses interest rate swaps and cross-currency interest rate swaps to manage the interest rate risk and foreign currency risk arising from its long-term debt issues. It also uses forward foreign exchange contracts to manage its structural foreign exchange exposures.

For quantitative disclosures on interest rate risk in the banking book, see pages 214 to 216.

Pension risk management processes

Our global pensions strategy is to move from defined benefit to defined contribution plans, where local law allows and it is considered competitive to do so. Our most material defined benefit plans have been closed to new entrants for many years, and the majority (including the largest plan in the UK) are also closed to future accrual.

In defined contribution pension plans, the contributions that HSBC is required to make are known, while the ultimate pension benefit will vary, typically with investment returns achieved by investment choices made by the employee. While the market risk to HSBC of defined contribution plans is low, the Group is still exposed to operational and reputational risk.

In defined benefit pension plans, the level of pension benefit is known. Therefore, the level of contributions required by HSBC will vary due to a number of risks, including:

- investments delivering a return below the level required to provide the projected plan benefits;
- the prevailing economic environment leading to corporate failures, thus triggering write-downs in asset values (both equity and debt);
- a change in either interest rates or inflation expectations, causing an increase in the value of plan liabilities; and
- plan members living longer than expected (known as longevity risk).

Pension risk is assessed using an economic capital model that takes into account potential variations in these factors. The impact of these variations on both pension assets and pension liabilities is assessed using a one-in-200-year stress test. Scenario analysis and other stress tests are also used to support pension risk management, including the review of de-risking opportunities.

To fund the benefits associated with defined benefit plans, sponsoring Group companies, and in some instances employees, make regular contributions in accordance with advice from actuaries and in consultation with the plan's fiduciaries where relevant. These contributions are normally set to ensure that there are sufficient funds to meet the cost of the accruing benefits for the future service of active members. However, higher contributions are required when plan assets are considered insufficient to cover the existing pension liabilities. Contribution rates are typically revised annually or once every three years, depending on the plan.

The defined benefit plans invest contributions in a range of investments designed to limit the risk of assets failing to meet a plan's liabilities. Any changes in expected returns from the investments may also change future contribution requirements. In pursuit of these long-term objectives, an overall target allocation is established between asset classes of the defined benefit plan. In addition, each permitted asset class has its own benchmarks, such as stock-market or property valuation indices or liability characteristics. The benchmarks are reviewed at least once every three to five years and more frequently if required by local legislation or circumstances. The process generally involves an extensive asset and liability review.

In addition, some of the Group's pension plans hold longevity swap contracts. These arrangements provide long-term protection to the relevant plans against costs resulting from pensioners or their dependants living longer than initially expected. The most sizeable plan to do this is the HSBC Bank (UK) Pension Scheme, which holds longevity swaps covering approximately 50% of the plan's pensioner liabilities.

Capital risk in 2023

Capital overview

Capital adequacy metrics

	At	
	31 Dec 2023	31 Dec 2022
Risk-weighted assets ('RWAs') ($bn)		
Credit risk	**683.9**	679.1
Counterparty credit risk	**35.5**	37.1
Market risk	**37.5**	37.6
Operational risk	**97.2**	85.9
Total RWAs	**854.1**	839.7
Capital on a transitional basis ($bn)		
Common equity tier 1 ('CET1') capital	**126.5**	119.3
Tier 1 capital	**144.2**	139.1
Total capital	**171.2**	162.4
Capital ratios on a transitional basis (%)		
Common equity tier 1 ratio	**14.8**	14.2
Tier 1 ratio	**16.9**	16.6
Total capital ratio	**20.0**	19.3
Capital on an end point basis ($bn)		
Common equity tier 1 ('CET1') capital	**126.5**	119.3
Tier 1 capital	**144.2**	139.1
Total capital	**167.1**	157.2
Capital ratios on an end point basis (%)		
Common equity tier 1 ratio	**14.8**	14.2
Tier 1 ratio	**16.9**	16.6
Total capital ratio	**19.6**	18.7
Liquidity coverage ratio ('LCR')		
Total high-quality liquid assets ($bn)	**647.5**	647.0
Total net cash outflow ($bn)	**477.1**	490.8
LCR (%)	**136**	132
Net stable funding ratio ('NSFR')		
Total available stable funding ($bn)	**1,601.9**	1,552.0
Total required stable funding ($bn)	**1,202.4**	1,138.4
NSFR (%)	**133**	136

References to EU regulations and directives (including technical standards) should, as applicable, be read as references to the UK's version of such regulation or directive, as onshored into UK law under the European Union (Withdrawal) Act 2018, and as may be subsequently amended under UK law.

Capital figures and ratios in the previous table are calculated in accordance with the regulatory requirements of the Capital Requirements Regulation and Directive, the CRR II regulation and the PRA Rulebook ('CRR II'). The table presents them under the transitional arrangements in CRR II for capital instruments and after their expiry, known as the end point.

The liquidity coverage ratio is based on the average month-end value over the preceding 12 months. The net stable funding ratio is the average of the preceding four quarters.

Regulatory numbers and ratios are as presented at the date of reporting. Small changes may exist between these numbers and ratios and those submitted in regulatory filings. Where differences are significant, we may restate in subsequent periods.

Own funds disclosure

(Audited)

Ref*		At 31 Dec 2023 $m	At 31 Dec 2022 $m
	Common equity tier 1 ('CET1') capital: instruments and reserves		
1	Capital instruments and the related share premium accounts	**22,964**	23,406
	– ordinary shares	**22,964**	23,406
2,3	Retained earnings, accumulated other comprehensive income (and other reserves)[1]	**128,419**	121,609
5	Minority interests (amount allowed in consolidated CET1)	**3,917**	4,444
5a	Independently reviewed net profits net of any foreseeable charge or dividend	**10,568**	8,633
6	**Common equity tier 1 capital before regulatory adjustments[1]**	**165,868**	158,092
28	Total regulatory adjustments to common equity tier[1]	**(39,367)**	(38,801)
29	**Common equity tier 1 capital**	**126,501**	119,291
36	Additional tier 1 capital before regulatory adjustments	**17,732**	19,836
43	Total regulatory adjustments to additional tier 1 capital	**(70)**	(60)
44	**Additional tier 1 capital**	**17,662**	19,776
45	**Tier 1 capital**	**144,163**	139,067
51	Tier 2 capital before regulatory adjustments	**28,148**	24,779
57	Total regulatory adjustments to tier 2 capital	**(1,107)**	(1,423)
58	**Tier 2 capital**	**27,041**	23,356
59	**Total capital**	**171,204**	162,423

** The references identify lines prescribed in the PRA template, which are applicable and where there is a value.*

1 On adoption of IFRS 17 'Insurance Contracts', comparative data previously published under IFRS 4 'Insurance Contracts' have been restated for 2022, with no impact on CET1 and total capital.

At 31 December 2023, our CET1 capital ratio increased to 14.8% from 14.2% at 31 December 2022, reflecting an increase in CET1 capital of $7.2bn, partly offset by an increase in RWAs of $14.4bn. The key drivers of the overall rise in our CET1 ratio during the year were:

- a 1.0 percentage point increase from capital generation, mainly through profits less dividends and share buy-backs;
- a 0.3 percentage point reduction due to an increase in regulatory deductions, primarily for expected excess loss and intangible assets; and
- a 0.1 percentage point decrease from the adverse impact of foreign exchange fluctuations and the increase in the underlying RWAs.

The impairment of BoCom had an insignificant impact on our capital and CET1 ratio. This is because the impairment charge had a partially offsetting reduction in threshold deductions from regulatory capital. For regulatory capital purposes, our share of BoCom's profits is not capital accretive, although the dividends we receive from BoCom are capital accretive.

Our Pillar 2A requirement at 31 December 2023, as per the PRA's Individual Capital Requirement based on a point-in-time assessment, was equivalent to 2.6% of RWAs, of which 1.5% was required to be met by CET1. Throughout 2023, we complied with the PRA's regulatory capital adequacy requirements.

Risk-weighted assets

RWAs by global business

	WPB $bn	CMB[1] $bn	GBM[1] $bn	Corporate Centre $bn	Total RWAs $bn
Credit risk	**155.3**	**319.1**	**131.5**	**78.0**	**683.9**
Counterparty credit risk	**1.9**	**1.5**	**32.0**	**0.1**	**35.5**
Market risk	**1.3**	**1.0**	**22.2**	**13.0**	**37.5**
Operational risk	**34.4**	**32.9**	**32.8**	**(2.9)**	**97.2**
At 31 Dec 2023	**192.9**	**354.5**	**218.5**	**88.2**	**854.1**
At 31 Dec 2022	182.9	342.4	225.9	88.5	839.7

1 In the first quarter of 2023, following an internal review to assess which global businesses were best suited to serve our customers' respective needs, a portfolio of our customers within our entities in Latin America was transferred from GBM to CMB for reporting purposes. Comparative data have been re-presented accordingly.

RWAs by legal entities[1]

	HSBC UK Bank plc	HSBC Bank plc	The Hongkong and Shanghai Banking Corporation Limited	HSBC Bank Middle East Limited	HSBC North America Holdings Inc	HSBC Bank Canada	Grupo Financiero HSBC, S.A. de C.V.	Other trading entities	Holding companies, shared service centres and intra-Group eliminations	Total RWAs
	$bn	$bn	$bn	$bn	$bn	$bn	$bn	$bn	$bn	$bn
Credit risk	**110.7**	**73.4**	**314.0**	**17.1**	**59.3**	**27.1**	**25.9**	**48.0**	**8.4**	**683.9**
Counterparty credit risk	**0.3**	**17.8**	**8.7**	**0.7**	**3.1**	**0.5**	**0.7**	**3.7**	**—**	**35.5**
Market risk[2]	**0.2**	**22.7**	**27.4**	**2.8**	**2.6**	**0.8**	**0.7**	**1.6**	**9.3**	**37.5**
Operational risk	**18.0**	**17.6**	**46.6**	**3.7**	**7.2**	**3.5**	**5.3**	**6.3**	**(11.0)**	**97.2**
At 31 Dec 2023	**129.2**	**131.5**	**396.7**	**24.3**	**72.2**	**31.9**	**32.6**	**59.6**	**6.7**	**854.1**
At 31 Dec 2022	110.9	127.0	407.0	22.5	72.5	31.9	26.7	60.3	8.1	839.7

1 *Balances are on a third-party Group consolidated basis.*
2 *Market risk RWAs are non-additive across the legal entities due to diversification effects within the Group.*

RWA movement by global business by key driver

	Credit risk, counterparty credit risk and operational risk					
	WPB	CMB[1]	GBM[1]	Corporate Centre	Market risk	Total RWAs
	$bn	$bn	$bn	$bn	$bn	$bn
RWAs at 1 Jan 2023	**181.2**	**341.3**	**202.3**	**77.3**	**37.6**	**839.7**
Asset size[2]	**15.6**	**3.2**	**3.2**	**2.6**	**1.6**	**26.2**
Asset quality	**2.8**	**1.5**	**(0.6)**	**(1.2)**	**—**	**2.5**
Model updates	**(1.3)**	**(0.1)**	**(0.3)**	**—**	**(0.9)**	**(2.6)**
Methodology and policy	**(6.2)**	**(1.8)**	**(7.5)**	**(3.5)**	**(0.9)**	**(19.9)**
Acquisitions and disposals	**(1.3)**	**8.0**	**(0.7)**	**0.1**	**0.1**	**6.2**
Foreign exchange movements[3]	**0.8**	**1.4**	**(0.1)**	**(0.1)**	**—**	**2.0**
Total RWA movement	**10.4**	**12.2**	**(6.0)**	**(2.1)**	**(0.1)**	**14.4**
RWAs at 31 Dec 2023	**191.6**	**353.5**	**196.3**	**75.2**	**37.5**	**854.1**

1 *In the first quarter of 2023, following an internal review to assess which global businesses were best suited to serve our customers' respective needs, a portfolio of our customers within our entities in Latin America was transferred from GBM to CMB for reporting purposes. Comparative data have been re-presented accordingly.*
2 *The movements in asset size include the increase in operational risk RWAs, which was driven by revenue.*
3 *Credit risk foreign exchange movements in this disclosure are computed by retranslating the RWAs into US dollars based on the underlying transactional currencies.*

RWA movement by legal entities by key driver[1]

	Credit risk, counterparty credit risk and operational risk										
	HSBC UK Bank plc	HSBC Bank plc	The Hongkong and Shanghai Banking Corporation Limited	HSBC Bank Middle East Limited	HSBC North America Holdings Inc	HSBC Bank Canada	Grupo Financiero HSBC, S.A. de C.V.	Other trading entities	Holding companies, shared service centres and intra-Group eliminations	Market risk	Total RWAs
	$bn	$bn	$bn	$bn	$bn	$bn	$bn	$bn	$bn	$bn	$bn
RWAs at 1 Jan 2023	**110.8**	**106.5**	**378.4**	**20.8**	**69.5**	**31.1**	**26.2**	**58.0**	**0.8**	**37.6**	**839.7**
Asset size[2]	**5.1**	**0.2**	**5.8**	**1.8**	**0.4**	**(0.2)**	**2.9**	**12.1**	**(3.5)**	**1.6**	**26.2**
Asset quality	**2.3**	**(0.9)**	**(1.9)**	**(1.0)**	**0.8**	**0.3**	**(0.5)**	**3.3**	**0.1**	**—**	**2.5**
Model updates	**(1.0)**	**(0.3)**	**(0.4)**	**0.1**	**—**	**—**	**—**	**(0.1)**	**—**	**(0.9)**	**(2.6)**
Methodology and policy	**(4.0)**	**0.8**	**(11.2)**	**(0.3)**	**(1.1)**	**(0.7)**	**0.2**	**(2.5)**	**(0.2)**	**(0.9)**	**(19.9)**
Acquisitions and disposals	**9.5**	**(0.2)**	**(0.1)**	**—**	**—**	**—**	**—**	**(3.2)**	**0.1**	**0.1**	**6.2**
Foreign exchange movements[3]	**6.3**	**2.7**	**(1.3)**	**0.1**	**—**	**0.6**	**3.1**	**(9.6)**	**0.1**	**—**	**2.0**
Total RWA movement	**18.2**	**2.3**	**(9.1)**	**0.7**	**0.1**	**—**	**5.7**	**—**	**(3.4)**	**(0.1)**	**14.4**
RWAs at 31 Dec 2023	**129.0**	**108.8**	**369.3**	**21.5**	**69.6**	**31.1**	**31.9**	**58.0**	**(2.6)**	**37.5**	**854.1**

1 *Balances are on a third-party Group consolidated basis.*
2 *The movements in asset size include the increase in operational risk RWAs, which was driven by revenue.*
3 *Credit risk foreign exchange movements in this disclosure are computed by retranslating the RWAs into US dollars based on the underlying transactional currencies.*

Risk-weighted assets ('RWAs') rose by $14.4bn during the year, driven by an increase of $34.4bn from increased lending, higher operational risk RWAs, business acquisitions and foreign exchange movements. These were partly offset by a reduction of $19.9bn due to methodology and policy changes.

Asset size

Asset size RWAs increased by $26.2bn, including a $10.4bn rise in operational risk RWAs driven by growth in NII.

WPB RWAs increased by $15.6bn, notably due to an expansion of retail lending in Asia, the UK and Mexico, additional sovereign exposures in Asia and other trading entities, including a $2.9bn rise in operational risk RWAs.

CMB RWAs increased by $3.2bn, reflecting an increase in operational risk RWAs of $5.2bn and additional sovereign exposures across various entities. This was partly offset by a net decrease in corporate lending in Asia, the US and Europe.

GBM RWAs increased by $3.2bn, mainly from the $4.0bn rise in operational risk RWAs and additional sovereign exposures across various entities. This was partly offset by a fall in lending in Asia and Europe.

Corporate Centre RWAs rose by $2.6bn, primarily due to an increase in corporate exposures in Saudi Awwal Bank ('SAB').

Asset quality

Asset quality contributed to an RWA increase of $2.5bn due to credit risk rating migrations and portfolio mix changes, notably in Asia, the US and Europe.

Model updates

Model updates decreased RWAs by $2.6bn, mainly due to a change in our risk approach to multilateral development banks' exposures, following approval for change from the PRA, the implementation of the exposure at default mortgage model in the UK, and changes to the incremental risk charge model.

Methodology and policy

The decrease of RWAs from methodology and policy of $19.9bn was mainly driven by a decline of $7.7bn from regulatory changes related to the risk-weighting of residential mortgages in Hong Kong, and credit risk parameter refinements mainly in Asia and Europe.

Acquisitions and disposals

The increase in RWAs from acquisitions and disposals of $6.2bn was primarily due to a rise of $9.6bn from the acquisition of SVB UK. This was partly offset by a decline of $3.2bn from the disposal of our business in Oman.

Foreign currency movements increased total RWAs by $2.0bn.

Leverage ratio[1]

	At	
	31 Dec 2023 $bn	31 Dec 2022 $bn
Tier 1 capital (leverage)	**144.2**	139.1
Total leverage ratio exposure	**2,574.8**	2,417.2
	%	%
Leverage ratio	**5.6**	5.8

1 *Leverage ratio calculation is in line with the PRA's UK leverage rules. This includes IFRS 9 transitional arrangement and excludes central bank claims.*

Our leverage ratio was 5.6% at 31 December 2023, down from 5.8% at 31 December 2022. The increase in the leverage exposure was primarily due to growth in the balance sheet, which led to a fall of 0.4 percentage points in the leverage ratio. This was partly offset by a rise of 0.2 percentage points due to an increase in tier 1 capital.

At 31 December 2023, our UK minimum leverage ratio requirement of 3.25% was supplemented by a leverage ratio buffer of 0.9%, which consists of an additional leverage ratio buffer of 0.7% and a countercyclical leverage ratio buffer of 0.2%. These buffers translated into capital values of $18.0bn and $5.1bn respectively.

Regulatory and other developments

In September 2023, the PRA announced changes to the UK implementation of Basel 3.1 with a new proposed implementation date of 1 July 2025. For further details related to the November 2022 consultation, see page 6 of our *Pillar 3 Disclosures at 31 December 2022*. We are currently assessing the impact of the consultation paper and the associated implementation challenges (including data provision) on our RWAs upon initial implementation. The RWA output floor under Basel 3.1 is now proposed to be subject to a four-and-a-half year transitional provision. Any impact from the output floor is expected to be towards the end of the transition period.

Regulatory transitional arrangements for IFRS 9 'Financial Instruments'

We have adopted the regulatory transitional arrangements of the Capital Requirements Regulation for IFRS 9, including paragraph four of article 473a. These allow banks to add back to their capital base a proportion of the impact that IFRS 9 has upon their loan loss allowances. Our capital and ratios are presented under these arrangements throughout the tables in this section, including the end point figures.

Pillar 3 disclosure requirements

Pillar 3 of the Basel regulatory framework is related to market discipline and aims to make financial services firms more transparent by requiring publication of wide-ranging information on their risks, capital and management.

For further details, see our Pillar 3 Disclosures at 31 December 2023, *which is expected to be published on or around 21 February 2024 at www.hsbc.com/investors.*

Liquidity and funding risk in 2023

Liquidity metrics

At 31 December 2023, all of the Group's material operating entities were above the required regulatory minimum liquidity and funding levels.

Each entity maintains sufficient unencumbered liquid assets to comply with local and regulatory requirements.

Each entity maintains a sufficient stable funding profile and is assessed using the NSFR or other appropriate metrics.

In addition to regulatory metrics, we use a wide set of measures to manage our liquidity and funding profile.

The Group liquidity and funding position on an average basis is analysed in the following sections.

Operating entities' liquidity[1]

	At 31 December 2023			
	LCR	**HQLA**	**Net outflows**	**NSFR**
	%	**$bn**	**$bn**	**%**
HSBC UK Bank plc (ring-fenced bank)[2]	**201**	**118**	**59**	**158**
HSBC Bank plc (non-ring-fenced bank)[3]	**148**	**132**	**89**	**116**
The Hongkong and Shanghai Banking Corporation – Hong Kong branch[4]	**192**	**147**	**77**	**127**
HSBC Singapore[5]	**292**	**26**	**9**	**174**
Hang Seng Bank	**254**	**52**	**21**	**163**
HSBC Bank China	**170**	**24**	**14**	**139**
HSBC Bank USA	**172**	**82**	**48**	**131**
HSBC Continental Europe[6,7]	**158**	**83**	**52**	**137**
HSBC Bank Middle East Ltd – UAE branch	**281**	**13**	**5**	**163**
HSBC Canada	**164**	**21**	**13**	**129**
HSBC Mexico	**149**	**8**	**5**	**124**
	At 31 December 2022			
HSBC UK Bank plc (ring-fenced bank)[2]	226	136	60	164
HSBC Bank plc (non-ring-fenced bank)[3]	143	128	90	115
The Hongkong and Shanghai Banking Corporation – Hong Kong branch[4]	179	147	82	130
HSBC Singapore[5]	247	21	9	173
Hang Seng Bank	228	50	22	156
HSBC Bank China	183	23	13	132
HSBC Bank USA	164	85	52	131
HSBC Continental Europe[6]	151	55	37	132
HSBC Bank Middle East Ltd – UAE branch	239	12	5	158
HSBC Canada	149	22	15	122
HSBC Mexico	155	8	5	129

1 *The LCR and NSFR ratios presented in the above table are based on average values. The LCR is the average of the preceding 12 months. The NSFR is the average of the preceding four quarters.*
2 *HSBC UK Bank plc refers to the HSBC UK liquidity group, which comprises five legal entities: HSBC UK Bank plc, Marks and Spencer Financial Services plc, HSBC Private Bank (UK) Ltd, HSBC Innovation Bank Limited and HSBC Trust Company (UK) Limited, managed as a single operating entity, in line with the application of UK liquidity regulation as agreed with the PRA.*
3 *HSBC Bank plc includes overseas branches and special purpose entities consolidated by HSBC for financial statements purposes.*
4 *The Hongkong and Shanghai Banking Corporation – Hong Kong branch represents the material activities of The Hongkong and Shanghai Banking Corporation Limited. It is monitored and controlled for liquidity and funding risk purposes as a stand-alone operating entity.*
5 *HSBC Singapore includes HSBC Bank Singapore Limited and The Hongkong and Shanghai Banking Corporation – Singapore branch. Liquidity and funding risk is monitored and controlled at country level in line with the local regulator's approval.*
6 *In response to the requirement for an intermediate parent undertaking in line with the EU Capital Requirements Directive ('CRD V'), HSBC Continental Europe acquired control of HSBC Germany and HSBC Bank Malta on 30 November 2022. The averages for LCR and NSFR include the impact of the inclusion of the two entities from November 2022.*
7 *HSBC Continental Europe NSFR includes the impact of the sale of our retail banking operations in France.*

Consolidated liquidity metrics

Net stable funding ratio

We manage funding risk based on the PRA's NSFR rules. The Group's NSFR at 31 December 2023, calculated from the average of the four preceding quarters average, was 133%.

	At[1]		
	31 Dec 2023	30 Jun 2023	31 Dec 2022
	$bn	$bn	$bn
Total available stable funding ($bn)	**1,602**	1,575	1,552
Total required stable funding ($bn)	**1,202**	1,172	1,138
NSFR ratio (%)	**133**	134	136

1 *Group NSFR numbers above are based on average values. The NSFR number is the average of the preceding four quarters.*

Liquidity coverage ratio

At 31 December 2023, the average high-quality liquid assets ('HQLA') held at entity level amounted to $795bn (31 December 2022: $812bn). The Group consolidation methodology includes a deduction to reflect the impact of limitations in the transferability of entity liquidity around the Group. That resulted in an adjustment of $147bn to LCR HQLA and $7bn to LCR inflows on an average basis. Furthermore, this methodology was enhanced in 2023 to consider more accurately non-convertible currencies.

	At[1]		
	31 Dec 2023 $bn	30 Jun 2023 $bn	31 Dec 2022 $bn
High-quality liquid assets (in entities)	**795**	796	812
EC Delegated Act adjustment for transfer restrictions[2]	**(154)**	(172)	(174)
Group LCR HQLA	**648**	631	647
Net outflows	**477**	478	491
Liquidity coverage ratio (%)	**136**	132	132

1 *Group LCR numbers above are based on average values. The LCR is the average of the preceding 12 months.*
2 *This includes adjustments made to high-quality liquid assets and inflows in entities to reflect liquidity transfer restrictions.*

Liquid assets

After the $147bn deduction, the average Group LCR HQLA of $648bn (31 December 2022: $647bn) was held in a range of asset classes and currencies. Of these, 97% were eligible as level 1 (31 December 2022: 97%).

The following tables reflect the composition of the average liquidity pool by asset type and currency at 31 December 2023.

Liquidity pool by asset type[1]

	Liquidity pool $bn	Cash $bn	Level 1[2] $bn	Level 2[2] $bn
Cash and balance at central bank	**310**	**310**	**—**	**—**
Central and local government bonds	**319**	**—**	**303**	**16**
Regional government public sector entities	**2**	**—**	**2**	**—**
International organisation and multilateral developments banks	**10**	**—**	**10**	**—**
Covered bonds	**6**	**—**	**2**	**4**
Other	**1**	**—**	**—**	**1**
Total at 31 Dec 2023	**648**	**310**	**317**	**21**
Total at 31 Dec 2022	647	344	284	19

1 *Group liquid assets numbers are based on average values.*
2 *As defined in EU regulations, level 1 assets means 'assets of extremely high liquidity and credit quality', and level 2 assets means 'assets of high liquidity and credit quality'.*

Liquidity pool by currency[1]

	$ $bn	£ $bn	€ $bn	HK$ $bn	Other $bn	Total $bn
Liquidity pool at 31 Dec 2023	**184**	**173**	**112**	**51**	**128**	**648**
Liquidity pool at 31 Dec 2022	167	191	98	54	137	647

1 *Group liquid assets numbers are based on average values.*

Sources of funding

Our primary sources of funding are customer current accounts and savings deposits payable on demand or at short notice. We issue secured and unsecured wholesale securities to supplement customer deposits, meet regulatory obligations and to change the currency mix, maturity profile or location of our liabilities.

The following 'Funding sources' and 'Funding uses' tables provide a view of how our consolidated balance sheet is funded. In practice, all the principal operating entities are required to manage liquidity and funding risk on a stand-alone basis.

The tables analyse our consolidated balance sheet according to the assets that primarily arise from operating activities and the sources of funding primarily supporting these activities. Assets and liabilities that do not arise from operating activities are presented at a net balancing source or deployment of funds.

Funding sources

(Audited)

	2023 $m	2022[1] $m
Customer accounts	**1,611,647**	1,570,303
Deposits by banks	**73,163**	66,722
Repurchase agreements – non-trading	**172,100**	127,747
Debt securities in issue	**93,917**	78,149
Cash collateral, margin and settlement accounts	**85,255**	88,476
Liabilities of disposal groups held for sale[2]	**108,406**	114,597
Subordinated liabilities	**24,954**	22,290
Financial liabilities designated at fair value	**141,426**	127,321
Insurance contract liabilities	**120,851**	108,816
Trading liabilities	**73,150**	72,353
– repos	**12,198**	16,254
– stock lending	**3,322**	3,541
– other trading liabilities	**57,630**	52,558
Total equity	**192,610**	185,197
Other balance sheet liabilities	**341,198**	387,315
At 31 Dec	**3,038,677**	2,949,286

Funding uses

(Audited)

	2023 $m	2022[1] $m
Loans and advances to customers	**938,535**	923,561
Loans and advances to banks	**112,902**	104,475
Reverse repurchase agreements – non-trading	**252,217**	253,754
Cash collateral, margin and settlement accounts	**89,911**	82,984
Assets held for sale[2]	**114,134**	115,919
Trading assets	**289,159**	218,093
– reverse repos	**16,575**	14,798
– stock borrowing	**14,609**	10,706
– other trading assets	**257,975**	192,589
Financial investments	**442,763**	364,726
Cash and balances with central banks	**285,868**	327,002
Other balance sheet assets	**513,188**	558,772
At 31 Dec	**3,038,677**	2,949,286

1 *From 1 January 2023, we adopted IFRS 17 'Insurance Contracts', which replaced IFRS 4 'Insurance Contracts'. We have restated 2022 comparative data.*
2 *'Liabilities of disposal groups held for sale' includes $82bn and 'Assets held for sale' includes $88bn in respect of the planned sale of our banking business in Canada. 'Liabilities of disposal groups held for sale' includes $26bn and 'Assets of disposal groups held for sale' includes $28bn in respect of the sale of our retail banking operations in France.*

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Wholesale term debt maturity profile

The maturity profile of our wholesale term debt obligations is set out in the following table. The balances in the table are not directly comparable with those in the consolidated balance sheet because the table presents gross cash flows relating to principal payments and not the balance sheet carrying value, which includes debt securities and subordinated liabilities measured at fair value.

Wholesale funding cash flows payable by HSBC under financial liabilities by remaining contractual maturities[1]

	Due not more than 1 month	Due over 1 month but not more than 3 months	Due over 3 months but not more than 6 months	Due over 6 months but not more than 9 months	Due over 9 months but not more than 1 year	Due over 1 year but not more than 2 years	Due over 2 years but not more than 5 years	Due over 5 years	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Debt securities issued	**17,620**	**9,798**	**14,284**	**13,226**	**12,226**	**20,882**	**64,010**	**50,045**	**202,091**
– unsecured CDs and CP	**6,400**	**6,777**	**7,601**	**6,429**	**6,513**	**1,179**	**1,073**	**925**	**36,897**
– unsecured senior MTNs	**8,190**	**1,160**	**4,365**	**3,627**	**3,267**	**12,903**	**54,984**	**41,007**	**129,503**
– unsecured senior structured notes	**2,307**	**1,491**	**1,617**	**2,513**	**1,978**	**2,924**	**2,793**	**5,910**	**21,533**
– secured covered bonds	**—**	**—**	**—**	**—**	**—**	**—**	**1,275**	**—**	**1,275**
– secured asset-backed commercial paper	**426**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**426**
– secured ABS	**22**	**44**	**62**	**58**	**55**	**188**	**861**	**539**	**1,829**
– others	**275**	**326**	**639**	**599**	**413**	**3,688**	**3,024**	**1,664**	**10,628**
Subordinated liabilities	**—**	**2,013**	**—**	**—**	**—**	**3,358**	**4,282**	**27,234**	**36,887**
– subordinated debt securities	**—**	**2,000**	**—**	**—**	**—**	**3,358**	**4,282**	**25,441**	**35,081**
– preferred securities	**—**	**13**	**—**	**—**	**—**	**—**	**—**	**1,793**	**1,806**
At 31 Dec 2023	**17,620**	**11,811**	**14,284**	**13,226**	**12,226**	**24,240**	**68,292**	**77,279**	**238,978**
Debt securities issued	11,959	11,266	12,532	8,225	8,212	26,669	52,435	52,952	184,250
– unsecured CDs and CP	3,821	6,017	7,088	4,137	3,123	1,264	707	1,004	27,161
– unsecured senior MTNs	5,973	2,351	3,534	1,363	3,238	19,229	44,023	44,021	123,732
– unsecured senior structured notes	1,264	1,421	1,247	1,850	1,627	4,463	2,609	5,990	20,471
– secured covered bonds	—	—	—	—	—	—	602	—	602
– secured asset-backed commercial paper	690	—	—	—	—	—	—	—	690
– secured ABS	15	28	40	38	36	123	656	220	1,156
– others	196	1,449	623	837	188	1,590	3,838	1,717	10,438
Subordinated liabilities	—	—	11	160	—	2,000	5,581	25,189	32,941
– subordinated debt securities	—	—	11	160	—	2,000	5,581	23,446	31,198
– preferred securities	—	—	—	—	—	—	—	1,743	1,743
At 31 Dec 2022	11,959	11,266	12,543	8,385	8,212	28,669	58,016	78,141	217,191

1 *Excludes financial liabilities of disposal groups.*

Structural foreign exchange risk in 2023

Structural foreign exchange exposures represent net assets or capital investments in subsidiaries, branches, joint arrangements or associates, together with any associated hedges, the functional currencies of which are currencies other than the US dollar. Exchange differences on structural exposures are usually recognised in 'other comprehensive income'.

Net structural foreign exchange exposures

Currency of structural exposure	Net investment in foreign operations (excl non-controlling interest) $m	Net investment hedges $m	Structural foreign exchange exposures (pre-economic hedges) $m	Economic hedges – structural FX hedges[1] $m	Economic hedges – equity securities (AT1)[2] $m	Net structural foreign exchange exposures $m
	2023					
Hong Kong dollars	**39,014**	**(5,792)**	**33,222**	**(7,979)**	**—**	**25,243**
Pounds sterling	**46,661**	**(16,415)**	**30,246**	**—**	**(1,275)**	**28,971**
Chinese renminbi	**33,809**	**(3,299)**	**30,510**	**(1,066)**	**—**	**29,444**
Euros	**15,673**	**(515)**	**15,158**	**—**	**(1,384)**	**13,774**
Canadian dollars	**5,418**	**(1,076)**	**4,342**	**—**	**—**	**4,342**
Indian rupees	**6,286**	**(2,110)**	**4,176**	**—**	**—**	**4,176**
Mexican pesos	**4,883**	**—**	**4,883**	**—**	**—**	**4,883**
Saudi riyals	**4,312**	**—**	**4,312**	**—**	**—**	**4,312**
UAE dirhams	**4,995**	**(613)**	**4,382**	**(2,761)**	**—**	**1,621**
Malaysian ringgit	**2,754**	**—**	**2,754**	**—**	**—**	**2,754**
Singapore dollars	**2,345**	**(224)**	**2,121**	**—**	**—**	**2,121**
Australian dollars	**2,362**	**—**	**2,362**	**—**	**—**	**2,362**
Taiwanese dollars	**2,212**	**(1,127)**	**1,085**	**—**	**—**	**1,085**
Indonesian rupiah	**1,535**	**(512)**	**1,023**	**—**	**—**	**1,023**
Swiss francs	**1,191**	**(526)**	**665**	**—**	**—**	**665**
Korean won	**1,354**	**(864)**	**490**	**—**	**—**	**490**
Thai baht	**1,022**	**—**	**1,022**	**—**	**—**	**1,022**
Egyptian pound	**959**	**—**	**959**	**—**	**—**	**959**
Qatari rial	**834**	**(215)**	**619**	**(299)**	**—**	**320**
Argentinian peso	**794**	**—**	**794**	**—**	**—**	**794**
Vietnamese dong	**872**	**—**	**872**	**—**	**—**	**872**
Others, each less than $700m	**4,386**	**(487)**	**3,899**	**—**	**—**	**3,899**
At 31 Dec	**183,671**	**(33,775)**	**149,896**	**(12,105)**	**(2,659)**	**135,132**
	2022[3]					
Hong Kong dollars	39,191	(4,597)	34,594	(8,363)	—	26,231
Pounds sterling	39,298	(14,000)	25,298	—	(1,205)	24,093
Chinese renminbi	35,712	(3,532)	32,180	(994)	—	31,186
Euros	14,436	(777)	13,659	—	(2,402)	11,257
Canadian dollars	4,402	(811)	3,591	—	—	3,591
Indian rupees	4,967	(1,380)	3,587	—	—	3,587
Mexican pesos	3,932	—	3,932	—	—	3,932
Saudi riyals	4,182	(109)	4,073	—	—	4,073
UAE dirhams	4,534	(731)	3,803	(2,285)	—	1,518
Malaysian ringgit	2,715	—	2,715	—	—	2,715
Singapore dollars	2,517	(358)	2,159	—	(559)	1,600
Australian dollars	2,264	—	2,264	—	—	2,264
Taiwanese dollars	2,058	(1,140)	918	—	—	918
Indonesian rupiah	1,453	(469)	984	—	—	984
Swiss francs	1,233	(727)	506	—	—	506
Korean won	1,283	(817)	466	—	—	466
Thai baht	908	—	908	—	—	908
Egyptian pound	746	—	746	—	—	746
Qatari rial	785	(200)	585	(277)	—	308
Argentinian peso	1,010	—	1,010	—	—	1,010
Vietnamese dong	665	—	665	—	—	665
Others, each less than $700m	4,470	(495)	3,975	(36)	—	3,939
At 31 Dec	172,761	(30,143)	142,618	(11,955)	(4,166)	126,497

1 *Represents hedges that do not qualify as net investment hedges for accounting purposes.*
2 *Represents foreign currency-denominated preference share and AT1 instruments. These are accounted for at historical cost under IFRS Accounting Standards and do not qualify as net investment hedges for accounting purposes. The gain or loss arising from changes in the US dollar value of these instruments is recognised on redemption in retained earnings.*
3 *From 1 January 2023, we adopted IFRS 17 'Insurance Contracts', which replaced IFRS 4 'Insurance Contracts'. Comparative data for the financial year ended 31 December 2022 have been restated accordingly.*

For a definition of structural foreign exchange exposures, see page 205.

Interest rate risk in the banking book in 2023

Net interest income and banking net interest income

We have introduced a new metric to analyse sensitivity of our income to interest rate shocks. In addition to NII sensitivity, we are also disclosing banking NII sensitivity. HSBC has trading book assets that are funded by banking book liabilities and the NII sensitivity measure does not include the sensitivity of the internal transfer income from this funding. Banking NII sensitivity includes an adjustment on top of NII sensitivity to reflect this. The currency split of banking NII sensitivities includes the impact of vanilla foreign exchange swaps to optimise cash management across the Group.

In this disclosure we present the banking NII sensitivity alongside the NII sensitivity. Over time we expect to phase out NII sensitivity once the appropriate prior period comparables are available for banking NII sensitivity.

The following tables set out the assessed impact to a hypothetical base case projection of our NII and banking NII under an immediate shock of 100bps to the current market-implied path of interest rates across all currencies on 1 January 2024 (effects in the first, second and third years). For example, Year 3 shows the impact of an immediate rate shock on the NII and banking NII projected for the third year.

The sensitivities shown represent a hypothetical simulation of the base case income, assuming a static balance sheet (specifically no assumed migration from current account to term deposits), and no management actions from Global Treasury. This also incorporates the effect of interest rate behaviouralisation, hypothetical managed rate product pricing assumptions, prepayment of mortgages and deposit stability. The sensitivity calculations exclude pensions, insurance, and interests in associates.

The sensitivity analysis performed in the case of a down-shock does not include floors to market rates, and it does not include floors on some wholesale assets and liabilities. However, floors have been maintained for deposits and loans to customers where this is contractual or where negative rates would not be applied.

As market and policy rates move, the degree to which these changes are passed on to customers will vary based on a number of factors, including the absolute level of market rates, regulatory and contractual frameworks, and competitive dynamics. To aid comparability between markets, we have simplified the basis of preparation for our disclosure and have used a 50% pass-on assumption for major entities on certain interest-bearing deposits. Our pass-through asset assumptions are largely in line with our contractual agreements or established market practice, which typically results in a significant portion of interest rate changes being passed on.

An immediate interest rate rise of 100bps would increase projected NII for the 12 months to 31 December 2024 by $1.1bn and banking NII by $2.8bn. An immediate interest rate fall of 100bps would decrease projected NII for the 12 months to 31 December 2024 by $1.6bn and banking NII by $3.4bn.

The sensitivity of NII for 12 months as at 31 December 2023 decreased by $2.5bn in the plus 100bps parallel shock and by $2.4bn in the minus 100bps parallel shock, when compared with 31 December 2022. The key drivers of the reduction in NII sensitivity are the increase in stabilisation activities in line with our strategy, as well as deposit migration.

For further details of measurement of interest rate risk in the banking book, see page 205.

NII sensitivity to an instantaneous change in yield curves (12 months) – Year 1 sensitivity by currency

	Currency					
	$	HK$	£	€	Other	Total
	$m	$m	$m	$m	$m	$m
Change in Jan 2024 to Dec 2024 (based on balance sheet at 31 December 2023)						
+100bps parallel	**(1,155)**	**148**	**325**	**503**	**1,232**	**1,053**
-100bps parallel	**1,004**	**(230)**	**(432)**	**(522)**	**(1,391)**	**(1,571)**
Change in Jan 2023 to Dec 2023 (based on balance sheet at 31 December 2022)						
+100bps parallel	(267)	413	1,026	674	1,689	3,535
-100bps parallel	236	(476)	(1,177)	(765)	(1,787)	(3,969)

NII sensitivity to an instantaneous down 100bps parallel change in yield curves – Year 2 and Year 3 sensitivity by currency

	Currency					
	$	HK$	£	€	Other	Total
	$m	$m	$m	$m	$m	$m
Change in NII (based on balance sheet at 31 December 2023)						
Year 2 (Jan 2025 to Dec 2025)	**488**	**(431)**	**(768)**	**(552)**	**(1,733)**	**(2,996)**
Year 3 (Jan 2026 to Dec 2026)	**213**	**(499)**	**(1,269)**	**(624)**	**(1,861)**	**(4,040)**
Change in NII (based on balance sheet at 31 December 2022)						
Year 2 (Jan 2024 to Dec 2024)	(43)	(532)	(1,580)	(810)	(1,979)	(4,944)
Year 3 (Jan 2025 to Dec 2025)	(404)	(636)	(1,954)	(839)	(2,092)	(5,925)

Banking NII sensitivity to an instantaneous change in yield curves (12 months) – Year 1 sensitivity by currency

	Currency					
	$	HK$	£	€	Other	Total
	$m	$m	$m	$m	$m	$m
Change in Jan 2024 to Dec 2024 (based on balance sheet at 31 December 2023)						
+100bps parallel	**343**	**411**	**496**	**285**	**1,297**	**2,832**
-100bps parallel	**(494)**	**(493)**	**(602)**	**(304)**	**(1,460)**	**(3,353)**

Banking NII sensitivity to an instantaneous down 100bps parallel change in yield curves – Year 2 and Year 3 sensitivity by currency

	Currency					
	$	HK$	£	€	Other	Total
	$m	$m	$m	$m	$m	$m
Change in banking NII (based on balance sheet at 31 December 2023)						
Year 2 (Jan 2025 to Dec 2025)	**(1,015)**	**(693)**	**(938)**	**(333)**	**(1,798)**	**(4,777)**
Year 3 (Jan 2026 to Dec 2026)	**(1,289)**	**(761)**	**(1,439)**	**(405)**	**(1,926)**	**(5,820)**

Non-trading value at risk

Non-trading portfolios comprise positions that primarily arise from the interest rate management of our retail and commercial banking assets and liabilities, financial investments measured at fair value through other comprehensive income, debt instruments measured at amortised cost, and exposures arising from our insurance operations.

Value at risk of non-trading portfolios

Value at risk ('VaR') is a technique for estimating potential losses on risk positions as a result of movements in market rates and prices over a specified time horizon and to a given level of confidence. The use of VaR is integrated into the market risk management of non-trading portfolios to have a complete picture of risk, complementing risk sensitivity analysis.

Our models are predominantly based on historical simulation that incorporates the following features:

- historical market rates and prices, which are calculated with reference to interest rates, credit spreads and the associated volatilities;
- potential market movements that are calculated with reference to data from the past two years; and
- calculations to a 99% confidence level and using a one-day holding period.

Although a valuable guide to risk, VaR is used for non-trading portfolios with awareness of its limitations. For example:

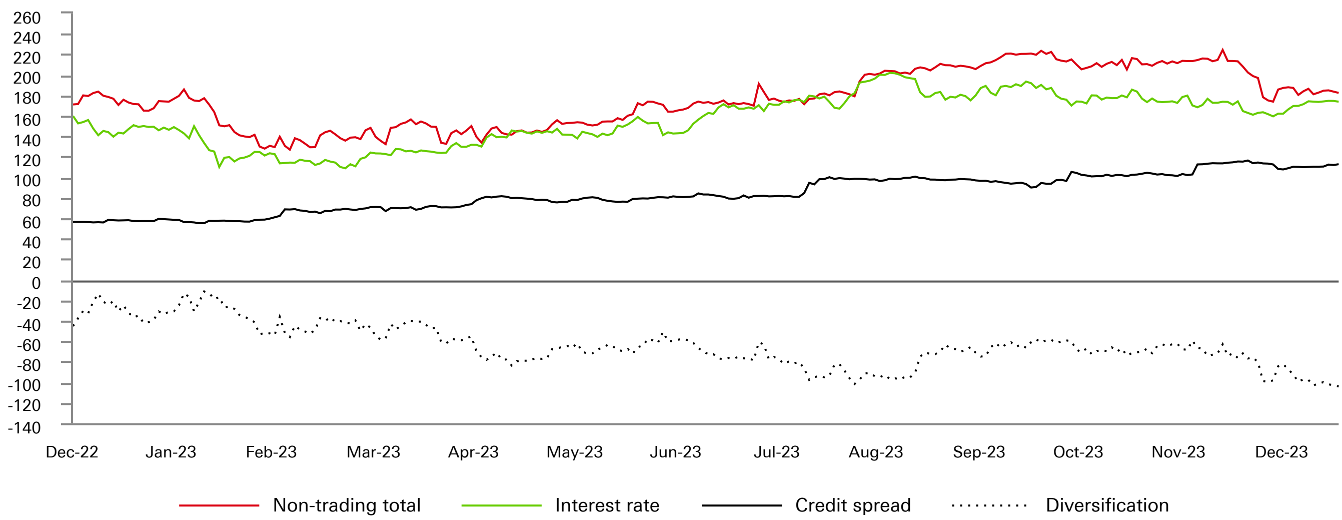
- The use of historical data as a proxy for estimating future market moves may not encompass all potential market events, particularly those that are extreme in nature. As the model is calibrated on the last 500 business days, it does not adjust instantaneously to a change in the market regime.
- The use of a one-day holding period for risk management purposes of non-trading books is only an indication of exposure and not indicative of the time period required to hedge or liquidate positions.
- The use of a 99% confidence level by definition does not take into account losses that might occur beyond this level of confidence.

The interest rate risk on the fixed-rate securities issued by HSBC Holdings is not included in the Group non-trading VaR. The management of this risk is described on page 217.

Non-trading VaR also excludes the equity risk on securities held at fair value and non-trading book foreign exchange risk.

The daily levels of total non-trading VaR in 2023 are set out in the graph below.

Daily VaR (non-trading portfolios), 99% 1 day ($m)



The Group non-trading VaR for 2023 is shown in the table below.

Non-trading VaR, 99% 1 day

(Audited)

	Interest rate	Credit spread	Portfolio diversification[1]	Total[2]
	$m	$m	$m	$m
Balance at 31 Dec 2023	**173.8**	**112.8**	**(104.2)**	**182.4**
Average	**156.2**	**84.2**	**(63.7)**	**176.6**
Maximum	**201.9**	**116.4**		**224.3**
Minimum	**108.8**	**55.2**		**127.0**

Non-trading VaR, 99% 1 day (continued)

(Audited)

	Interest rate $m	Credit spread $m	Portfolio diversification[1] $m	Total[2] $m
Balance at 31 Dec 2022	159.8	56.6	(45.3)	171.1
Average	134.6	56.9	(35.9)	155.6
Maximum	225.5	84.7		265.3
Minimum	98.3	43.4		106.3

1 *Portfolio diversification is the market risk dispersion effect of holding a portfolio containing different risk types. It represents the reduction in unsystematic market risk that occurs when combining a number of different risk types – such as interest rate and credit spreads – together in one portfolio. It is measured as the difference between the sum of the VaR by individual risk type and the combined total VaR. A negative number represents the benefit of portfolio diversification. As the maximum and minimum occurs on different days for different risk types, it is not meaningful to calculate a portfolio diversification benefit for these measures.*

2 *The total VaR is non-additive across risk types due to diversification effects.*

The VaR for non-trading activity increased by $11m from $171m at 31 December 2022 to $182m at 31 December 2023 due to relatively small changes in risk profile over the year. The average portfolio diversification effect between interest rate and credit spread exposure increased during the year, with the offset increasing to $104m from $45m.

Sensitivity of capital and reserves

Global Treasury maintains a portfolio of high-quality liquid assets for contingent liquidity and NII stabilisation purposes, which is in part accounted for under a hold-to-collect-and-sell business model. This hold-to-collect-and-sell portfolio, together with any associated derivatives in designated hedge accounting relationships, is accounted for at fair value through other comprehensive income and has an impact on CET1. The portfolio represents the vast majority of our hold-to-collect-and-sell capital risk and is risk managed with a variety of tools, including risk sensitivities and value at risk measures.

The table below measures the sensitivity of the value of this portfolio to an instantaneous 100 basis point increase in interest rates, based on the risk sensitivity of a shift in value for a 1 basis point ('bps') parallel movement in interest rates.

Sensitivity of hold-to-collect-and-sell reserves to interest rate movements

	$m
At 31 Dec 2023	
+100 basis point parallel move in all yield curves	**(2,264)**
As a percentage of total shareholders' equity	**(1.22)%**
At 31 Dec 2022	
+100 basis point parallel move in all yield curves	(1,199)
As a percentage of total shareholders' equity	(0.64)%

The increase in the sensitivity of the portfolio during 2023 was mainly driven by an increase in NII stabilisation in line with our strategy. The figures in the table above do not take into account the effects of interest rate convexity. The portfolio mostly comprises vanilla sovereign bonds in a variety of currencies, and the primary risk is interest rate duration risk, although the portfolio also generates asset swap, credit spread and asset spread risks that are managed within appetite as part of our risk management framework. A minus 100bps shock would lead to an approximately symmetrical gain.

Alongside our monitoring of the hold-to-collect-and-sell reserve sensitivity, we also monitor the sensitivity of reported cash flow hedging reserves to interest rate movements on a yearly basis by assessing the expected reduction in valuation of cash flow hedges due to parallel movements of plus or minus 100bps in all yield curves.

The following table describes the sensitivity of our cash flow hedging reserves to the stipulated movements in yield curves at the year end. The sensitivities are indicative and based on simplified scenarios. These particular exposures form only a part of our overall interest rate exposure. We apply flooring on negative rates in the minus 100bps scenario in this assessment. Due to increases in interest rates in most markets, the effect of this flooring is immaterial at the end of 2023.

Comparing 31 December 2023 with 31 December 2022, the sensitivity of the cash flow hedging reserve increased by $1,537m in the plus 100bps scenario and increased by $1,562m in the minus 100bps scenario. The increase in the sensitivity of this reserve was mainly driven by an increase in our NII stabilisation. Our exposure to fixed rate pound sterling hedges continued to be the largest in size and in terms of year-on-year increase. Hong Kong dollar and euro hedges contributed to the majority of the rest of the increase in exposure, partly offset by a reduction in the size of US dollar hedges.

Sensitivity of cash flow hedging reported reserves to interest rate movements

	$m
At 31 Dec 2023	
+100 basis point parallel move in all yield curves	**(3,436)**
As a percentage of total shareholders' equity	**(1.85)%**
-100 basis point parallel move in all yield curves	**3,474**
As a percentage of total shareholders' equity	**1.87%**
At 31 Dec 2022	
+100 basis point parallel move in all yield curves	(1,899)
As a percentage of total shareholders' equity	(1.01)%
-100 basis point parallel move in all yield curves	1,912
As a percentage of total shareholders' equity	1.02%

Third-party assets in Markets Treasury

Third-party assets in Markets Treasury increased by 5% compared with 31 December 2022. The net increase of $38bn is partly reflective of higher commercial surpluses during the year, with the increase of $76bn in 'Financial Investments' and the decrease of $39bn in 'Cash and balances at central banks' largely driven by NII stabilisation activity.

Third-party assets in Markets Treasury

	2023	2022
	$m	$m
Cash and balances at central banks	**278,289**	317,479
Trading assets	**238**	498
Loans and advances:		
– to banks	**78,667**	67,612
– to customers	**1,083**	2,102
Reverse repurchase agreements	**45,419**	53,016
Financial investments	**396,259**	319,852
Other	**34,651**	36,192
At 31 Dec	**834,606**	796,751

Defined benefit pension plans

Market risk arises within our defined benefit pension plans to the extent that the obligations of the plans are not fully matched by assets with determinable cash flows.

For details of our defined benefit plans, including asset allocation, see Note 5 on the financial statements, and for pension risk management, see page 206.

Additional market risk measures applicable only to the parent company

HSBC Holdings monitors and manages foreign exchange risk and interest rate risk. In order to manage interest rate risk, HSBC Holdings uses the projected sensitivity of its NII to future changes in yield curves.

Foreign exchange risk

HSBC Holdings' foreign exchange exposures derive almost entirely from the execution of structural foreign exchange hedges on behalf of the Group. At 31 December 2023, HSBC Holdings had forward foreign exchange contracts of $33.8bn (2022: $30.1bn) to manage the Group's structural foreign exchange exposures.

For further details of our structural foreign exchange exposures, see page 213.

Sensitivity of net interest income

HSBC Holdings monitors NII sensitivity in the first, second and third years, reflecting the longer-term perspective on interest rate risk management appropriate to a financial services holding company. These sensitivities assume that any issuance where HSBC Holdings has an option to redeem at a future call date is called at this date.

The tables below set out the effect on HSBC Holdings' future NII of an immediate shock of +/-100bps to the current market-implied path of interest rates across all currencies on 1 January 2024.

The NII sensitivities shown are indicative and based on simplified scenarios. An immediate interest rate rise of 100bps would decrease projected NII for the 12 months to 31 December 2024 by $233m. Conversely, an immediate fall of 100bps would increase projected NII for the 12 months to 31 December 2024 $233m.

Overall the NII sensitivity is mainly driven by floating liabilities funding equity (non-interest bearing) investments in subsidiaries.

During 2023, HSBC Holdings hedged $3.6bn of previously unhedged issuances, which increased the negative NII sensitivity to positive parallel shifts in interest rates. In year 1, that impact is offset by a shorter repricing profile of assets.

As of the *Annual Report and Accounts 2023*, HSBC Holdings is no longer disclosing the interest rate repricing gap table, as the sensitivity of net interest income table captures HSBC Holdings' exposure to interest rate risk and is aligned to the way we disclose interest rate risk internally to key management.

NII sensitivity to an instantaneous change in yield curves (12 months) – Year 1 sensitivity by currency

	$	HK$	£	€	Other	Total
	$m	$m	$m	$m	$m	$m
Change in Jan 2024 to Dec 2024 (based on balance sheet at 31 December 2023)						
+100bps parallel	**(258)**	**–**	**12**	**5**	**8**	**(233)**
-100bps parallel	**258**	**–**	**(12)**	**(5)**	**(8)**	**233**
Change in Jan 2023 to Dec 2023 (based on balance sheet at 31 December 2022)						
+100bps parallel	(265)	—	16	9	—	(240)
-100bps parallel	265	—	(16)	(9)	—	240

NII sensitivity to an instantaneous down 100bps parallel change in yield curves – Year 2 and Year 3 sensitivity by currency

	$	HK$	£	€	Other	Total
	$m	$m	$m	$m	$m	$m
Change in NII (based on balance sheet at 31 December 2023)						
Year 2 (Jan 2025 to Dec 2025)	**219**	**–**	**(12)**	**1**	**(9)**	**199**
Year 3 (Jan 2026 to Dec 2026)	**218**	**–**	**(12)**	**–**	**(10)**	**196**
Change in NII (based on balance sheet at 31 December 2022)					—	
Year 2 (Jan 2024 to Dec 2024)	182	—	(12)	(8)	—	162
Year 3 (Jan 2025 to Dec 2025)	160	—	(10)	(7)	—	143

The figures represent hypothetical movements in NII based on our projected yield curve scenarios, HSBC Holdings' current interest rate risk profile and assumed changes to that profile during the next three years. The sensitivities represent our assessment of the change to a hypothetical base case based on a static balance sheet assumption, and do not take into account the effect of actions that could be taken to mitigate this interest rate risk.

Market risk

Contents

Overview

Market risk is the risk of an adverse financial impact on trading activities arising from changes in market parameters such as interest rates, foreign exchange rates, asset prices, volatilities, correlations and credit spreads. Market risk arises from both trading portfolios and non-trading portfolios.

For further details of market risk in non-trading portfolios, see page 215 of the Annual Report and Accounts 2023*.*

Market risk management

Key developments in 2023

There were no material changes to our policies and practices for the management of market risk in 2023.

Governance and structure

The following diagram summarises the main business areas where trading market risks reside and the market risk measures used to monitor and limit exposures.

Risk types	**Trading risk** – Foreign exchange and commodities – Interest rates – Credit spreads – Equities
Global business	GBM
Risk measure	Value at risk | Sensitivity | Stress testing

The objective of our risk management policies and measurement techniques is to manage and control market risk exposures to optimise return on risk while maintaining a market profile consistent with our established risk appetite.

Market risk is managed and controlled through limits approved by the Group Chief Risk and Compliance Officer for HSBC Holdings. These limits are allocated across business lines and to the Group's legal entities. Each major operating entity has an independent market risk management and control sub-function, which is responsible for measuring, monitoring and reporting market risk exposures against limits on a daily basis. Each operating entity is required to assess the market risks arising in its business and to transfer them either to its local Markets and Securities Services or Markets Treasury unit for management, or to separate books managed under the supervision of the local ALCO. The Traded Risk function enforces the controls around trading in permissible instruments approved for each site as well as changes that follow completion of the new product approval process. Traded Risk also restricts trading in the more complex derivative products to only those offices with appropriate levels of product expertise and control systems.

Key risk management processes

Monitoring and limiting market risk exposures

Our objective is to manage and control market risk exposures while maintaining a market profile consistent with our risk appetite.

We use a range of tools to monitor and limit market risk exposures including sensitivity analysis, VaR and stress testing.

Sensitivity analysis

Sensitivity analysis measures the impact of movements in individual market factors on specific instruments or portfolios, including interest rates, foreign exchange rates and equity prices. We use sensitivity measures to monitor the market risk positions within each risk type. Granular sensitivity limits are set for trading desks with consideration of market liquidity, customer demand and capital constraints, among other factors.

Value at risk

(Audited)

VaR is a technique for estimating potential losses on risk positions as a result of movements in market rates and prices over a specified time horizon and to a given level of confidence. The use of VaR is integrated into market risk management and calculated for all trading positions regardless of how we capitalise them. Where we do not calculate VaR explicitly, we use alternative tools as summarised in the 'Stress testing' section below.

Our models are predominantly based on historical simulation that incorporates the following features:

- historical market rates and prices, which are calculated with reference to foreign exchange rates, commodity prices, interest rates, equity prices and the associated volatilities;
- potential market movements that are calculated with reference to data from the past two years; and
- calculations to a 99% confidence level and using a one-day holding period.

The models also incorporate the effect of option features on the underlying exposures. The nature of the VaR models means that an increase in observed market volatility will lead to an increase in VaR without any changes in the underlying positions.

VaR model limitations

Although a valuable guide to risk, VaR is used with awareness of its limitations. For example:

- The use of historical data as a proxy for estimating future market moves may not encompass all potential market events, particularly those that are extreme in nature. As the model is calibrated on the last 500 business days, it does not adjust instantaneously to a change in the market regime.
- The use of a one-day holding period for risk management purposes of trading books assumes that this short period is sufficient to hedge or liquidate all positions.
- The use of a 99% confidence level by definition does not take into account losses that might occur beyond this level of confidence.
- VaR is calculated on the basis of exposures outstanding at the close of business and therefore does not reflect intra-day exposures.

Risk not in VaR framework

The risks not in VaR ('RNIV') framework captures and capitalises material market risks that are not adequately covered in the VaR model.

Risk factors are reviewed on a regular basis and are either incorporated directly in the VaR models, where possible, or quantified through either the VaR-based RNIV approach or a stress test approach within the RNIV framework. While VaR-based RNIVs are calculated by using historical scenarios, stress-type RNIVs are estimated on the basis of stress scenarios whose severity is calibrated to be in line with the capital adequacy requirements. The outcome of the VaR-based RNIV approach is included in the overall VaR calculation but excluded from the VaR measure used for regulatory back-testing.

Stress-type RNIVs include a deal contingent derivatives capital charge to capture risk for these transactions and a de-peg risk measure to capture risk to pegged and heavily managed currencies.

Stress testing

Stress testing is an important procedure that is integrated into our market risk management framework to evaluate the potential impact on portfolio values of more extreme, although plausible, events or movements in a set of financial variables. In such scenarios, losses can be much greater than those predicted by VaR modelling. Stress testing and reverse stress testing provide senior management with insights regarding the 'tail risk' beyond VaR.

Stress testing is implemented at legal entity, regional and overall Group levels. A set of scenarios is used consistently across all regions within the Group. Market risk stress testing incorporates both historical and hypothetical events. Market risk reverse stress tests are designed to identify vulnerabilities in our portfolios by looking for scenarios that lead to loss levels considered severe for the relevant portfolio. These scenarios may be local or idiosyncratic in nature and complement the systematic top-down stress testing.

The risk appetite around potential stress losses for the Group is set and monitored against limits.

Trading portfolios

Trading portfolios comprise positions held for client servicing and market-making, with the intention of short-term resale and/or to hedge risks resulting from such positions.

Back-testing

We routinely validate the accuracy of our VaR models by back-testing the VaR metric against both actual and hypothetical profit and loss. Hypothetical profit and loss excludes non-modelled items such as fees, commissions and revenue of intra-day transactions.

The hypothetical profit and loss reflects the profit and loss that would be realised if positions were held constant from the end of one trading day to the end of the next. This measure of profit and loss does not align with how risk is dynamically hedged, and is not therefore necessarily indicative of the actual performance of the business.

The number of hypothetical loss back-testing exceptions, together with a number of other indicators, is used to assess model performance and to consider whether enhanced internal monitoring of a VaR model is required. We back-test our VaR at set levels of our Group entity hierarchy.

Market risk in 2023

During 2023, global financial markets were mainly driven by the inflation outlook, interest rate expectations and recession risks, coupled with banking failures in March, and rising geopolitical tensions in the Middle East from October. Major central banks maintained restrictive monetary policies, and bond markets experienced a volatile year. After rising significantly in the second and third quarters of 2023, US treasury bond yields fell during the fourth quarter, as lower inflation pressures led markets to expect that key rates would be cut in 2024. The interest rate outlook was also a major driver of performance in global equity markets, alongside resilient corporate earnings and positive sentiment in the technology sector. Equities in developed markets advanced significantly amid low volatility, while performance in emerging markets was more subdued. In foreign exchange markets, the US dollar fluctuated against other major currencies, mostly in line with US Federal Reserve policy and bond yields expectations. Investor sentiment remained resilient in credit markets. High-yield and investment-grade credit spreads narrowed, in general, as fears of contagion in the banking sector in the first quarter of 2023 abated, and economic growth remained resilient throughout the year.

We continued to manage market risk prudently during 2023. Sensitivity exposures and VaR remained within appetite as the business pursued its core market-making activity in support of our customers. Market risk was managed using a complementary set of risk measures and limits, including stress testing and scenario analysis.

Trading portfolios

Value at risk of the trading portfolios

Trading VaR was predominantly generated by the Markets and Securities Services business.

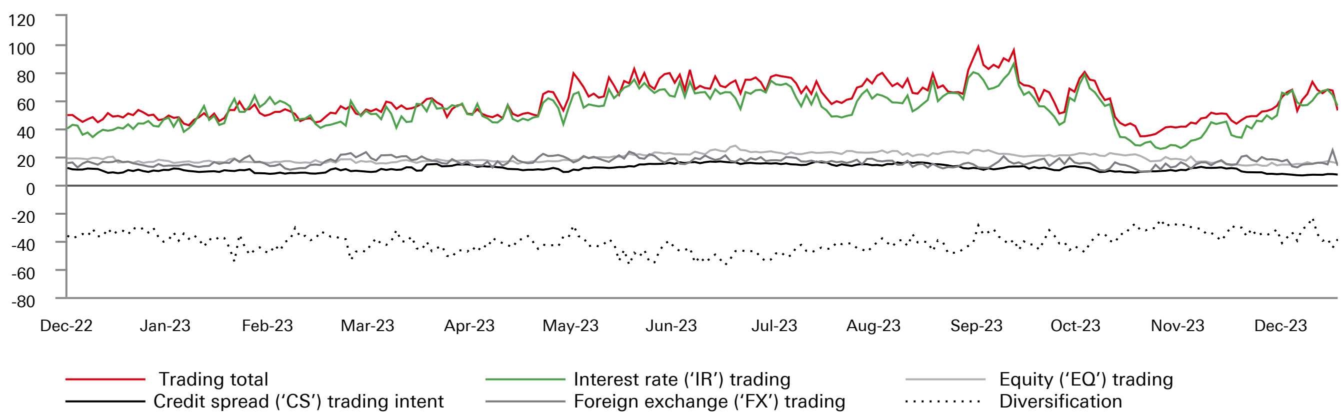
Trading VaR as at 31 December 2023 increased by $3.3m compared with 31 December 2022. Interest rate risk factors were the major contributors to VaR at the end of December 2023. The VaR increase during 2023 peaked in September, and was mainly driven by:

- interest rate risk exposures in currencies held across the Fixed Income and Foreign Exchange business lines to facilitate client-driven activity; and
- the effects of relatively large short-term interest rate shocks for key currencies, which are captured in the VaR scenario window.

These factors were partly offset by lower losses from equity risks and interest rate risks that were captured within the RNIV framework.

The daily levels of total trading VaR during 2023 are set out in the graph below.

Daily VaR (trading portfolios), 99% 1 day ($m)



The Group trading VaR for the year is shown in the table below.

Trading VaR, 99% 1 day[1]

(Audited)

	Foreign exchange and commodity	Interest rate	Equity	Credit spread	Portfolio diversification[2]	Total[3]
	$m	$m	$m	$m	$m	$m
Balance at 31 Dec 2023	**13.4**	**55.9**	**15.2**	**7.2**	**(38.9)**	**52.8**
Average	**16.2**	**53.9**	**19.0**	**11.6**	**(40.8)**	**59.8**
Maximum	**24.6**	**86.0**	**27.8**	**16.5**		**98.2**
Minimum	**9.3**	**25.5**	**13.4**	**6.6**		**34.4**
Balance at 31 Dec 2022	15.4	40.0	18.6	11.9	(36.4)	49.5
Average	13.6	29.6	16.1	16.8	(34.0)	42.1
Maximum	29.2	73.3	24.8	27.9		78.3
Minimum	5.7	20.2	11.5	9.1		29.1

1 *Trading portfolios comprise positions arising from the market-making and warehousing of customer-derived positions.*
2 *Portfolio diversification is the market risk dispersion effect of holding a portfolio containing different risk types. It represents the reduction in unsystematic market risk that occurs when combining a number of different risk types – such as interest rate, equity and foreign exchange – together in one portfolio. It is measured as the difference between the sum of the VaR by individual risk type and the combined total VaR. A negative number represents the benefit of portfolio diversification. As the maximum and minimum occurs on different days for different risk types, it is not meaningful to calculate a portfolio diversification benefit for these measures.*
3 *The total VaR is non-additive across risk types due to diversification effects.*

The table below shows trading VaR at a 99% confidence level compared with trading VaR at a 95% confidence level at 31 December 2023. This comparison facilitates the benchmarking of the trading VaR, which can be stated at different confidence levels, with financial institution peers. The 95% VaR is unaudited.

Comparison of trading VaR, 99% 1 day vs trading VaR, 95% 1 day

	Trading VaR, 99% 1 day	Trading VaR, 95% 1 day
	$m	$m
Balance at 31 Dec 2023	**52.8**	**35.3**
Average	**59.8**	**36.8**
Maximum	**98.2**	**53.3**
Minimum	**34.4**	**21.0**
Balance at 31 Dec 2022	49.5	31.7
Average	42.1	24.6
Maximum	78.3	49.0
Minimum	29.1	17.5

Back-testing

During 2023, the Group experienced no back-testing exceptions on losses against actual or hypothetical profit and losses.

Market risk balance sheet linkages

The following balance sheet lines in the Group's consolidated position are subject to market risk:

Trading assets and liabilities

The Group's trading assets and liabilities are in almost all cases originated by GBM. Other than a limited number of exceptions, these assets and liabilities are treated as traded risk for the purposes of market risk management. The exceptions primarily arise in Global Banking where the short-term acquisition and disposal of assets are linked to other non-trading-related activities such as loan origination.

Derivative assets and liabilities

We undertake derivative activity for three primary purposes: to create risk management solutions for clients, to manage the portfolio risks arising from client business, and to manage and hedge our own risks. Most of our derivative exposures arise from sales and trading activities within GBM. The assets and liabilities included in trading VaR give rise to a large proportion of the income included in net income from financial instruments held for trading or managed on a fair value basis. Adjustments to trading income such as valuation adjustments are not measured by the trading VaR model.

For information on the accounting policies applied to financial instruments at fair value, see Note 1 on the financial statements.

Climate risk TCFD

Contents

Overview

Our climate risk approach is aligned to the framework outlined by the Taskforce on Climate-related Financial Disclosures ('TCFD'), which identifies two primary drivers of climate risk:

– physical risk, which arises from the increased frequency and severity of extreme weather events, such as hurricanes and floods, or chronic gradual shifts in weather patterns or rises in the sea level; and

– transition risk, which arises from the process of moving to a net zero economy, including changes in government policy and legislation, technology, market demand, and reputational implications triggered by a change in stakeholder expectations, action or inaction.

In addition to these primary drivers of climate risk, we have also identified the following thematic issues related to climate risk, which are most likely to materialise in the form of reputational, regulatory compliance and litigation risks:

– net zero alignment risk, which arises from the risk of HSBC failing to meet its net zero commitments or failing to meet external expectations related to net zero, because of inadequate ambition and/or plans, poor execution, or inability to adapt to changes in the external environment; and

– the risk of greenwashing, which arises from the act of knowingly or unknowingly making inaccurate, unclear, misleading or unsubstantiated claims regarding sustainability to our stakeholders.

Approach

We recognise that the physical impacts of climate change and the transition to a net zero economy can create significant financial risks for companies, investors and the financial system. HSBC may be affected by climate risks either directly or indirectly through our relationships with our customers, which could result in both financial and non-financial impacts.

Our climate risk approach aims to effectively manage the material climate risks that could impact our operations, financial performance and stability, and reputation. It is informed by the evolving expectations of our regulators.

We are developing our climate risk capabilities across our businesses, by prioritising sectors, portfolios and counterparties with the highest impacts.

We continue to make progress in enhancing our climate risk capabilities, and recognise it is a long-term iterative process.

We aim to regularly review our approach to increase coverage and incorporate maturing data, climate analytics capabilities, frameworks and tools, as well as respond to emerging industry best practice and climate risk regulations.

This includes updating our approach to reflect how the risks associated with climate change continue to evolve in the real world, and maturing how we embed climate risk factors into strategic planning, transactions and decision making across our businesses.

Our climate risk approach is aligned to our Group-wide risk management framework and three lines of defence model, which sets out how we identify, assess and manage our risks. For further details of the three lines of defence framework, see page 138.

The tables below provide an overview of the climate risk drivers and thematic issues considered within HSBC's climate risk approach.

Climate risk – risk drivers		Details	Potential impacts	Time horizons
Physical	**Acute**	Increased frequency and severity of weather events causing disruption to business operations	– Decreased real estate values or stranded assets – Decreased household income and wealth – Increased costs of legal and compliance – Increased public scrutiny – Decreased profitability – Lower asset performance	Short term Medium term Long term
	Chronic	Longer-term shifts in climate patterns (e.g. sustained higher temperatures, sea level rise, shifting monsoons or chronic heat waves)		
Transition	**Policy and legal**	Mandates on, and regulation of products and services and/or policy support for low-carbon alternatives. Litigation from parties who have suffered loss and damage from climate impacts		
	Technology	Replacement of existing products with lower emissions options		
	End-demand (market)	Changing consumer demand from individuals and corporates		
	Reputational	Increased scrutiny following a change in stakeholder perceptions of climate-related action or inaction		

Climate risk – thematic issues		
Net zero alignment risk	**Net zero ambition risk**	Failing to set or adapt our net zero ambition and broader business strategy in alignment with key stakeholder expectations, latest scientific understanding and commercial objectives.
	Net zero execution risk	Failing to meet our net zero targets due to taking insufficient or ineffective actions, or due to the actions of clients, suppliers and other stakeholders.
	Net zero reporting risk	Failing to report emissions baselines and targets, and performance against these accurately due to data, methodology and model limitations.
Risk of greenwashing	**Firm**	Making inaccurate, unclear, misleading, or unsubstantiated claims in relation to our sustainability commitments and targets, as well as the reporting of our performance towards them.
	Product	Making inaccurate, unclear, misleading or unsubstantiated claims in relation to products or services offered to clients that have stated sustainability objectives, characteristics, impacts or features.
	Client	Making inaccurate, unclear, misleading or unsubstantiated claims as a consequence of our relationships with clients or transactions we undertake with them, where their sustainability commitments or related performance are misrepresented or are not aligned to our own commitments.

In 2023, we updated our climate risk materiality assessment, to understand how climate risk may impact across HSBC's risk taxonomy. The assessment focused on a 12-month time horizon, as well as time horizons for the short-term, medium-term and long-term periods. We define short term as time periods up to 2025; medium term as between 2026 and 2035; and long term as between 2036 and 2050. These time periods align to the Climate Action 100+ disclosure framework v1.2. The table below provides a summary of how climate risk may impact a subset of HSBC's principal risks.

The assessment is refreshed annually, and the results may change as our understanding of climate risk and how it impacts HSBC evolve (for further details, see 'Impact on reporting and financial statements' on page 44).

In addition to this assessment, we also consider climate risk in our emerging risk reporting and scenario analysis (for further details, see 'Top and emerging risks' on page 38).

Climate risk drivers	Credit risk	Traded risk	Reputational risk[1]	Regulatory compliance risk[1]	Resilience risk	Other financial and non-financial risk types
Physical risk	●	●	●		●	●
Transition risk	●	●	●	●	●	●

1 *Our climate risk approach identifies thematic issues such as HSBC net zero alignment risk and the risk of greenwashing, which are most likely to materialise in the form of reputational, regulatory compliance and litigation risks.*

Climate risk management

Key developments in 2023

Our climate risk programme continues to support the development of our climate risk management capabilities. The following outlines key developments in 2023:

- We updated our climate risk management approach to incorporate net zero alignment risk and developed guidance on how climate risk should be managed for non-financial risk types.
- We enhanced our climate risk materiality assessment to consider longer time horizons.
- We enhanced our approach to assessing the impact of climate change on capital, focusing on credit and market risks.
- We further developed our risk metrics to monitor our performance against our net zero targets for both financed emissions and own operations.
- We enhanced our internal climate scenario analysis, including through improvements to our use of customer transition plan data. For further details of scenario analysis, see page 65.
- We have updated our merger and acquisition process to consider potential climate and sustainability-related targets, net zero transition plans and climate strategy, and how this relates to HSBC.

While we have made progress in enhancing our climate risk framework, further work remains. This includes the need to develop additional metrics and tools to measure our exposure to climate-related risks, and to incorporate these tools within decision making.

Governance and structure

The Board takes overall supervisory responsibility for our ESG strategy, overseeing executive management in developing the approach, execution and associated reporting.

The ESG Committee supports the development and delivery of our ESG strategy, key policies and material commitments by providing oversight, coordination and management of ESG commitments and initiatives. It is co-chaired by the Group Chief Sustainability Officer and the Group Chief Financial Officer.

The Sustainability Execution Committee has oversight of the environmental strategy, including the commercial execution and operationalisation through the sustainability execution programme, which is a Group-wide programme established to enable the delivery of our sustainability agenda.

The Group Reputational Risk Committee considers climate-related matters arising from customers, transactions and third parties that either present a serious potential reputational risk to the Group or merit a Group-led decision to ensure a consistent approach to reputational risk management across the regions, global businesses and global functions.

The Group Risk Management Meeting and the Group Risk Committee receive regular updates on our climate risk profile and progress of our climate risk programme.

The Group Chief Risk and Compliance Officer is the senior manager responsible for the management of climate risk under the UK Senior Managers Regime, which involves holding overall accountability for the Group's climate risk programme.

The Environmental Risk Oversight Forum (formerly the Climate Risk Oversight Forum) oversees risk activities relating to climate and sustainability risk management, including the transition and physical risks from climate change. Equivalent forums have been established at a regional level.

For further details of the Group's ESG governance structure, see page 88.

Risk appetite

Our climate risk appetite forms part of the Group's risk appetite statement and supports the business in delivering our net zero ambition effectively and sustainably.

Our climate risk appetite statement is approved and overseen by the Board. It is supported by risk appetite metrics and tolerance thresholds. We have also defined additional key management information metrics. Both the risk appetite statement and key management information metrics are reported on a quarterly basis for oversight by the Group Risk Management Meeting and the Group Risk Committee.

Policies, processes and controls

We continue to integrate climate risk into policies, processes and controls across many areas of our organisation, and we will continue to update these as our climate risk management capabilities mature over time. For further details of how we manage climate risk across our global businesses, see page 65.

Embedding our climate risk approach

The table below provides further details of how we have embedded the management of climate risk across key risk types. For further details of our internal scenario analysis, see 'Insights from climate scenario analysis' on page 225.

Risk type	Our approach
Wholesale credit risk	We have metrics in place to monitor the exposure of our wholesale corporate lending portfolio to six high transition risk sectors, as shown in the below table. As at 31 December 2023, the overall exposure to six high transition risk sectors was $112bn. The sector classifications are based on internal HSBC definitions and can be judgemental in nature. The sector classifications are subject to the remediation of ongoing data quality challenges. This data will be enhanced and refined in future years. Our relationship managers engage with our key wholesale customers through a transition engagement questionnaire (formerly the transition and physical risk questionnaire) to gather information and assess the alignment of our wholesale customers' business models to net zero and their exposure to physical and transition risks. We use the responses to the questionnaire to create a climate risk score for our key wholesale customers. Our credit policies require that relationship managers comment on climate risk factors in credit applications for new money requests and annual credit reviews. Our credit policies also require manual credit risk rating overrides if climate is deemed to have a material impact on credit risk under 12 months if not already captured under the original credit risk rating. Key developments to our framework in 2023 include expanding the scope of our transition engagement questionnaire to capture new countries, territories and sectors. Key challenges for further embedding climate risk into credit risk management relate to the availability of adequate physical risk data to assess impacts to our wholesale customers.

Wholesale loan exposure to high transition risk sectors at 31 December 2023[1]

	Units	Automotive	Chemicals	Construction and building materials	Metals and mining	Oil and gas	Power and utilities	Total 2023
Exposure to sector[1, 2, 3, 4]	**$bn**	**21**	**17**	**20**	**14**	**18**	**22**	**112**
Sector weight as a proportion of high transition risk sectors	**%**	**18**	**16**	**18**	**13**	**16**	**19**	**100**

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

2 *Counterparties are allocated to the high transition risk sectors via a two-step approach. Firstly, where the main business of a group of connected counterparties is in a high transition risk sector, all lending to the group is included in one high transition risk sector irrespective of the sector of each individual obligor within the group. Secondly, where the main business of a group of connected counterparties is not in a high transition risk sector, only lending to individual obligors in the high transition risk sectors is included. The main business of a group of connected counterparties is identified by the industry that generates the majority of revenue within a group. Customer revenue data utilised during this allocation process is the most recent readily available and will not align to our own reporting period.*

3 *These disclosures cover the whole of the value chain of the sector. For details of financed emissions coverage, please refer to page 53.*

4 *The six high transition risk sectors make up 17.4% of total wholesale loans and advances to customer and banks of $644bn. Amounts include assets held for sale.*

Risk type	Our approach
Retail credit risk	We have implemented policies and tools to manage climate risk across our retail mortgage markets. Our retail credit risk management policy requires each mortgage market to conduct an annual review of their climate risk management procedures, including perils and data sources, to ensure they remain fit for purpose. In 2023 we introduced a global 'soft trigger' monitoring and review process for physical risk exposure where a market reaches or exceeds a set threshold, as this ensures markets are actively considering their balance sheet risk exposure to peril events. Within our mortgage portfolios, properties or areas with potentially heightened physical risk are identified and assessed locally and potential exposure is monitored through quarterly metrics. We have also set risk appetite metrics for physical risk in our largest mortgage markets, the UK and Hong Kong, as well as those with local regulatory requirements, including Singapore. The UK is our largest mortgage market, which as at September 2023 made up 40.0% of our global mortgage portfolio. We estimate that 0.2% of our UK retail mortgage portfolio is at very high risk of flooding and 3.5% is at high risk. This is based on approximately 94.2% climate risk data coverage by value of our UK portfolio as at September 2023. In the UK we also monitor the energy performance certificate ('EPC') ratings of individual properties in our mortgage portfolio. As at September 2023, approximately 64.5% of properties within the portfolio by value had a valid EPC dated within the last 10 years. Of these, 40.0% of properties had a current rating of A to C, and 97.0% had the potential to reach these rating bands, if appropriate energy efficiency improvement measures are taken. For both flood risk and EPC data, we disclose the end of September 2023 position. This is due to the time required for the data to be processed and our reliance on the government's public EPC data, which usually lags one month behind. The table below outlines the UK retail mortgage portfolio tenor as at the end of December 2023 (by balance split by remaining term). This table shows that the majority of our portfolio tenor is greater than five years, and that the average remaining loan term in the UK is 21.5 years.

Residential mortgages tenor (remaining mortgage term by balance $m)[1]

Tenor	Remaining mortgage balance ($m)
<1 years	382
1 to 5 years	3,469
>5 years	157,643
Weighted average of remaining mortgage term (years)	21.50

The average term for new mortgages in the UK is 25 years, although the average life of a loan is approximately five years due to refinancing. Despite this, our strategic approach to climate risk considers present day and long-term risk given customers may remain over the whole loan term.

For further details of flood risk and the EPC breakdown of our UK retail mortgage portfolio, see our *ESG Data Pack* at www.hsbc.com/esg.

1 The table includes instances where individual properties have multiple associated accounts and balances. These are aggregated to a property level and the longest term remaining is taken as the tenor.

Risk type	Our approach
Treasury risk	As part of our ICAAP in 2023, we enhanced our approach for assessing the impact of climate change on capital, focusing on credit and market risks. As part of our ILAAP, we conducted an initial analysis to identify the potential climate risk exposures across key liquidity risk drivers. We updated our treasury risk policies to ensure that the impact of climate risk is considered when assessing applicable treasury risks. We regularly discuss climate-related topics that may impact Global Treasury through climate-relevant governance forums, including the Treasury Risk Management Climate Risk Oversight Forum and the Group Treasury Sustainability Committee. Treasury portfolios are also included within the scope of the internal climate scenario analysis and the Hong Kong Monetary Authority's climate risk stress test, with potential quantitative impacts on relevant hold-to-collect-and-sell positions estimated. **Pensions risk** We conduct an annual exercise to monitor the exposure of our largest pension plans to climate risk. Our pension policies have also been updated to explicitly reflect climate considerations. **Insurance risk** We have an evolving programme to support the identification and management of climate risk. In 2023, we updated our sustainability procedures to align with the Group's updated energy and thermal coal-phase out policy.
Traded risk	We have implemented metrics and thresholds to monitor exposure to high physical and transition risk sectors for the different asset classes in the Markets and Securities Services ('MSS') business. The metrics use a risk taxonomy that categorises countries/territories and sectors into high, medium and low risk, for which we have set corresponding thresholds. We have implemented these metrics for key entities. In addition, we have identified key regions and business lines that contribute the most to the total MSS high-climate sensitive exposures and developed reports to monitor trends and pockets of risks. We have developed tools to provide a better understanding of key profit and loss drivers under different climate scenarios along different dimensions such as risk factors and business lines. These reports are available to traded risk managers to help monitor and understand how climate-sensitive exposures are impacted under different scenarios. Stress testing results have been presented to senior management for visibility during dedicated review and challenge sessions to provide awareness on the impact to the MSS portfolio and underlying business lines.
Reputational risk	We manage the reputational impact of climate risk through our broader reputational risk framework, supported by our sustainability risk policies and metrics. Our sustainability risk policies set out our appetite for financing activities in certain sectors. Our thermal coal phase-out and energy policies aim to drive down greenhouse gas emissions while supporting a just transition. Our global network of sustainability risk managers provides local policy guidance to relationship managers for the oversight of policy compliance and in support of implementation across our wholesale banking activities. For further details of our sustainability risk policies, see the *ESG review* on page 42. We have developed risk appetite metrics to monitor our performance against our financed emissions targets. For further details of our targets, see page 57.

Risk type	Our approach
Regulatory compliance risk	Our policies set the Group-wide standards that are required to manage the risk of breaches of our regulatory duty to customers, including those related to climate risk, ensuring fair customer outcomes are achieved. To make sure our responsibilities are met in this regard, our policies are subject to continuous review and enhancement. We are also focused on the ongoing development and improvement of our monitoring capabilities, ensuring appropriate alignment to the broader focus on regulatory compliance risks. Regulatory Compliance is particularly focused on mitigating climate risks inherent to the product lifecycle. To support this, we have enhanced a number of processes including: – ensuring Regulatory Compliance provides risk oversight and review of new product marketing materials with any reference to climate, sustainability and ESG; – developing our product marketing controls to ensure climate claims are robustly evidenced and substantiated within product marketing materials; and – clarifying and improving product marketing framework, procedures and associated guidance, to ensure product-related marketing materials comply with both internal and external standards, and are subject to robust governance. Regulatory Compliance operates an ESG and Climate Risk Working Group to track and monitor the integration and embedding of climate risk management into the functions' activities, while monitoring regulatory and legislative changes across the ESG and climate risk agenda. Regulatory Compliance also continues to be an active member of the Group's Environmental Risk Oversight Forums.
Resilience risk	Our Enterprise Risk Management function is responsible for overseeing the identification and assessment of physical and transition climate risks that may impact on the organisation's operational and resilience capabilities. We have developed metrics to assess how physical risk may impact our critical properties. In 2023, we also developed an energy and travel risk appetite metric for our own operations to establish and monitor progress against our net zero ambitions. Our resilience risk policies are subject to continuous improvement to remain relevant to evolving climate risks. New developments relevant to our own operations are reviewed to ensure climate risk considerations are effectively captured.
Model risk	The impact of climate risk on model risk is driven by the increasing number of climate risk models and the expanding model use cases. Review and challenge of models mitigates some risk but given the nascent nature of climate modelling and the lack of benchmarks, the validation of model assumptions and results remains a key challenge. Model Risk has published a new climate risk and ESG model category standard, which sets out minimum control requirements for identifying, measuring and managing model risk for climate-related models. We completed independent model validation for a number of models used for financed emissions calculations and climate scenario analysis using both qualitative and quantitative assessments of modelling decisions and outputs.
Financial reporting risk	We have expanded the scope of financial reporting risk to explicitly include oversight over accuracy and completeness of ESG and climate reporting. In 2023, we updated the risk appetite statement to reference our ESG and climate-related disclosures. We also updated our internal controls to incorporate requirements for addressing the risk of misstatement in ESG and climate reporting. To support this, we have developed a framework to guide control implementation over ESG and climate reporting disclosures, which includes areas such as process and data governance, and risk assessment. As the landscape for ESG and climate-related disclosures develops, we continue to focus on horizon scanning and interpretation of relevant external reporting requirements, to ensure a timely response for producing the required disclosures. As the volume and nature of these requirements continue to evolve, the level of risk is heightened. Part of our response to this heightened risk includes undertaking a range of assurance procedures over these disclosures.

Challenges

While we have continued to develop our climate risk framework, our remaining challenges include:

- the diverse range of internal and external data sources and data structures needed for climate-related reporting, which introduces data accuracy and reliability risks;
- data limitations on customer assets and supply chains, and methodology gaps, which hinder our ability to assess physical risks accurately;
- industry-wide data gaps on customer emissions and transition plan and methodology gaps, which limit our ability to assess transition risks accurately; and
- limitations in our management of net zero alignment risk is due to known and unknown factors, including the limited accuracy and reliability of data, merging methodologies, and the need to develop new tools to better inform decision making.

Insights from climate scenario analysis

Scenario analysis supports our strategy by assessing our potential exposures to risks and vulnerabilities under a range of climate scenarios. It helps to build our awareness of climate change, plan for the future and meet our growing regulatory requirements.

In 2023, we enhanced our internal climate scenario analysis exercise by focusing our efforts on generating more granular insights for key sectors and regions to support core decision-making processes, and to respond to our regulatory requirements. We also produced several climate stress tests for regulators around the world, including the Hong Kong Monetary Authority ('HKMA') and the Central Bank of the United Arab Emirates.

We continue to enhance our climate scenario analysis exercises so that we can have a more comprehensive understanding of climate headwinds, risks and opportunities to support our strategic planning and actions.

In climate scenario analysis, we consider, jointly, both physical risks and transition risks. For further details about these risks, see 'Climate risk' on page 221.

We also analyse how these climate risks impact principal risk types within our organisation, including credit and traded market risks, non-financial risks, and pension risk.

Our climate scenarios

In our 2023 climate scenario analysis exercises, we explored five scenarios that were created to examine the potential impacts from climate change for the Group and its entities.

The analysis considered the key regions in which we operate, and assessed the impact on our balance sheet across three distinct timeframes: short term up to 2025; medium term from 2026 to 2035; and long term from 2036 to 2050. The time horizons are aligned to the Climate Action 100+ framework v1.2.

We created our internal scenarios using external publicly available climate scenarios as a reference, including those produced by the Network for Greening the Financial System ('NGFS'), the Intergovernmental Panel on Climate Change ('IPCC') and the International Energy Agency. Using these external scenarios as a template, we adapted them by incorporating the unique climate risks and vulnerabilities to which our organisation and customers across different business sectors and regions are exposed. This helped us produce the scenarios, which vary by severity to analyse how climate risks will impact our portfolios.

Our scenarios were:

- the Net Zero scenario, which is consistent with the Paris Agreement. This assumes that there will be orderly but considerable climate action, limiting global warming to no more than 1.5°C by 2100, when compared with pre-industrial levels;
- the Current Commitments scenario, which assumes that climate action is limited to current governmental committed policies, including already implemented actions, leading to global temperature rises of 2.4°C by 2100. This slow transition scenario helps us to determine the actions we need to take to reach our net zero ambition while operating in a world that is not net zero;
- the Delayed Transition Risk scenario, which assumes that climate action is delayed until 2030 with a late disorderly transition to net zero but stringent and rapid enough to limit global warming to under 2°C by 2100. This scenario allows us to stress test severe but plausible transition risk impacts;
- the Downside Physical Risk scenario, which assumes climate action is limited to currently implemented governmental policies, leading to extreme global warming with global temperatures increasing by greater than 4°C by 2100. This scenario allows us to assess physical risks associated with climate change; and
- the Near Term scenario, which assumes both a sharp increase in policies that drive a disorderly transition towards net zero and a sharp increase in extreme climate events over a five-year period until 2027. This scenario focused on our business in Asia.

We have chosen these scenarios to provide a holistic view that will supplement the Group's current and future strategic thinking. They reflect inputs from our key stakeholders and experts across the Group, and have been reviewed through internal governance.

Our scenarios reflect different levels of physical and transition risks over a variety of time periods. The scenario assumptions include varying levels of governmental climate policy changes, macroeconomic factors and technological developments. However, these scenarios rely on the development of technologies that are still unproven, such as global hydrogen production to decarbonise aviation and shipping.

The nature of the scenarios, our developing capabilities, and limitations of the analysis lead to outcomes that are indicative of climate change headwinds, although they are not a direct forecast.

Developments in climate science, data, methodology and scenario analysis techniques will help us shape our approach further. We therefore expect this view to change over time.

Characteristics of our scenarios

		Scenarios								
		Net zero		**Current Commitments**		**Delayed Transition Risk**		**Downside Physical Risk**		**Near Term**
Scenario outcomes	**Rise in global temperatures by 2100 (vs pre-industrial levels)**	**1.5°c**		**2.4°c**		**1.6°c**		**4.2°c**		**1.4°c**
Underlying assumptions based on global averages	**Focus horizon**	Medium term		Short/medium term		Medium/long term		Medium/long term		Short/medium term
	Assumed variation in global climate policies	Low		Medium		High		Low		High
	Assumed pace of technology change and adoption	Fast		Gradual		Accelerates from 2030		None		Based on existing technology
	Assumed socioeconomic impact	High		Moderate		Very high		Very high (in long term)		Very high
		2030	**2050**	2030	**2050**	2030	**2050**	2030	**2050**	2027
	Assumed carbon price ($\$/tCO_2$)	161	**623**	34	**91**	34	**558**	6	**6**	*193*
	Assumed change in energy consumption (% change after 2022)	(10)%	**(16)%**	12%	**17%**	12%	**(11)%**	5%	**24%**	*(14)%*
	Assumed change in CO_2 emissions (% change after 2022)	(37)%	**(100)%**	(7)%	**(33)%**	(7)%	**(89)%**	3%	**11%**	*(34)%*
Scenario risk characteristics	**Climate risk – Physical**	▼ Lower		▶ Moderate		▼ Lower		▲ Higher		▲ Higher
	Climate risk – Transition	▲ Higher		▶ Moderate		▲ Higher		▼ Lower		▲ Higher

Our methodology

For our scenario analysis, we used models to assess how transition and physical risks may impact our portfolios under different scenarios. Our models incorporate a range of climate-specific metrics that will have an impact on our customers, including expected production volumes, revenue, costs and capital expenditure.

We assess how these metrics interplay with economic factors such as carbon prices, which represent the cost effect of climate-related policies that aim to discourage carbon-emitting activities and encourage low-carbon solutions. The expected result of higher carbon prices is a reduction in emissions as high-emission activities become uneconomical. We also assume carbon prices will vary from country to country.

The models for our wholesale corporate lending portfolio consider our customers' individual climate transition plans where available, while we refine and deepen our assessment of these plans. These results feed into the calculation of our risk-weighted assets and expected credit loss ('ECL') projections. For our real estate portfolio models, we focus on physical risk factors, including property locations, perils and insurance coverage when assessing the overall credit risk impact to the portfolio. The results are reviewed by our sector specialists who, subject to our governance procedures, make bespoke adjustments to our results based on their expert judgement where relevant.

Our models support the calculation of outputs that inform us about the level of climate-related ECL provisions required under IFRS 9, and also support the shaping of our climate-related capital approach under ICAAP. In 2023, in addition to incorporating our customers' transition plans, we enhanced our credit risk models for the wholesale portfolio by updating our assumptions regarding how we expect state-supported companies to be impacted, and improved how we model the impact of emissions on company financial forecasts.

Modelling limitations

We continue to look for ways of enhancing our methodology to improve the effectiveness of our climate scenario analyses. There are industry-wide limitations, particularly on data availability, although our models are designed to produce outputs that can support our assessment of the level of our climate resilience.

Climate scenario analysis requires considerable amounts of data, although data is only available for a subset of our counterparties. As a result, we have to extrapolate the results observed in the subset to the wider population or dataset. We do not capture the second order impacts of climate risk exposures within our modelling approach, such as impacts on our counterparties from their supply chains.

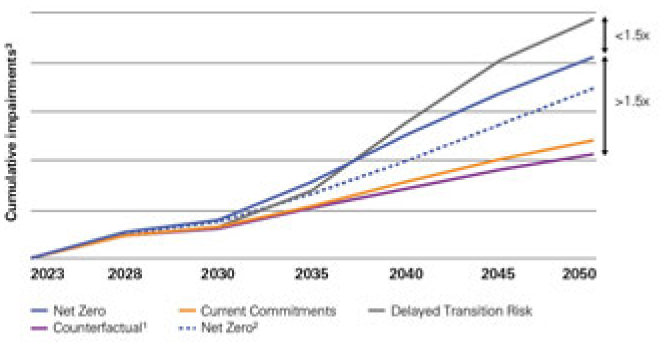
We continue to enhance our capabilities by incorporating lessons learnt from previous exercises and feedback from key stakeholders, including regulators.

For a broad overview of the models that we use for our climate scenario analysis, as well as graphs that show how global carbon prices and carbon emissions will differ under our climate scenarios, see our ESG Data Pack *at www.hsbc.com/esg.*

Analysing the outputs of climate scenario analysis

Climate scenario analysis allows us to model how different potential climate pathways may affect and impact the resilience of our customers and our portfolios, particularly in respect of credit losses. As the following chart shows, losses are influenced by their exposure to a variety of climate risks under different climate scenarios.

How credit losses from climate risks have been modelled under different transition scenarios



1 *The counterfactual scenario is modelled on a scenario where there would be no losses due to climate change.*
2 *The dotted line in the chart shows the impact of modelled expected credit losses following our strategic responses to reduce the effect of climate risks under the Net Zero scenario.*
3 *The projections shown in this chart were modelled during 2023 and are not intended to reflect the final 31 December 2023 position that is disclosed elsewhere in the* Annual Report and Accounts 2023.

While climate-related losses are expected to remain minimal in the short term, they are likely to increase compared with the counterfactual scenario in the medium and longer term, driven by the transition to a net zero economy.

These losses are lower in the Net Zero orderly transition scenario, than in the Delayed Transition Risk scenario where climate action begins later and is more rapid and disruptive as our customers will have less time to restructure their business models and reduce their carbon emissions. As the dotted line in the graph shows, losses in these scenarios can be mitigated through active management approaches, which include identifying new climate-related business opportunities and adapting our portfolios to reduce exposure to climate risks and losses.

By building a more climate-resilient balance sheet, we can reduce impairment risks and improve longer-term stability.

Under the Current Commitments scenario, we expect lower levels of losses relating to transition risks, although we would expect an increase in the effects of climate-related physical risks over the longer term. If the world does not align with a net zero path, physical risks in the medium to long term are expected to continue to rise due to the increasing frequency of extreme weather events.

The Near Term scenario

Our Near Term scenario allowed us to explore the combined impacts of a disorderly transition towards net zero and extreme acute physical events occurring simultaneously. The scenario was designed to meet HKMA regulatory requirements and will help us to improve how we assess short-term impacts across the Group. As part of the HKMA exercise, our initial analysis was focused on our portfolio in Asia.

The exercise allowed us to understand the extent to which a stressed scenario exhibiting both high physical and transition risks in the near term could immediately impact our customers across all our sectors.

In the following sections, we assess the impacts to our banking portfolios under different climate scenarios.

How climate change is impacting our wholesale lending portfolio

In our internal climate scenario analysis, we assessed the impact of climate-related risks on our corporate counterparties under different climate scenarios, which we measured by reviewing the modelled effect on our ECL.

The climate scenario analysis exercise for the wholesale lending portfolio was designed to examine our climate risks and vulnerabilities, primarily in the short and medium term. We focused on the Current Commitment scenario, believing it to be the scenario most likely to unfold in this timeframe, and the Net Zero scenario, which allows us to assess the resilience of our strategy and to identify specific climate-related opportunities.

Within our wholesale lending portfolio, customers in higher emitting sectors continue to be most exposed to larger climate-related losses.

For each sector in both scenarios, we calculated the projected ECL increase as at 2035, where we compared the increase in ECL under the scenario against a counterfactual scenario that incorporates no climate change.

We use the sector's exposure at default ('EAD'), which represents the size of our exposure to potential losses from customer defaults. This helps to identify which sectors are the most material to us in terms of the impact of climate change.

The table below shows the relative size of exposures at default in 2023 and the increase in cumulative ECL under each scenario compared with a counterfactual scenario by 2035 (expressed as a multiple).

Impact on wholesale lending portfolios

Wholesale sectors	Exposure at default (2023)	ECL increase[1]	
		Current Commitments	Net Zero
Conglomerates and industrials		<1.1x	<2.75x
Construction and building materials		<1.25x	<2.25x
Chemicals		<1.1x	<1.75x
Power and utilities		<1.1x	<1.75x
Oil and gas		<1.1x	<1.25x
Automotive		<1.25x	<1.75x
Land transport and logistics		<1.1x	<2.75x
Agriculture & soft commodities		<1.1x	<2.5x
Metals and mining		<1.1x	>3x
Aviation		<1.1x	<1.5x
Marine		<1.1x	<1.5x

1 *Increase in cumulative ECL compared with counterfactual by 2035 expressed as a multiple.*

We have continued to incorporate information from our customers' transition plans to consider more detailed information on how they and their sector will be impacted under different climate scenarios.

The levels of ECL observed across our wholesale lending portfolio are driven by: our customers' carbon emissions; the presence of realistic transition plans; the amount of capital investment required to support their transition; and the degree to which their competitive environment impacts their ability to pass on carbon costs.

In 2022, we used scenario analysis to assess the impacts on our corporate counterparties across the sectors that are most affected by climate-related risks.

In 2023, we enhanced our approach in some key high-emitting sectors, which includes the construction and building materials, power and utilities, and oil and gas sectors. The analysis below provides a more detailed view of the anticipated impacts on these portfolios and our customers, improving our understanding of climate risks and potential opportunities.

The construction and building materials sector faces an increase in losses because it includes companies with high emissions from manufacturing processes, such as steel or cement, or from their supply chains, which will increase cost pressures due to carbon taxes. The sector also has a high proportion of customers without transition plans.

Although our scenario analysis showed that companies with transition plans performed better on average, their plans typically fall short of requirements needed to meet net zero targets. Overall, we believe there are significant lending opportunities for us to help support our customers as they transition to a lower carbon economy while meeting their growing business demands.

These opportunities include the exploration of less carbon-intensive fuel sources, electrification, the integration of carbon capture and storage, and the adoption of new technologies in the search to reduce emissions.

In the power and utilities sector, our analysis showed that rising costs from increased carbon prices and the capital expenditure required to support transition requirements, infrastructure improvements and decommissioning costs, alongside greater downstream energy demands, will potentially lead to higher debt levels and worsening counterparty risk ratings for customers.

As technologies mature, the capital cost of some renewables infrastructure is expected to fall, becoming cheaper than non-renewable sources due to improved efficiencies. This will reduce the required expenditure for companies.

In the oil and gas sector, customers that commit to renewable energy should benefit from the additional greener revenue streams, which will help mitigate the impact of reduced profitability from fossil fuels and heightened carbon prices, enabling them to sustain their gross margins. This sector has relatively lower projected losses as a large proportion of customers provided transition plans with granular information about their climate-related impacts.

We have the opportunity to ease potential negative impacts as transition risks increase by supporting our customers to diversify into more renewable and greener revenue streams, and invest in emission-reducing technologies.

How climate change is impacting our retail mortgage portfolio

As part of our 2023 internal climate scenario analysis, we completed a detailed climate risk assessment for the UK, Hong Kong, mainland China and Australia, which together represent 75% of the balances in our global retail mortgage portfolio.

Our analysis shows that over the longer term, we expect minimal losses to materialise when considering the Current Commitments scenario. Although the severity of climate perils is expected to worsen over time, our overall losses also remain low under a Downside Physical Risk scenario.

In 2023, we widened the scope of our climate modelling to include new markets, such as mainland China, and increased the peril coverage within markets already covered.

In our analysis of the retail mortgage portfolio, we reassessed the physical perils that could impact the value of properties, which include flooding, wildfire and windstorms. The underlying peril data we use has been enhanced to include updated and higher resolution flood maps where available. We have also worked with external vendors to improve outputs from peril projections and to increase the granularity of data to provide more detailed insights into the impact of climate risks across our portfolio of properties, in particular the impact of wildfires.

Our scenario analysis methodology was enriched further in 2023 by combining the impacts of physical risk with transition risks, including rising energy costs and impacts from direct government legislation such as homeowner energy efficiency upgrades in the UK. We have enhanced our modelling by considering customers' affordability incorporating increased debt servicing costs and the impacts on property valuations. As insurance remains a key mitigator against climate losses, we further refined our assumptions including the assessment of insurance availability for properties that experience frequent climate events.

Projected peril risk

Flooding has the potential to drive significant impacts at an aggregate level but this is localised to specific areas that are close to water sources such as rivers or the coast, or areas that are located in valleys where surface water can 'pool'.

The 'Exposure to flooding' table below shows that the majority of properties located in four of our largest markets are predicted to experience zero to low risk of flooding, with flood depths of less than 0.5 metres, under a 1-in-100-year event in each of the scenarios.

Flood depths outlined here do not consider building type and property floor level, which would potentially further mitigate the impacts. However, they are considered within our climate risk modelling and loss projections.

The table below sets out the proportion of properties with projected flood depths in a 1-in-100-year severity flood event, under the Current Commitments and Downside Physical Risk scenarios.

Exposure to flooding (%)[1]

		Scenarios		
Number of properties[2]	Flood depth (metres)	**Baseline flood risk 2023**[3] **(%)**	Current Commitments 2050 (%)	Downside Physical Risk 2050 (%)
UK	0-0.5	**97.4**	97.4	96.9
	0.5-1.5	**2.4**	2.5	2.8
	>1.5	**0.2**	0.2	0.3
Hong Kong	0-0.5	**85.3**	81.4	79.5
	0.5-1.5	**14.6**	18.4	20.4
	>1.5	**0.1**	0.1	0.1
Australia	0-0.5	**95.7**	95.4	95.3
	0.5-1.5	**2.9**	3.0	3.1
	>1.5	**1.5**	1.5	1.5
Mainland China	0-0.5	**88.0**	86.5	84.7
	0.5-1.5	**11.1**	12.5	12.7
	>1.5	**0.9**	1.0	2.7

1 *Severe flood events include river and surface flooding and coastal inundation. The table compares 2050 snapshots under the Current Commitments and Downside Physical Risk scenarios with a baseline view in 2023. We do expect to see changes to our flood depth distributions as climate risk data is refreshed.*

2 *The size of the bubbles represents the size of the portfolios, in terms of number of properties where exposure to flooding data is available, relative to one another.*

3 *Baseline flood risk is the flood risk for a 1 in 100 year event, based on current peril data.*

How climate change is impacting our commercial real estate portfolios

We assessed our commercial real estate customers' vulnerability to various perils, including flooding and windstorms. Our commercial real estate portfolio is globally diversified with larger concentrations in Hong Kong, the UK and the US.

Geographical location is a key determinant in our exposure to potential physical risk events, which can lead to higher ECL due to the cost of repairing damage as well as impact property valuations in areas where physical risk events are increasing in frequency.

The 'Exposure to peril' table below shows the proportion of our commercial real estate portfolio exposed to specific physical perils in our key markets.

Exposure to peril (%)[1]

	Exposure at default[2]	Coastal inundation (%)	Cyclone wind (%)	Surface water flooding (%)	Riverine flooding (%)
Hong Kong		**2.0**	**94.8**	**19.0**	**10.0**
UK		**15.8**	**0.0**	**16.5**	**7.1**
US		**10.1**	**81.5**	**11.4**	**28.6**

1 *Proportion of our commercial real estate portfolio exposed to specific physical perils in the Downside Physical scenario.*
2 *The size of the bubbles represents the size of the portfolios, in terms of EAD, relative to one another.*

Overall, and in line with our 2022 disclosure, our commercial real estate portfolio remains resilient to climate risk, with the more severe impacts mitigated by insurance coverage.

Our most significant credit exposure is in Hong Kong, a region with material physical risk exposures to wind and flooding due to strong tropical cyclones. The impact on prospective credit losses remains low, due to stringent building standards and existing measures in place against flooding and storm surges.

Our largest exposure to transition risk is within our UK portfolio. Under the Net Zero scenario, we assessed the impacts of the UK government consultation on non-domestic rental properties being required to hold an energy performance certificate rating of at least 'B' by 2030. To meet these proposed minimum standards, more than 80% of the properties in our portfolio would potentially need to be retrofitted, which would increase impairments and lead to a small uplift in ECL for this portfolio.

In 2023, as part of the scenario analysis exercise for the Central Bank of the United Arab Emirates, we also assessed in more detail the climate risk impacts on our UAE portfolio. Our findings showed that many properties could become chronically exposed to permanent inundation over time due to their relatively low elevation above sea level.

How we assess climate risk impacts on other risk types

We use climate scenario analysis to assess the impacts on other risks beyond credit risk. These include traded market risks, non-financial risks and pension risk.

Traded market risk

In 2023, we explored the potential impacts of climate risks on our trading and banking portfolio under the Delayed Transition Risk and Downside Physical Risk scenarios.

The analysis considered all relevant asset classes including interest rates, exchange rates, corporate and sovereign bonds and equities. The analysis applied shocks reflecting the impact of abrupt increases in carbon prices or physical risk perils resulting in structural economic impacts that affect the productivity of high-risk sectors at a country level.

We have developed tools to provide us with a more granular understanding of the key profit and loss drivers under different climate scenarios. These can be viewed by risk factor, business line or at trading desk level to help traded risk managers to monitor and understand how climate sensitive exposures are impacted.

Sovereign credit risk

We assessed the impacts of climate risks on sovereign debt under the different climate scenarios. In particular, our models considered the impacts of climate change on a country's GDP, the amount of headroom sovereign nations have in terms of their fiscal and external reserves, and their dependency and exposure to particular corporate sectors.

Pension risk

We modelled balance sheet and income statement projections for the main pension plans. Our modelling capability has been enhanced to incorporate climate-specific modelling over a longer timeframe, with the initial exercise being focused on assessing the impacts of a disruptive transition to net zero using the Delayed Transition scenario.

Non-financial risk

We assessed the potential impacts of errors in sustainable lending volumes contained within our ESG disclosures as part of our financial reporting risks. To understand our regulatory compliance risks we assessed any misrepresentations within the marketing of our ESG funds.

Use of climate scenario analysis outputs

Climate scenario analysis plays a crucial role helping us to identify and understand the impact of climate-related risks and potential opportunities as we navigate the transition to net zero.

Scenario analysis results have been used to support the Group's ICAAP. This is an internal assessment of the capital the Group needs to hold to meet the risks identified on a current and projected basis, including climate risk.

In addition, scenario analysis informs our risk appetite statement metrics. As an example, it supports the calibration of physical risk metrics for our retail mortgage portfolios and it is used to consider climate impact in our IFRS 9 assessment.

From a financial planning perspective, internal climate scenario analysis results are used to assess whether additional short-term climate-specific ECL are required within our financial plan.

Next steps

We plan to continue to enhance our capabilities for climate scenario analysis including addressing model limitations and data gaps and developing our assessment of liquidity, resilience and insurance risks. We also plan to use the results for decision making, particularly in:

- client engagement, by identifying climate opportunities and vulnerabilities in specific regions and sectors such as renewables, carbon capture technologies and electric vehicles, and using this information to engage and support clients in their transition to net zero;
- portfolio steering, by using scenario analysis outputs to inform how to reallocate our portfolio to maximise returns and mitigate risk while achieving our net zero targets; and
- looking beyond climate change by building capabilities to assess our resilience to wider environmental risks.

Understanding the resilience of our critical properties

Climate change poses a physical risk to the buildings that we occupy as an organisation, including our offices, retail branches and data centres, both in terms of loss and damage, and business interruption.

We measure the impacts of climate and weather events to our buildings on an ongoing basis using historical, current and scenario modelled forecast data. In 2023, there were 27 major storms that had a minor impact on five premises with no impact on the availability of our buildings.

We use stress testing to evaluate the potential for impact on our owned or leased premises. Our scenario stress test, conducted in 2023, analysed how eight climate change-related hazards could impact 1,000 of our critical and important buildings. These hazards were coastal inundation, extreme heat, extreme winds, wildfires, riverine flooding, pluvial flooding, soil movement due to drought, and surface water flooding.

The 2023 stress test modelled climate change with IPCC's Taking the Highway scenario (SSP5-8.5), which projects that the rise in global temperatures will likely exceed 4°C by 2100. It also modelled a less severe IPCC Middle of the Road scenario (SSP2-4.5), which projects that global warming will likely be limited to 2°C.

Key findings from the Taking the Highway scenario included that by 2050, 20 of our 1,000 critical and important buildings will have a high potential for impact due to climate change, with insurance-related losses estimated to be in excess of 10% of the insured value of the buildings.

These include 16 retail properties primarily impacted by extreme temperatures and four data centres, where three face the risk of water stress and one faces extreme temperatures and water stress. This could lead to failure of mechanical cooling equipment or soil movement resulting from drought.

A further 248 properties have the potential to be impacted by climate change, albeit to a lesser extent, with insurance-related losses estimated at between 5% and 10% of the insured value of our buildings. The principal risks are temperature extremes and water stress.

A key finding from the Middle of the Road scenario showed that the total number of buildings at risk reduced from 20 to 13. The highlighted facilities are still at risk from the same perils of extreme temperature and water stress by 2050.

This forward-looking data along with historical data helps inform real estate planning. We will continue to enhance our understanding of how extreme weather events impact our building portfolio as climate risk assessment tools improve and evolve. We buy insurance for property damage and business interruption and consider insurance as a loss mitigation strategy depending on its availability and price.

We regularly review and enhance our building selection process and global engineering standards and will continue to assess historical claims data to help ensure our building selection and design standards address the potential impacts of climate change.

Resilience risk

Overview

Resilience risk is the risk of sustained and significant business disruption from execution, delivery, physical security or safety events, causing the inability to provide critical services to our customers, affiliates and counterparties. Resilience risk arises from failures or inadequacies in processes, people, systems or external events.

Resilience risk management

Key developments in 2023

During the year, we carried out several initiatives to keep pace with geopolitical, regulatory and technology changes, and strengthened the management of resilience risk:

- We focused on enhancing our understanding of our risk and control environment, by updating our risk taxonomy and control libraries, and refreshing risk and control assessments.
- We continued to recognise that our customers are impacted by service disruptions, and responded to these urgently and aimed to recover with minimum delay. We continued to initiate post-incident review processes to prevent recurrence. Where we identify that investment is required to further enhance the Group's operational resilience capabilities, findings are fed into the Group's financial planning, helping to ensure we continue to meet the expectations of our customers and our regulators.
- We continued to monitor markets affected by the Russia-Ukraine and Israel-Hamas wars, as well as other geopolitical events, for any potential impact they may have on our colleagues and operations.
- We strengthened the way third-party risk is overseen and managed across all non-financial risks, and enhanced the processes, framework and reporting capabilities used by our global businesses, functions and regions.
- We provided analysis and easy-to-access risk and control information and metrics to enable management to focus on non-financial risks in their decision making and appetite setting.
- We further strengthened our non-financial risk governance and senior leadership, and improved our coverage and risk steward oversight for data risk and change execution.

We prioritise our efforts on material risks and areas undergoing strategic growth, aligning our location strategy to this need. We also remotely provide oversight and stewardship, including support of chief risk officers, in territories where we have no physical presence.

Governance and structure

The Enterprise Risk Management target operating model provides a globally consistent view across resilience risks, strengthening our risk management oversight while operating effectively as part of a simplified non-financial risk structure.

We view resilience risk across seven sub-risk types related to: third-party risk; technology and cybersecurity risk; transaction processing risk; business interruption and incident risk; data risk; change execution risk; and facilities availability, safety and security risk.

Risk appetite and key escalations for resilience risk are reported to the Non-Financial Risk Management Board, chaired by the Group Chief Risk and Compliance Officer, with an escalation path to the Group Risk Management Meeting and Group Risk Committee.

Key risk management processes

Operational resilience is our ability to anticipate, prevent, adapt, respond to, recover and learn from operational disruption while minimising customer and market impact. Resilience is determined by assessing whether we can continue to provide our important business services, within an agreed impact tolerance. This is achieved via day-to-day oversight and periodic and ongoing assurance, such as deep dive reviews and controls testing, which may result in challenges being raised to the business by risk stewards. Further challenge is also raised in the form of risk steward opinion papers to formal governance. We accept we will not be able to prevent all disruption but we must prioritise investment to continually improve the response and recovery strategies for our important business services and important group business services to meet regulatory expectations.

Business operations continuity

We continue to monitor the Russia-Ukraine and Israel-Hamas wars, and remain ready to take measures to ensure business continuity in affected markets should the situations require. There have been no significant disruptions to our services, although businesses and functions in nearby markets continually review their plans and responses to minimise any potential impacts.

Regulatory compliance risk

Overview

Regulatory compliance risk is the risk associated with breaching our duty to clients and other counterparties, inappropriate market conduct (including unauthorised trading) and breaching related financial services regulatory standards. Regulatory compliance risk arises from the failure to observe relevant laws, codes, rules and regulations and can manifest itself in poor market or customer outcomes and lead to fines, penalties and reputational damage to our business.

Regulatory compliance risk management

Key developments in 2023

The dedicated programme to embed our updated purpose-led conduct approach has concluded. Work to map applicable regulations to our risks and controls continued in 2023, alongside the adoption of new tooling to support enterprise-wide horizon scanning for new regulatory obligations and supporting wider work on regulatory reporting enhancements. Climate risk has been integrated into regulatory compliance policies and processes, with enhancements made to the product governance framework and controls to ensure the effective consideration of climate – and in particular the risk of greenwashing – risks.

Governance and structure

The Compliance function has now been restructured and integrated into a combined Risk and Compliance function with the appointment of a Group Head of Regulatory Compliance reporting directly into the Group Chief Risk and Compliance Officer. Regulatory Compliance and Financial Crime teams work together and with relevant stakeholders to achieve good conduct outcomes, and provide enterprise-wide support on the compliance risk agenda in close collaboration with colleagues from the Group Risk and Compliance function.

Key risk management processes

The Global Regulatory Compliance capability is responsible for setting global policies, standards and risk appetite to guide the Group's management of regulatory compliance risk. It also devises the required frameworks, support processes and tooling to protect against regulatory compliance risks. The Group capability provides oversight, review and challenge of the global market, regional and line of business teams to help them identify, assess and mitigate regulatory compliance risks, where required. The Group's regulatory compliance risk policies are regularly reviewed. Global policies and procedures require the identification and escalation of any actual or potential regulatory breaches, and relevant events and issues are escalated to the Group's Non-Financial Risk Management Board, the Group Risk Management Meeting and the Group Risk Committee, as appropriate. The Group Head of Regulatory Compliance reports to the Group Chief Risk and Compliance Officer, and attends the Risk and Compliance Executive Committee, the Group Risk Management Meeting and the Group Risk Committee.

Financial crime risk

Overview

Financial crime risk is the risk that HSBC's products and services will be exploited for criminal activity. This includes fraud, bribery and corruption, tax evasion, sanctions and export control violations, money laundering, terrorist financing and proliferation financing. Financial crime risk arises from day-to-day banking operations involving customers, third parties and employees.

Financial crime risk management

Key developments in 2023

We regularly review the effectiveness of our financial crime risk management framework, which includes continued consideration of the complex and dynamic nature of sanctions compliance and export control risk. We continued to respond to the financial sanctions and trade restrictions that have been imposed on Russia, including methods used to limit sanctions evasion.

We continued to make progress with several key financial crime risk management initiatives, including:

- We deployed our intelligence-led, dynamic risk assessment capability for customer account monitoring in additional entities and global businesses, including in the UK, the Channel Islands and the Isle of Man, Hong Kong and the UAE.
- We deployed a next generation capability to increase our monitoring coverage on correspondent banking activity.
- We successfully introduced the required changes to our transaction screening capability to accommodate the global change to payment systems formatting under ISO 20022 requirements.
- We made enhancements in response to the rapidly evolving and complex global payments landscape and refined our digital assets and currencies strategy.

Governance and structure

The structure of the Financial Crime function remained substantively unchanged in 2023, although we continued to review the effectiveness of our governance framework to manage financial crime risk. The Group Head of Financial Crime and Group Money Laundering Reporting Officer continues to report to the Group Chief Risk and Compliance Officer, while the Group Risk Committee retains oversight of matters relating to financial crime.

Key risk management processes

We will not tolerate knowingly conducting business with individuals or entities believed to be engaged in criminal activity. We require everybody in HSBC to play their role in maintaining effective systems and controls to prevent and detect financial crime. Where we believe we have identified suspected criminal activity or vulnerabilities in our control framework, we will take appropriate mitigating action.

We manage financial crime risk because it is the right thing to do to protect our customers, shareholders, staff, the communities in which we operate, as well as the integrity of the financial system on which we all rely. We operate in a highly regulated industry in which these same policy goals are codified in law and regulation.

We are committed to complying with the laws and regulations of all the markets in which we operate and applying a consistently high financial crime standard globally.

We continue to assess the effectiveness of our end-to-end financial crime risk management framework, and invest in enhancing our operational control capabilities and technology solutions to deter and detect criminal activity. We have simplified our framework and consolidated previously separate financial crime policies into a single policy to drive consistency and provide a more holistic assessment of financial crime risk. We further strengthened our financial crime risk taxonomy and control libraries and our monitoring capabilities through technology deployments. We developed more targeted metrics, and continued to seek to enhance our governance and reporting. We are committed to working in partnership with the wider industry and the public sector in managing financial crime risk and we participate in numerous public-private partnerships and information sharing initiatives around the world. In 2023, our focus remained on measures to improve the overall effectiveness of the global financial crime framework, notably by providing input into legislative and regulatory reform activities. We did this by contributing to the development of responses to consultation papers focused on how financial crime risk management frameworks can deliver more effective outcomes in detecting and deterring criminal activity. Through our work with the Wolfsberg Group and the Institute of International Finance, we supported the efforts of the global standard setter, the Financial Action Task Force. In addition, we participated in a number of public events related to enhancing public-private partnerships, payment transparency, asset recovery, tackling forestry crimes, wildlife trafficking and human trafficking.

Model risk

Overview

Model risk is the risk of the potential for adverse consequences from model errors or the inappropriate use of modelled outputs to inform business decisions.

Model risk arises in both financial and non-financial contexts whenever business decision making includes reliance on models.

Key developments in 2023

In 2023, we continued to make improvements in our model risk management processes amid regulatory changes in model requirements.

Initiatives during the year included:

- Following regulatory feedback on a number of our model submissions for our internal ratings-based ('IRB') approach for credit risk, internal model method ('IMM') for counterparty credit risk and internal model approach ('IMA') for market risk, we implemented approved models for IMM and IMA alongside an approved IRB model for UK mortgages. We began a programme of work to address feedback from the PRA and other regulators on the IRB models for wholesale credit.
- We made changes to our VaR model in response to multiple breaches that had been observed from market volatility resulting from changes in monetary policy in major markets.
- We introduced a new procedure to ensure any new tool developed using generative AI would require validation by Model Risk Management before its use.
- We enhanced our frameworks and controls as climate risk and AI and machine learning models become more embedded in business processes.
- Following the publication of Supervisory Statement 1/23 – the PRA's guiding principles for how model risks should be managed across the industry – we began a programme of work to seek to meet the enhanced model risk management requirements, with representation from all global businesses and key functions, including Internal Audit.

Governance and structure

Model risk governance committees at the Group, business and functional levels provide oversight of model risk. The committees include senior leaders from the three global businesses and the Group Risk and Compliance function, and focus on model-related concerns and are supported by key model risk metrics. We also have Model Risk Committees in our geographical regions focused on local delivery and requirements. The Group-level Model Risk Committee is chaired by the Group Chief Risk and Compliance Officer, and the heads of key businesses participate in these meetings.

Key risk management processes

We use a variety of modelling approaches, including regression, simulation, sampling, machine learning and judgemental scorecards for a range of business applications. These activities include customer selection, product pricing, financial crime transaction monitoring, creditworthiness evaluation and financial reporting. Global responsibility for managing model risk is delegated from the Board to the Group Chief Risk and Compliance Officer, who authorises the Group Model Risk Committee. This committee regularly reviews our model risk management policies and procedures, and requires the first line of defence to demonstrate comprehensive and effective controls based on a library of model risk controls provided by Model Risk Management. Model Risk Management also reports on model risk to senior management and the Group Risk Committee on a regular basis through the use of the risk map, risk appetite metrics and top and emerging risks.

We regularly review the effectiveness of these processes, including the model risk committee structure, to help ensure appropriate understanding and ownership of model risk is embedded in the businesses and functions.

Insurance manufacturing operations risk

Contents

Overview

The key risks for our insurance manufacturing operations are market risk, in particular interest rate and equity, credit risk and insurance underwriting risk. These have a direct impact on the financial results and capital positions of the insurance operations. Liquidity risk, while significant in other parts of the Group, is less material for our insurance operations.

HSBC's insurance business

We sell insurance products through a range of channels including our branches, insurance sales forces, direct channels and third-party distributors. The majority of sales are through an integrated bancassurance model that provides insurance products principally for customers with whom we have a banking relationship, although the proportion of sales through other sources such as independent financial advisers, tied agents and digital platforms is increasing.

For the insurance products we manufacture, the majority of sales are savings, universal life and protection contracts.

We choose to manufacture these insurance products in HSBC subsidiaries based on an assessment of operational scale and risk appetite. Manufacturing insurance allows us to retain the risks and rewards associated with writing insurance contracts by keeping part of the underwriting profit and investment income within the Group.

We have life insurance manufacturing subsidiaries in eight markets, which are Hong Kong, Singapore, mainland China, France, UK, Malta, Mexico and Argentina. In addition, we have: an interest in a life insurance manufacturing associate in India; a captive insurance entity in Bermuda that insures the non-financial risks of the wider Group; and a reinsurance entity in Bermuda.

Where we do not have the risk appetite or operational scale to be an effective insurance manufacturer, we engage with a small number of leading external insurance companies in order to provide insurance products to our customers. These arrangements are generally structured with our exclusive strategic partners and earn the Group a combination of commissions, fees and a share of profits. We distribute insurance products in all of our geographical regions.

This section focuses only on the risks relating to the insurance products we manufacture.

Insurance manufacturing operations risk management

Key developments in 2023

The insurance manufacturing subsidiaries follow the Group's risk management framework. In addition, there are specific policies and practices relating to the risk management of insurance contracts, which did not change materially over 2023. During the year, there was continued market volatility observed across interest rates, equity and credit markets and foreign exchange rates. This was predominantly driven by geopolitical factors and wider inflationary concerns. One key area of risk management focus during 2023 was the implementation of the new accounting standard, IFRS 17 'Insurance Contracts', which became effective on 1 January 2023. Given the fundamental change the new accounting standard represented in insurance accounting, and the complexity of the new standard, this presented additional financial reporting and model risks for the Group, which were managed via the IFRS 17 implementation project. Other areas of focus were the ongoing integration of the insurance business that was acquired through AXA Singapore in 2022 into the Group's risk management framework, the establishment of a reinsurance entity in Bermuda and controls supporting IFRS 17 implementation.

Governance and structure

(Audited)

Insurance manufacturing risks are managed to a defined risk appetite, which is aligned to the Group's risk appetite and risk management framework, including its three lines of defence model. For details of the Group's governance framework, see page 137. The Global Insurance Risk Management Meeting oversees the control framework globally and is accountable to the WPB Risk Management Meeting on risk matters relating to the insurance business.

The monitoring of the risks within our insurance operations is carried out by Insurance Risk teams. The Group's risk stewardship functions support the Insurance Risk teams in their respective areas of expertise.

Stress and scenario testing

(Audited)

Stress testing forms a key part of the risk management framework for the insurance business. We participate in local and Group-wide regulatory stress tests, as well as internally developed stress and scenario tests, including Group internal stress test exercises.

The results of these stress tests and the adequacy of management action plans to mitigate these risks are considered in the Group's ICAAP and the entities' regulatory Own Risk and Solvency Assessments, which are produced by all material entities.

Key risk management processes

Market risk

(Audited)

All our insurance manufacturing subsidiaries have market risk mandates and limits that specify the investment instruments in which they are permitted to invest and the maximum quantum of market risk that they may retain. They manage market risk by using, among others, some or all of the techniques listed below, depending on the nature of the contracts written:

– We are able to adjust bonus rates to manage the liabilities to policyholders for products with participating features. The effect is that a significant proportion of the market risk is borne by the policyholder.

– We use asset and liability matching where asset portfolios are structured to support projected liability cash flows. The Group manages its assets using an approach that considers asset quality, diversification, cash flow matching, liquidity, volatility and target investment return. We use models to assess the effect of a range of future scenarios on the values of financial assets and associated liabilities, and ALCOs employ the outcomes in determining how best to structure asset holdings to support liabilities.

– We use derivatives and other financial instruments to protect against adverse market movements.

– We design new products to mitigate market risk, such as changing the investment return sharing proportion between policyholders and the shareholder.

Credit risk

(Audited)

Our insurance manufacturing subsidiaries also have credit risk mandates and limits within which they are permitted to operate, which consider the credit risk exposure, quality and performance of their investment portfolios. Our assessment of the creditworthiness of issuers and counterparties is based primarily upon internationally recognised credit ratings and other publicly available information.

Stress testing is performed on investment credit exposures using credit spread sensitivities and default probabilities.

We use a number of tools to manage and monitor credit risk. These include a credit report containing a watch-list of investments with current credit concerns, primarily investments that may be at risk of future impairment or where high concentrations to counterparties are present in the investment portfolio. Sensitivities to credit spread risk are assessed and monitored regularly.

Capital and liquidity risk

(Audited)

Capital risk for our insurance manufacturing subsidiaries is assessed in the Group's ICAAP based on their financial capacity to support the risks to which they are exposed. Capital adequacy is assessed on both the Group's economic capital basis, and the relevant local insurance regulatory basis.

Risk appetite buffers are set to ensure that the operations are able to remain solvent, allowing for business-as-usual volatility and extreme but plausible stress events.

Liquidity risk is less material for the insurance business. It is managed by cash flow matching and maintaining sufficient cash resources, investing in high credit-quality investments with deep and liquid markets, monitoring investment concentrations and restricting them where appropriate, and establishing committed contingency borrowing facilities.

Insurance manufacturing subsidiaries complete quarterly liquidity risk reports and an annual review of the liquidity risks to which they are exposed.

Insurance underwriting risk

Our insurance manufacturing subsidiaries primarily use the following frameworks and processes to manage and mitigate insurance underwriting risks:

- a formal approval process for launching new products or making changes to products;
- a product pricing and profitability framework, which requires initial and ongoing assessment of the adequacy of premiums charged on new insurance contracts to meet the risks associated with them;
- a framework for customer underwriting;
- reinsurance, which cedes risks to third-party reinsurers to keep risks within risk appetite, reduce volatility and improve capital efficiency; and
- oversight by financial reporting committees in each of our entities of the methodology and assumptions that underpin IFRS 17 reporting.

Insurance manufacturing operations risk in 2023

Measurement

The following tables show the composition of the fair value of underlying items of the Group's participating contracts at the reporting date.

Balance sheet of insurance manufacturing subsidiaries by type of contract

(Audited)

At 31 Dec 2023	Life direct participating and investment DPF contracts[1] $m	Life other contracts[2] $m	Other contracts[3] $m	Shareholder assets and liabilities $m	Total $m
Financial assets	113,605	3,753	5,812	7,696	130,866
– trading assets	—	—	—	—	—
– financial assets designated and otherwise mandatorily measured at fair value through profit or loss	100,427	3,593	4,177	1,166	109,363
– derivatives	258	10	—	6	274
– financial investments – at amortised cost	1,351	67	1,157	4,772	7,347
– financial assets at fair value through other comprehensive income	8,859	—	5	693	9,557
– other financial assets	2,710	83	473	1,059	4,325
Insurance contract assets	13	213	—	—	226
Reinsurance contract assets	—	4,871	—	—	4,871
Other assets and investment properties	2,782	164	35	1,636	4,617
Total assets at 31 Dec 2023	**116,400**	**9,001**	**5,847**	**9,332**	**140,580**
Liabilities under investment contracts designated at fair value	—	—	5,103	—	5,103
Insurance contract liabilities	116,389	3,961	—	—	120,350
Reinsurance contract liabilities	—	819	—	—	819
Deferred tax	—	1	—	3	4
Other liabilities	—	—	—	6,573	6,573
Total liabilities	**116,389**	**4,781**	**5,103**	**6,576**	**132,849**
Total equity	**—**	**—**	**—**	**7,731**	**7,731**
Total liabilities and equity at 31 Dec 2023	**116,389**	**4,781**	**5,103**	**14,307**	**140,580**

Balance sheet of insurance manufacturing subsidiaries by type of contract (continued)

(Audited)

At 31 Dec 2022[4]	Life direct participating and investment DPF contracts[1] $m	Life other contracts[2] $m	Other contracts[3] $m	Shareholder assets and liabilities $m	Total $m
Financial assets	102,539	4,398	6,543	7,109	120,589
– trading assets	—	—	—	—	—
– financial assets designated and otherwise mandatorily measured at fair value through profit or loss	89,671	3,749	4,916	1,088	99,424
– derivatives	432	9	21	15	477
– financial investments – at amortised cost	981	165	1,221	4,660	7,027
– financial assets at fair value through other comprehensive income	9,030	—	—	569	9,599
– other financial assets	2,425	475	385	777	4,062
Insurance contract assets	4	130	—	—	134
Reinsurance contract assets	—	4,413	—	—	4,413
Other assets and investment properties	2,443	60	30	1,666	4,199
Total assets at 31 Dec 2022[4]	104,986	9,001	6,573	8,775	129,335
Liabilities under investment contracts designated at fair value	—	—	5,374	—	5,374
Insurance contract liabilities	104,662	3,766	—	—	108,428
Reinsurance contract liabilities	—	748	—	—	748
Deferred tax	23	—	—	2	25
Other liabilities	—	—	—	7,524	7,524
Total liabilities	104,685	4,514	5,374	7,526	122,099
Total equity	—	—	—	7,236	7,236
Total liabilities and equity at 31 Dec 2022[4]	104,685	4,514	5,374	14,762	129,335

1 *'Life direct participating and investment DPF contracts' are substantially measured under the variable fee approach measurement model.*
2 *'Life other contracts' are measured under the general measurement model and mainly includes protection insurance contracts as well as reinsurance contracts. The reinsurance contracts primarily provide diversification benefits over the life direct participating and investment discretionary participation feature ('DPF') contracts.*
3 *'Other contracts' includes investment contracts for which HSBC does not bear significant insurance risk.*
4 *From 1 January 2023, we adopted IFRS 17 'Insurance Contracts', which replaced IFRS 4 'Insurance Contracts'. Comparative data have been restated accordingly.*

Key risk types

Market risk

(Audited)

Description and exposure

Market risk is the risk of changes in market factors affecting HSBC's capital or profit. Market factors include interest rates, equity and growth assets, credit spreads and foreign exchange rates.

Our exposure varies depending on the type of contract issued. Our most significant life insurance products are contracts with participating features. These products typically include some form of capital guarantee or guaranteed return on the sums invested by the policyholders, to which bonuses are added if allowed by the overall performance of the funds. These funds are primarily invested in fixed interest, with a proportion allocated to other asset classes to provide customers with the potential for enhanced returns.

Participating products expose HSBC to the risk of variation in asset returns, which will impact our participation in the investment performance.

In addition, in some scenarios the asset returns can become insufficient to cover the policyholders' financial guarantees, in which case the shortfall has to be met by HSBC. Amounts are held against the cost of such guarantees, calculated by stochastic modelling in the larger entities.

The cost of such guarantees are generally not material and are absorbed by the insurance fulfilment cash flows.

For unit-linked contracts, market risk is substantially borne by the policyholder, but some market risk exposure typically remains, as fees earned are related to the market value of the linked assets.

Sensitivities

(Audited)

The following table provides the impacts on the CSM, profit after tax and equity of our insurance manufacturing subsidiaries from reasonably possible effects of changes in selected interest rate, credit spread, equity price, growth assets and foreign exchange rate scenarios for the year. These sensitivities are prepared in accordance with current IFRS Accounting Standards and are based on changing one assumption at a time with other variables being held constant, which in practice could be correlated.

Due in part to the impact of the cost of guarantees and hedging strategies, which may be in place, the relationship between the CSM, profit after tax and total equity and the risk factors is non-linear. Therefore, the results disclosed should not be extrapolated to measure sensitivities to different levels of stress. For the same reason, the impact of the stress is not necessarily symmetrical on the upside and downside. The sensitivities are stated before allowance for management actions, which may mitigate the effect of changes in the market environment.

The method used for deriving sensitivity information and significant market risk factors remain consistent between 2022 and 2023. In 2022, due to a lower CSM level, some portfolios generated onerous contracts in the 100bps up scenarios for interest rate and credit spread sensitivities, generating income statement losses and equity reductions in those scenarios. This was less prevalent in 2023 as the base CSMs were higher from changing market conditions and changes in lapse rate assumptions.

Sensitivity of HSBC's insurance manufacturing subsidiaries to market risk factors[1]

(Audited)

	2023			2022[2]		
	Effect on profit after tax	**Effect on CSM**	**Effect on total equity**	Effect on profit after tax	Effect on CSM	Effect on total equity
	$m	**$m**	**$m**	$m	$m	$m
+100 basis point parallel shift in yield curves	**66**	**(92)**	**32**	(210)	(82)	(240)
– Insurance and reinsurance contracts	**69**	**(92)**	**69**	(214)	(82)	(214)
– Financial instruments	**(3)**	**—**	**(37)**	4	—	(26)
-100 basis point parallel shift in yield curves	**(137)**	**(390)**	**(103)**	(49)	(57)	(19)
– Insurance and reinsurance contracts	**(133)**	**(390)**	**(133)**	(41)	(57)	(41)
– Financial instruments	**(4)**	**—**	**30**	(8)	—	22
+100 basis point shift in credit spreads	**(11)**	**(884)**	**(45)**	(324)	(843)	(354)
– Insurance and reinsurance contracts	**(9)**	**(884)**	**(9)**	(322)	(843)	(322)
– Financial Instruments	**(2)**	**—**	**(36)**	(2)	—	(32)
-100 basis point shift in credit spreads	**104**	**806**	**138**	119	1,133	149
– Insurance and reinsurance contracts	**102**	**806**	**102**	117	1,133	117
– Financial instruments	**2**	**—**	**36**	2	—	32
10% increase in growth assets[3]	**78**	**436**	**78**	68	400	68
– Insurance and reinsurance contracts	**43**	**436**	**43**	38	400	38
– Financial instruments	**35**	**—**	**35**	30	—	30
10% decrease in growth assets[3]	**(85)**	**(507)**	**(86)**	(81)	(560)	(81)
– Insurance and reinsurance contracts	**(49)**	**(507)**	**(49)**	(49)	(560)	(49)
– Financial instruments	**(36)**	**—**	**(36)**	(32)	—	(32)
10% appreciation in US dollar exchange rate against local functional currency	**117**	**390**	**117**	95	272	95
– Insurance and reinsurance contracts	**27**	**390**	**27**	20	272	20
– Financial instruments	**90**	**—**	**90**	75	—	75
10% depreciation in US dollar exchange rate against local functional currency	**(117)**	**(390)**	**(117)**	(95)	(272)	(95)
– Insurance and reinsurance contracts	**(27)**	**(390)**	**(27)**	(20)	(272)	(20)
– Financial instruments	**(90)**	**—**	**(90)**	(75)	—	(75)

1 *Sensitivities presented for 'Insurance and reinsurance Contracts' includes the impact of the sensitivity stress on underlying assets held to support insurance and reinsurance contracts. Sensitivities presented for 'Financial instruments' includes the impact of the sensitivity stress on other financial instruments, primarily shareholder assets.*
2 *From 1 January 2023, we adopted IFRS 17 'Insurance Contracts', which replaced IFRS 4 'Insurance Contracts'. Comparative data have been restated accordingly.*
3 *'Growth assets' primarily comprise equity securities and investment properties. Variability in growth asset fair value constitutes a market risk to HSBC insurance manufacturing subsidiaries.*

Credit risk

(Audited)

Description and exposure

Credit risk is the risk of financial loss if a customer or counterparty fails to meet their obligation under a contract. It arises in two main areas for our insurance manufacturers:

- risk associated with credit spread volatility and default by debt security counterparties after investing premiums to generate a return for policyholders and shareholders; and
- risk of default by reinsurance counterparties and non-reimbursement for claims made after ceding insurance risk.

The amounts outstanding at the balance sheet date in respect of these items are shown in the table on page 234.

The credit quality of the reinsurers' share of liabilities under insurance contracts is assessed as 'satisfactory' or higher (as defined on page 148), with 100% of the exposure being neither past due nor impaired (2022: 100%).

Credit risk on assets supporting unit-linked liabilities is predominantly borne by the policyholders. Therefore, our exposure is primarily related to liabilities under non-linked insurance and investment contracts and shareholders' funds. The credit quality of insurance financial assets is included in the table on page 172.

The risk associated with credit spread volatility is to a large extent mitigated by holding debt securities to maturity, and sharing a degree of credit spread experience with policyholders.

Liquidity risk

(Audited)

Description and exposure

Liquidity risk is the risk that an insurance operation, though solvent, either does not have sufficient financial resources available to meet its obligations when they fall due, or can secure them only at excessive cost. Liquidity risk may be able to be shared with policyholders for products with participating features.

The remaining maturity of insurance contract liabilities is included in Note 4 on page 362.

The amounts of insurance contract liabilities that are payable on demand are set out by the product grouping below:

Amounts payable on demand
(Audited)

	2023		2022[1]	
	Amounts payable on demand	**Carrying amount for these contracts**	Amounts payable on demand	Carrying amount for these contracts
	$m	**$m**	$m	$m
Life direct participating and investment DPF contracts	**107,287**	**116,389**	100,273	104,669
Life other contracts	**2,765**	**3,961**	2,813	3,759
At 31 Dec	**110,052**	**120,350**	103,086	108,428

1 From 1 January 2023, we adopted IFRS 17 'Insurance Contracts', which replaced IFRS 4 'Insurance Contracts'. Comparative data have been restated accordingly.

Insurance underwriting risk

Description and exposure

Insurance underwriting risk is the risk of loss through adverse experience, in either timing or amount, of insurance underwriting parameters (non-economic assumptions). These parameters include mortality, morbidity, longevity, lapse and expense rates. Lapse risk exposure on products with premium financing increased over the year as rising interest rates led to an increase in the cost of financing for customers.

The principal risk we face is that, over time, the cost of the contract, including claims and benefits, may exceed the total amount of premiums and investment income received.

The tables on pages 234 analyse our life insurance underwriting risk exposures by composition of the fair value of the underlying items.

The insurance underwriting risk profile and related exposures remain largely consistent with those observed at 31 December 2022.

Sensitivities

(Audited)

The following table shows the sensitivity of the CSM, profit and total equity to reasonably foreseeable changes in non-economic assumptions across all our insurance manufacturing subsidiaries.

These sensitivities are prepared in accordance with current IFRS Accounting Standards, which have changed following the adoption of IFRS 17 'Insurance Contracts', effective from 1 January 2023. Further information about the adoption of IFRS 17 is provided on page 342.

Mortality and morbidity risk is typically associated with life insurance contracts. The effect on profit of an increase in mortality or morbidity depends on the type of business being written.

Sensitivity to lapse rates depends on the type of contracts being written. An increase in lapse rates typically has a negative effect on CSM (and therefore expected future profits) due to the loss of future income on the lapsed policies. However, some contract lapses have a positive effect on profit due to the existence of policy surrender charges.

Expense rate risk is the exposure to a change in the allocated cost of administering insurance contracts. To the extent that increased expenses cannot be passed on to policyholders, an increase in expense rates will have a negative effect on our profits. This risk is generally greatest for our smaller entities.

The impact of changing insurance underwriting risk factors is primarily absorbed within the CSM, unless contracts are onerous in which case the impact is directly to profits. The impact of changes to the CSM is released to profits over the expected coverage periods of the related insurance contracts.

Sensitivity of HSBC's insurance manufacturing subsidiaries to insurance underwriting risk factors
(Audited)

	Effect on CSM (gross)[1]	Effect on profit after tax (gross)[1]	Effect on profit after tax (net)[2]	Effect on total equity (gross)[1]	Effect on total equity (net)[2]
At 31 Dec 2023	**$m**	**$m**	**$m**	**$m**	**$m**
10% increase in mortality and/or morbidity rates	**(392)**	**(49)**	**(24)**	**(49)**	**(24)**
10% decrease in mortality and/or morbidity rates	**440**	**22**	**30**	**22**	**30**
10% increase in lapse rates	**(316)**	**(33)**	**(24)**	**(33)**	**(24)**
10% decrease in lapse rates	**348**	**22**	**29**	**22**	**29**
10% increase in expense rates	**(68)**	**(9)**	**(6)**	**(9)**	**(6)**
10% decrease in expense rates	**69**	**8**	**11**	**8**	**11**
At 31 Dec 2022[3]					
10% increase in mortality and/or morbidity rates	(354)	(23)	(21)	(23)	(21)
10% decrease in mortality and/or morbidity rates	374	16	18	16	18
10% increase in lapse rates	(225)	(23)	(23)	(23)	(23)
10% decrease in lapse rates	232	22	22	22	22
10% increase in expense rates	(59)	(7)	(7)	(7)	(7)
10% decrease in expense rates	60	4	5	4	5

1 The 'gross' sensitivities impacts are provided before considering the impacts of reinsurance contracts held as risk mitigation.
2 The 'net' sensitivities impacts are provided after considering the impacts of reinsurance contracts held as risk mitigation.
3 From 1 January 2023, we adopted IFRS 17 'Insurance Contracts', which replaced IFRS 4 'Insurance Contracts'. Comparative data have been restated accordingly.