BIS

Annual Report

2022/23

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BIS

Annual Report

2022/23

Promoting global monetary and financial stability

Foreword by the General Manager

It is my pleasure to present the BIS's Annual Report for 2022/23. The report highlights our commitment to global monetary and financial stability, and our ongoing role as the global forum for central bank cooperation. It also documents the progress made in advancing our Innovation BIS 2025 strategy.

The past year has challenged central banks. High inflation and financial stability concerns emerged in tandem. At the same time, digital innovation, particularly in payment systems, gathered pace.

The global inflation surge that began in 2021 has started to subside. But, in most countries, inflation remains far too high. Much of the progress in lowering inflation has come from easy wins, like falling commodity prices and normalising supply chains. The "last mile" of returning inflation to target will be harder. Central banks' commitment to low inflation is clear. The past year saw the most rapid and synchronised worldwide monetary policy tightening in decades.

Tighter monetary policy was necessary, but not painless. Business models that relied on low-for-long interest rates felt the strain. Bank closures in early 2023 were the most striking example, but far from the only ones. As the structural forces that held down inflation in recent decades subside, interest rates may need to stay higher for longer. In the coming years, economies must rely on supply side reforms, rather than monetary and fiscal stimulus, to drive sustainable growth.

The BIS helped central banks to navigate this complex policy landscape. Our economic analysis shed light on inflation dynamics and the causes of financial instability. And it made further progress in charting a course to build financial systems and infrastructures fit for the challenges of tomorrow. Regular meetings held in the context of the Basel Process fostered the exchange of views and experiences, while BIS-hosted committees made significant headway on evaluating the effects of the post-financial crisis reforms, and on proposals for mitigating risks arising from cryptoassets, financial market infrastructures and climate change.

Investment in our Innovation BIS 2025 strategy continued to pay dividends. The expansion of our Innovation Hub is almost complete, with the opening of the Eurosystem Centre taking place in March 2023. Leveraging our ambition to be at the forefront of thought leadership on innovation, we have expanded our insights and research and delivered a number of projects on the development of public goods to support central banks and improve the functioning of money and the financial system.

For banking services, 2022/23 was another successful year. Despite volatile market conditions, net profit increased to SDR 679 million by end-March 2023, while total comprehensive income was SDR 414 million. Strong demand for liquid BIS banking products as well as the Bank's foreign exchange and gold services bolstered profitability. Upgraded technological capabilities in our trading and reporting systems provided an enhanced customer experience to our clients.

Our Representative Offices strengthened relationships with central banks in their respective regions and helped to shape policy debates in Asia and the Americas. We were pleased to mark our 20th anniversary in the Americas in November 2022. Meanwhile, our Financial Stability Institute undertook a number of projects to support international cooperation and collaboration in the areas of financial technology, climate-related financial risks, crisis management and other regulatory and supervisory-related issues.

We have put additional effort into improving the way we work. Taking on board the lessons of the Covid-19 pandemic, we have explored new ways of working together and sought to improve and expand our working space for the future. We have also invested in our staff through expanded mentoring and leadership programmes and taken further steps to promote a workforce that reflects the full diversity of our membership. In December 2022, we announced the winning design from an architecture competition to develop the BIS headquarters site in Basel. The new building would create a campus-like environment and provide modern facilities to accommodate the enlargement of global meetings and the growth in our activities.

It is the efforts of our staff and management that have laid the foundations for this future expansion. Reviewing our progress over the past year, I am deeply grateful to all our colleagues for their support, dedication and adaptability.

Agustín Carstens
General Manager


nancial market infrastructures
the future: cross-border trends
payments and beyond

The year in numbers 2022/23

Financials

Total deposits (SDR)
289 billion in currency
19 billion in gold

Net profit (SDR)
679 million

Total comprehensive income (SDR)
414 million

Operating expense (SDR)
337 million

Shareholders' equity (SDR)
24 billion

Balance sheet (SDR)
350 billion

~180 clients

Customer asset management holdings
(SDR, market value)
24 billion

Recruitment

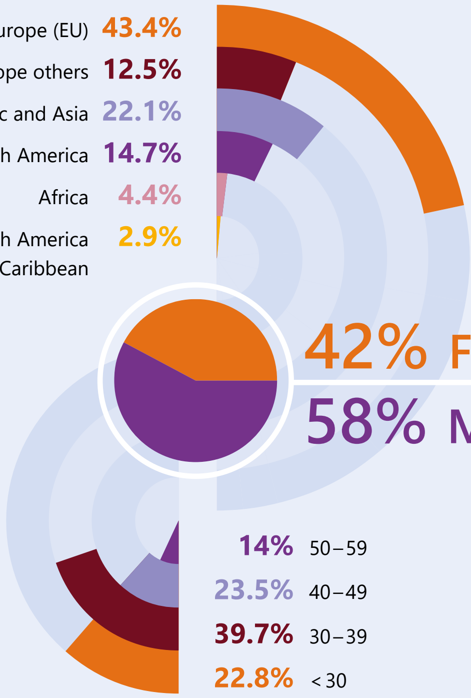
136 Staff members (internal and external)

19 Graduate Programme

22 Secondees, fellows and assignees

Recruitment by nationality

Europe (EU) 43.4%
Europe others 12.5%
Australia, Pacific and Asia 22.1%
North America 14.7%
Africa 4.4%
Central/South America and Caribbean 2.9%



42% Female
58% Male

14% 50–59
23.5% 40–49
39.7% 30–39
22.8% <30

Recruitment by age

High-level hosted meetings

298 virtual and hybrid meetings

22,558+ participants

Research seminars and meetings

148 speakers

85 external

63 internal

Total downloads of BIS publications

1,323,859 downloads

Visiting economic researchers

56

- **22** BIS Research Fellows
- **3** Central Bank Research Fellows
- **11** Technical Advisers
- **11** Senior Associates
- **8** Graduates
- **1** Lamfalussy Fellow

Digital engagement

18.25 million unique website visitors (+6.7% from 2021/22)

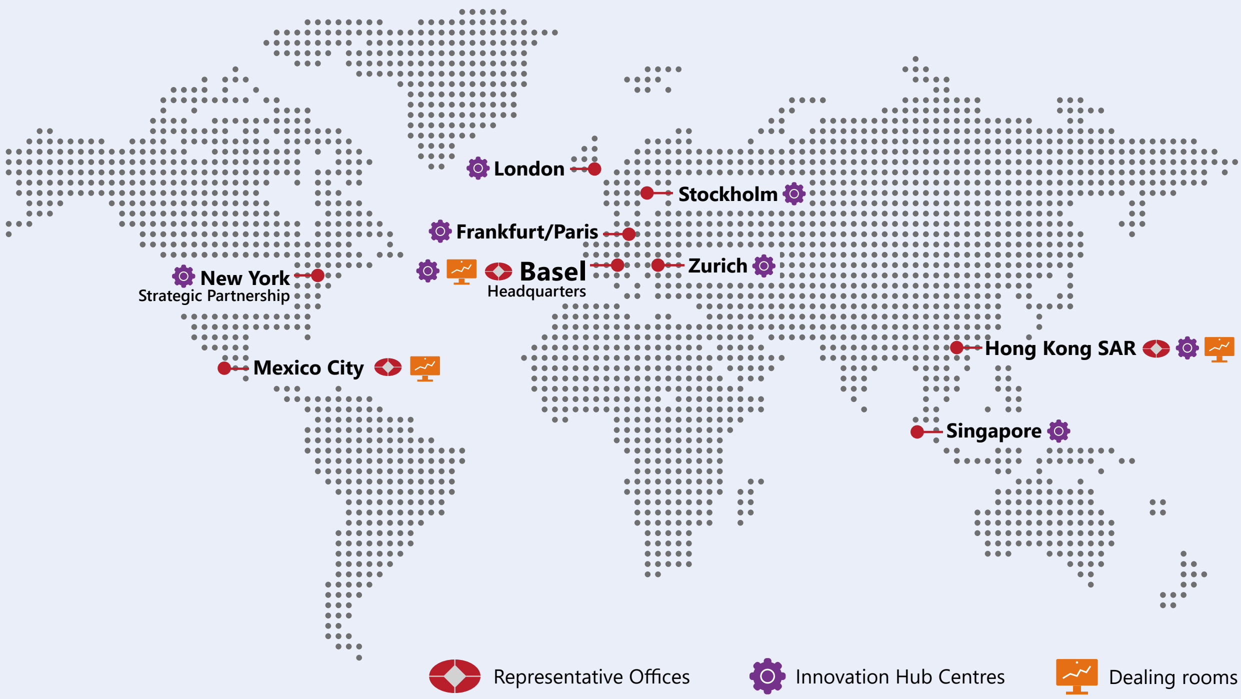
113k LinkedIn followers (+29% from 2021/22)

161.5k Twitter followers (+29% from 2021/22)

18k YouTube subscribers (+38% from 2021/22)

5.5k Instagram followers (+103% from 2021/22)

BIS global presence



Contents

Promoting global monetary and financial stability

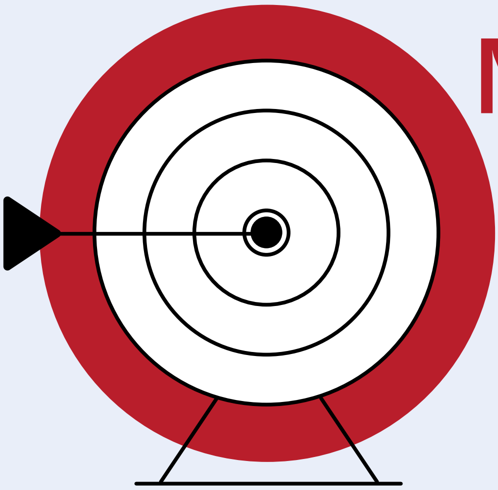
The BIS fosters central bank collaboration and provides banking services in an increasingly complex environment. The Bank focuses on developments in financial markets, monetary policy, financial stability and innovation and encourages dialogue among central banks on these topics.

Our mission, values and activities

Our mission is to support central banks' pursuit of monetary and financial stability through international cooperation, and to act as a bank for central banks.

In fulfilling this mission, we strive to help our member central banks navigate the opportunities and challenges they face, and to provide insights and services to support their work.

Our core values anchor and inform our mission. They allow us to support central banks. These values, our purpose-driven culture and our associated business goals are illustrated on the next page.



Mission

Our mission is to support central banks' pursuit of monetary and financial stability by fostering international cooperation, and to act as a bank for central banks

Strategy

Innovation BIS2025

Shaping the Bank for tomorrow

Key roles

Responsible innovation and knowledge-sharing

A platform for broad international cooperation

Safe and competitive financial services

In-depth analysis and insights on core policy issues

Core values

We deliver value through excellence in performance

We act with integrity

We foster a culture of diversity, inclusion, sustainability and social responsibility

We are committed to continuous improvement and innovation

Innovation BIS2025

Shaping the Bank for tomorrow

Innovation BIS 2025 is the ambitious strategy we launched in financial year 2019/20. The strategy helps us to meet the needs of our central bank stakeholders in these times of rapid economic and technological change. It seeks to shape continuous innovation on the analytical and business fronts.

We are now four years into Innovation BIS 2025, and substantial progress has been made. In 2022/23, we marked the successful delivery of approximately 80% of the strategy (see next page).

As we enter the final stretch of Innovation BIS 2025, we are sustaining our momentum to complete the agenda and embedding the changes brought through this ambitious development programme.

One of the most substantial projects in the programme is the Banking transformation agenda. A key objective is to enhance product development and related services. We have continued to expand the Bank's asset management services and have introduced a new series of instruments tied to the post-Libor reference rates. This was supported by continuing upgrades of the Banking Department's trading and reporting systems, including this year's implementation of a new asset management system, which will allow faster product development and an even more efficient delivery of Banking services in the future.

The BIS Innovation Hub entered a more mature phase, with six operational Hub Centres, including the Eurosystem Centre, which opened in March 2023. During the year, the Innovation Hub focused its work on six strategic themes: central bank digital currency, green finance, regtech and suptech, next-generation financial market infrastructures, open finance and cyber security. Its work programme features growing interconnections between projects and cross-centre collaboration.

In addition to the development of our research, we made further progress on our strategic goal of expanding the outreach of BIS statistics to a wider audience. We developed a new data portal, leveraging new technologies to better guide data discovery, enhance data access and enable analysis. We also established BIS Open Tech to disseminate statistical and financial software as open source projects, to foster collaboration and harmonisation within the global software communities.

Innovation BIS 2025 also aims to make the BIS more flexible and adaptable by developing new ways of working. In 2022/23, we moved fully to hybrid working, and are piloting new activity-based working spaces. We have also deepened our listening strategy to foster and develop staff engagement and internal communications.

Innovation BIS 2025: where do we stand?

Estimated completion percentage

Cooperative activities

Cyber Resilience Coordination Centre

90% Establish Cyber Resilience Coordination Centre

See Chapter 5

Multidisciplinary BIS Innovation Hub

90% Establish regional Innovation Hub Centres

See Chapter 5

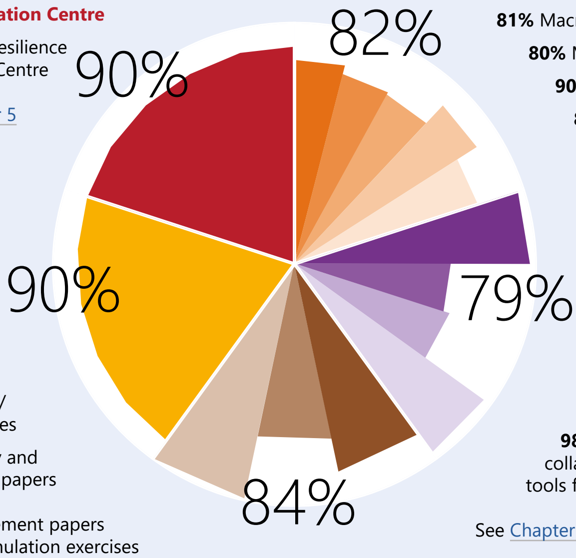
FSI support for capacity-building

100% Capacity-building / online courses

73% Fintech repository and technology-related papers

88% Crisis management papers and simulation exercises

See Chapter 3



Economic research and analysis

85% Impact of technological innovation

81% Macro-financial stability frameworks

80% Monetary policy frameworks

90% Lessons from crisis management

80% Monitoring and spillovers

See Chapter 2

Advanced analytics and collaboration

98% Big data / advanced analytics platform

65% MED data lake / factory for research and statistics

68% New data dissemination for external and internal clients

98% Next-generation external collaboration tools for the BIS

See Chapter 2

Banking

Implementing outcome of strategic review of Banking IT

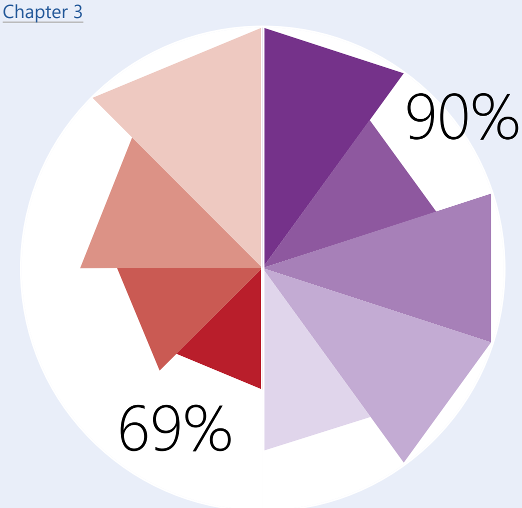
100% Foundational infrastructure

75% Customer-facing systems

60% Front office systems

50% Risk management, operations and compliance systems

See Chapter 4



Supporting investment strategy and strategic review of Banking IT

100% Technology review

75% Accelerate creation of new products

100% Adopt new technologies

100% Globalise Banking

75% Enhance internal and external cooperation

See Chapter 4

Organisation-wide activities

Improving the way we work

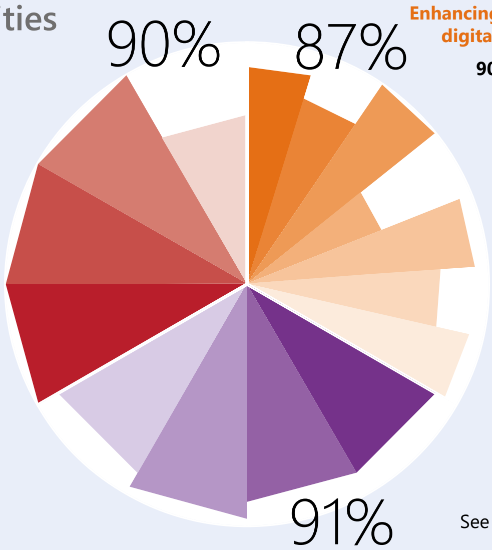
70% Reinforce the three lines of defence

100% Streamline key Bank-wide processes

100% Make internal meetings and gatherings more effective

100% Redesign internal committees and approval procedures

See Chapter 7



Enhancing cyber and operational resilience and digitalisation of the workplace

90% Enhanced data centre services

80% Communication and collaboration

100% BIS Innovation Hub infrastructure

60% Extended Innovation Zone

95% Extranet

80% Security services

95% Software development

People Strategy

90% Performance and recognition

90% Mobility and strategic workforce planning

95% Career transition

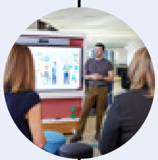
90% Shared mindset and behaviours

See Chapter 6

Highlights 2022/23

This timeline highlights some of the milestones and accomplishments achieved in financial year 2022/23.

2019 2020 2021 **2022**



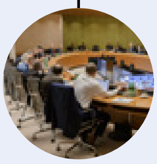
April 2022
Innovation BIS 2025 strategy reaches its midpoint

May 2022
Basel Committee finalises principles on climate-related financial risks, progresses work on specifying cryptoassets' prudential treatment and agrees on way forward for the G-SIB assessment methodology

31 May–1 June 2022
Green Swan conference "Finance for the transition, a transition for finance"

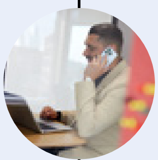
June 2022
Tao Zhang announced as BIS Chief Representative for Asia and the Pacific

June 2022
Cecilia Skingsley announced as Head of the BIS Innovation Hub

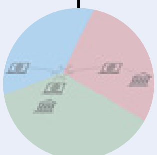


June 2022
Basel Committee issues principles for the management and supervision of climate-related financial risks

June 2022
BIS receives Global Impact Award from Central Banking for its work on innovation



July 2022
BIS formally commences hybrid working model, ending special pandemic precautionary measures for on-site working and meetings



July 2022
BIS, IMF and World Bank publish *Options for access to and interoperability of CBDCs for cross-border payments*

September 2022
Governors and Heads of Supervision reaffirm expectation to implement Basel III; provide direction on work on climate-related financial risks and cryptoassets

September 2022
BIS hosts 2nd WE_ARE_IN Macroeconomics and Finance conference for female economists (co-organised with CEPR and ECB)

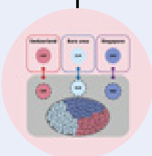
Innovation BIS2025

Shaping the Bank for tomorrow

2023 2024 2025

October 2022
BIS and central banks of China, Hong Kong SAR, Thailand and the United Arab Emirates complete Project mBridge

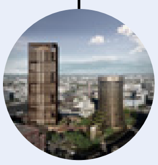
October 2022
Triennial Central Bank Survey of Foreign Exchange and OTC Derivatives Markets



November 2022
BIS and central banks of France, Singapore and Switzerland launch Project Mariana to explore cross-border CBDC trading and settlement using DeFi protocols

November 2022
BIS Representative Office for the Americas celebrates its 20th anniversary

December 2022
Implementation of new asset management system in Banking



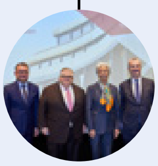
December 2022
Outcome of architectural competition to develop designs to enhance BIS headquarters site

February 2023
BIS hosts "Big techs in finance – implications for public policy" conference

March 2023
Andréa M Maechler announced as new BIS Deputy General Manager for a five-year term, starting in September 2023

March 2023
BIS Innovation Summit 2023: "Technological innovation in an age of uncertainty"

March 2023
BIS's Project Nexus prototype successfully links Eurosystem, Malaysia and Singapore payment systems



March 2023
BIS Innovation Hub Eurosystem Centre opens

Overview: key roles of the BIS

Promoting international cooperation

The BIS fosters cooperation among central banks and financial supervisory authorities globally. It offers a forum for discussion and facilitates dialogue, supporting stakeholders' work to promote monetary and financial stability. This enables knowledge-sharing and common actions as part of the Basel Process. Regular high-level meetings of central bank Governors are held in Basel, in addition to other meetings held globally and in person with central bank Governors and senior central bank experts and supervisory authorities from around the world. In addition, the Bank's Representative Offices continue their important roles as recognised forums for regional meetings. The BIS high-level meetings of central bank Governors are coordinated at a global level in Basel and complemented by regional discussions.

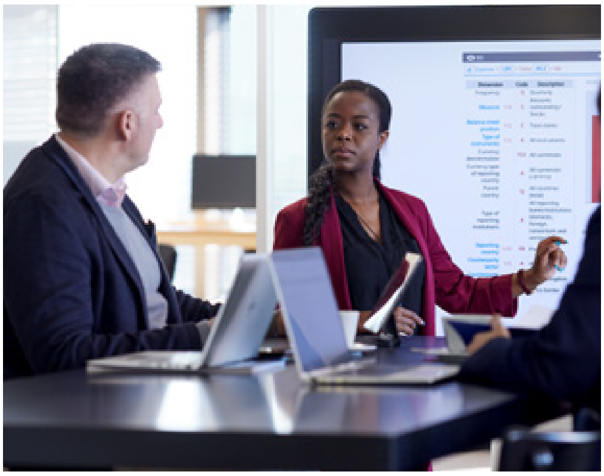
The BIS assists financial supervisors around the world to improve and strengthen their financial systems. The Bank's Financial Stability Institute supports the implementation of global regulatory standards and sound supervisory practices by central banks and financial sector regulatory and supervisory authorities. This has been achieved through publications, outreach events and FSI Connect – the BIS's web-based learning tool for central banks and other stakeholders. For more information about these topics, see Chapter 3.

A platform for responsible innovation and knowledge-sharing

Technology and technology-driven innovation are rapidly changing the financial sector. The ability to reap the benefits and mitigate risks is a priority among the central banking community. The BIS Innovation Hub has positioned the BIS as a thought leader in the field, partnering with central banks around the world to explore the possibilities and implications of technological change.

The BIS Innovation Hub's core objective is the investigation and exploration of the potential for innovative technologies to address problems in the financial sector of importance to central banks. In addition to its collaborative work with central banks, it has advanced a number of projects providing technological solutions to problems in the financial sector that can be shared as public goods.

Reflecting the priorities of member central banks, our teams made significant strides in understanding central bank digital currencies and next-generation financial market infrastructures. To find out more about the BIS's work in the area of innovation, see Chapter 5.



In-depth analysis and insights

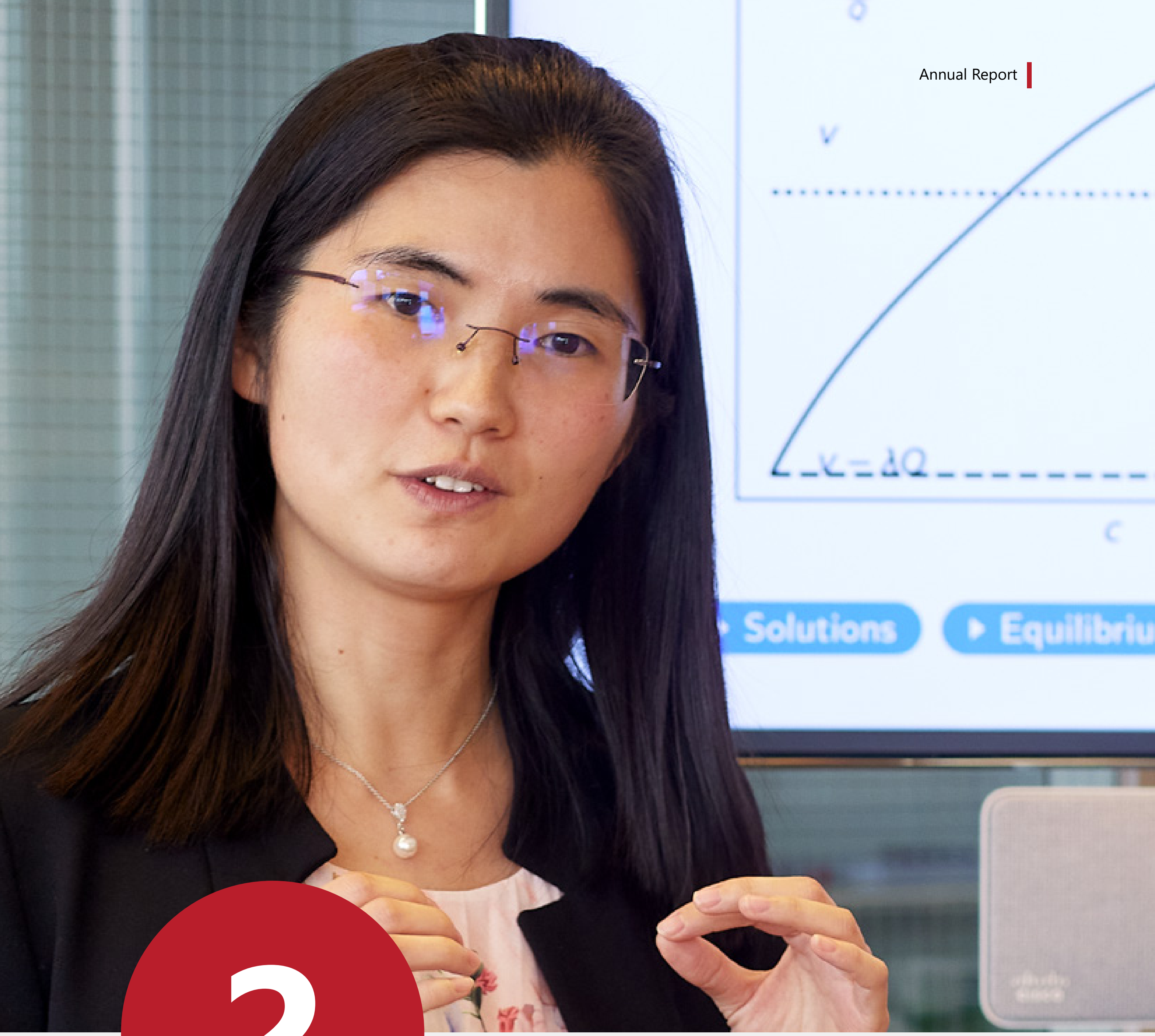
BIS research draws on the unique position of the Bank at the intersection of conceptual advances and policymaking. Our economic analysis and insights are topical and of direct relevance for policy. At the same time, our analysis and commentary also identify and address longer-term issues of strategic importance to stakeholders. Our research forms the basis for sound policymaking and supports cooperation between central banks and regulatory authorities.

In the past year we shared our research and insights on the causes and consequences of rising inflation in the wake of the pandemic. Other significant areas probed by BIS research include issues relating to the future of the monetary system in the light of digital innovation, as well as climate change and green finance. For more on our research and statistics, see Chapter 2.

Banking

The BIS offers a broad array of banking services to its central bank, monetary authority and international organisation customers. All products are designed with clients' key reserve management needs in mind – in particular the requirements for safety, liquidity and return. Further, the BIS operates dealing rooms across our Basel, Hong Kong SAR and Mexico City bases and offers round-the-clock services as a result.

BIS banking activities are priced competitively and conducted in accordance with relevant industry standards and the highest ethical principles. The BIS strives to promote green finance in its banking products, including by channelling investments into environmentally focused projects. In addition to providing services to clients, Banking staff also manage the Bank's own capital and promote knowledge-sharing with other institutions. To find out more about our banking activities, see Chapter 4.



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In-depth analysis and insights

BIS research supports central banks in their pursuit of monetary and financial stability. The BIS aims to provide our stakeholders with in-depth analysis and insights by drawing on its unique position at the intersection of research and policy.

Economic research and analysis

Our research and analysis are the result of the joint effort between various areas of the BIS. They are at the intersection of conceptual and empirical advances, on the one hand, and policymaking, on the other. Our researchers develop models and examine data on the macroeconomy and the financial system to provide insights that are highly topical and of direct relevance for policy.

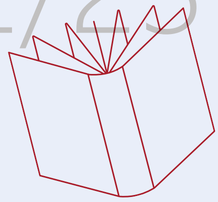
The bulk of our analytical work is carried out in the Monetary and Economic Department (MED), in both the Bank's headquarters and its Representative Offices. The Representative Offices lead programmes of research activities in their own right, in collaboration with the central banks in their respective regions. The BIS's Financial Stability Institute (FSI) publishes studies that contribute to the design, dissemination and implementation of sound regulatory and supervisory policies worldwide.

BIS staff frequently collaborate with external researchers, including those from member central banks. The Bank also convenes conferences and organises collaborative research networks for the community of researchers and officials from central banks, supervisory agencies, international financial institutions and academia.

Our research findings inform the background notes that the BIS produces for regular meetings of senior central bank officials and its support for the Basel-based groups. Policy-relevant insights are also published in a timely way in the BIS Annual Economic Report, Quarterly Review, Bulletins and FSI publication series. Research output of a generally more technical and in-depth nature is made available via BIS Working Papers and publications in peer-reviewed journals.

BIS publications

2022/23



Research at the BIS contributes to policy discussions on topical financial and economic issues.

75
Working Papers
231,858
Offer insights into key economic and financial developments

19
BIS Bulletins
120,350
Provide insights on current events in banking, markets and the larger economy

48
Committee publications
420,044
Provide background analysis and policy recommendations

7
BIS Innovation Hub publications 51,191
Deal with critical trends in technology-driven innovation in financial services

9
FSI Insights
60,416
Outline range of regulatory and supervisory approaches

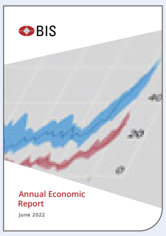
4
Other FSI publications
9,976
Focus on regulatory and supervisory subjects of topical interest

11
BIS Papers
116,757
Facilitate discussions of senior officials from central banks held at the BIS

3
FSI Executive Summaries
16,401
Provide brief synopses of new and revised global financial regulatory standards

Flagship publications

Quarterly Review
38,820
Examines developments in international banking and financial markets



Annual Economic Report
51,224
Presents commentary on the global economy and outlines policy challenges

The year's highlights

The highlights of BIS research and analysis reflect key events in the financial year up to end-March 2023, not least the additional rise in inflation in the wake of the war in Ukraine and the resulting rise in energy and food prices. BIS research also examined themes such as monetary and fiscal interactions, especially in the context of renewed stress in the banking sector, and drew fresh insights into longer-running topics in macro-financial stability frameworks, non-bank financial intermediaries, the regulation of crypto markets and the shape of the future monetary system. Here we feature some of the publications and analysis that were issued in the past year on these themes.

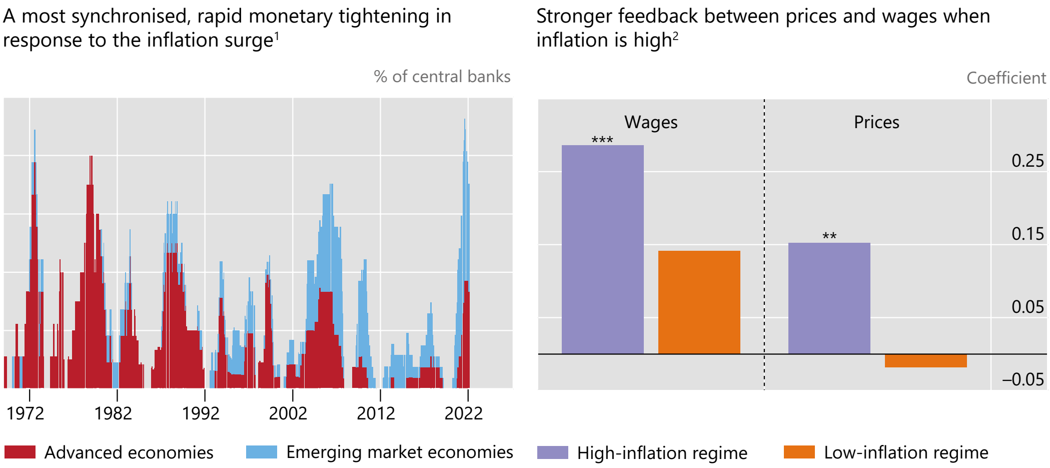
The challenge of restoring price stability

Inflation continued to dominate the macroeconomic landscape in 2022/23 and, hence, the BIS research agenda. The initial surge that began in 2021 was ignited first by a clash between extraordinarily strong demand conditions and tight supply, further fuelled by the substantial war-induced increase in commodity prices. In many countries, the inflationary impact of rising commodity prices was compounded by a stronger US dollar, intensifying the rise in commodity prices in local currency terms. As pent-up demand subsided, supply chain bottlenecks resolved, energy and food prices retreated and the dollar reversed its gains, headline inflation started to abate towards the end of 2022.

> The self-stabilising properties of low inflation vanish once it moves to a high level.

Central banks around the world implemented a firm monetary policy tightening, resulting in the most synchronised effort to restore price stability in the past half-century (see left-hand panel of graph on next page). Yet, as of early 2023, inflation remained well above central bank targets. This kept alive the concerns about a transition from a low- to a high-inflation regime, explored in the 2022 BIS Annual Economic Report. In the report, the BIS had highlighted the two-regime view of the inflation process, which underscores that the self-stabilising properties of inflation when it settles at a low level vanish once it moves to a higher one. Also, the link between money growth and inflation becomes stronger when inflation is high, while inflation indicators commonly used by policymakers tend to become less reliable during such a transition. This is because typically used indicators tend to incorporate some degree of mean reversion, while transitions are self-reinforcing. An inflation psychology sets in: households and firms become more attuned to price shifts and keener to make up for lost purchasing power and profits. As a result, the feedback between prices and wages gets stronger in a high-inflation regime (see right-hand panel of graph on next page).

Central banks respond strongly to the surge in inflation



[1] Proportion of central banks raising their policy rates. [2] Short-run response of changes in wages to changes in consumer prices and vice versa. ***/** indicates statistical significance at the 1/5% level. High- (low-) inflation regime refers to pre- (post-) 1995.

Sources: "The two-regime view of inflation", *BIS Papers,* no 133; "'Front-loading' monetary tightening: pros and cons", *BIS Bulletin,* no 63.

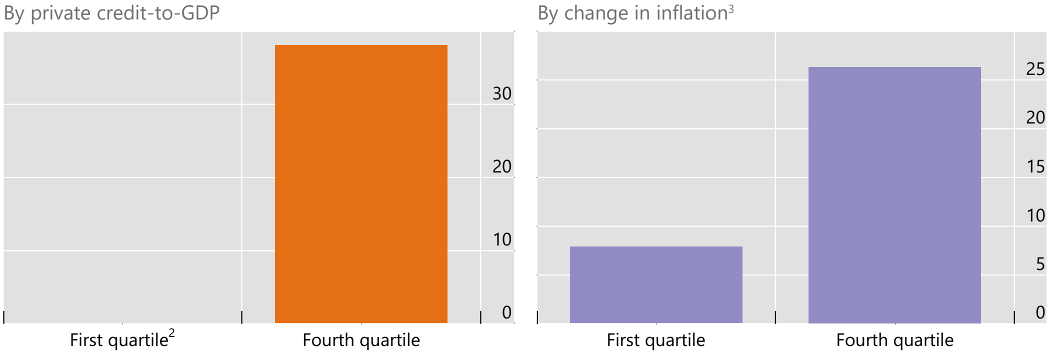
The challenge of preserving financial stability

In the past year, not only did high inflation persist, but financial systems came under strain. The turmoil exposed heightened vulnerabilities of banks with material exposures in long-term, fixed rate assets that are fuelled by shorter-term, less stable funding, as well as deficiencies in governance and risk management and weaknesses of banks' business models. Struggling business models and mismanagement raised questions about bank executives' accountability. Recent events also underscore the crucial role of banking supervision.

More generally, these incidents are not entirely surprising, given systemic fragilities following the low-for-long interest rate era combined with elevated public and private debt levels and frothy asset valuations. Since the 1970s, banking stress emerged close to a fifth of the time within three years after a monetary policy tightening started (see graph on next page). Rising inflation and higher levels of private debt made stress more likely. More restrictive prudential policy measures, whether before or during monetary tightening, help to avoid such stress. The risk of adverse macro-financial loops under the current conditions is material.

Financial stress during monetary tightening: the role of debt and inflation[1]

In per cent



This refers to the 36 months after the first rate hike.

[1] Financial stress measured as the frequency of banking crises. For the private credit-to-GDP ratio, quartiles of the country-specific historical distribution. For the change in inflation, quartiles in our data set of monetary tightening episodes. [2] Value equal to zero. [3] Year-on-year inflation rate at the time of the first hike minus its two-year lag.

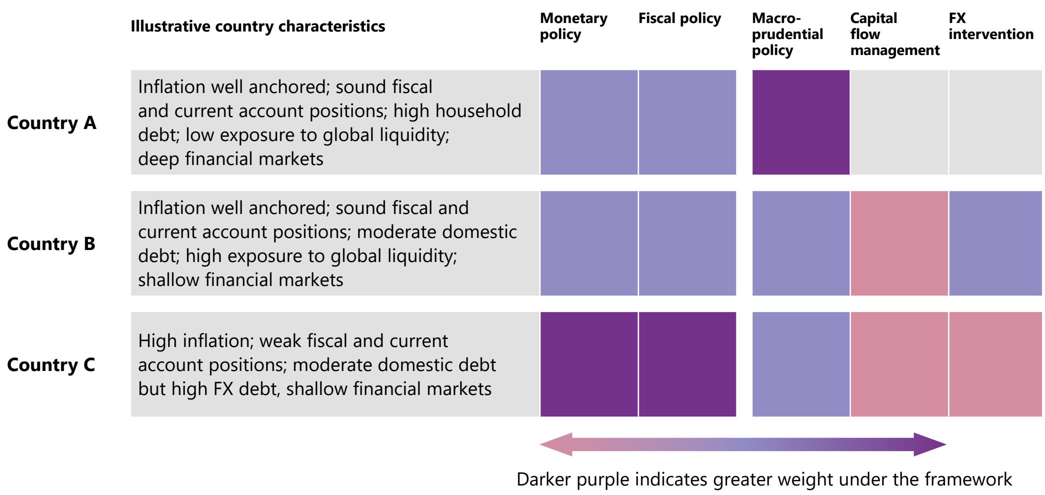
Source: "Prudential policy and financial dominance: exploring the link", *BIS Quarterly Review*, March 2023.

Macro-financial stability frameworks

While attention is now focused on the challenge of managing short-term macroeconomic and financial risks, the situation also highlights the benefits of preventive macro-financial stability frameworks (MFSFs) to ward off vulnerabilities.

A key challenge for MFSFs stems from swings in external financial conditions – a key risk factor for macro-financial stability, particularly for emerging market economies (EMEs). At the request of the 2022 Indonesian G20 Presidency, the BIS prepared a report on macro-financial stability policy frameworks (MFSFs), reviewing key features of an MFSF designed to safeguard macro-financial stability in a durable manner by mitigating the build-up of vulnerabilities and by accumulating policy buffers in the face of swings in external financial conditions. The report emphasises that the design of MFSFs depends critically on structural country characteristics (see graph on next page).

Illustrative examples of macro-financial stability frameworks



The G20 report was accompanied by two research papers providing further analytical foundations for MFSFs. An analysis of global investor portfolio choice suggests that exchange rate fluctuations induce shifts in portfolio holdings of global investors, even in the absence of currency mismatches on the part of the borrowers. The broad dollar index emerges as a global factor in bond portfolio flows, with dollar depreciation inducing portfolio inflows and appreciation inducing outflows in EMEs. In this context, the new BIS EME sovereign bonds data set, described in more detail in the statistics section below, provides a resource for the further analysis of bond market dynamics in EMEs.

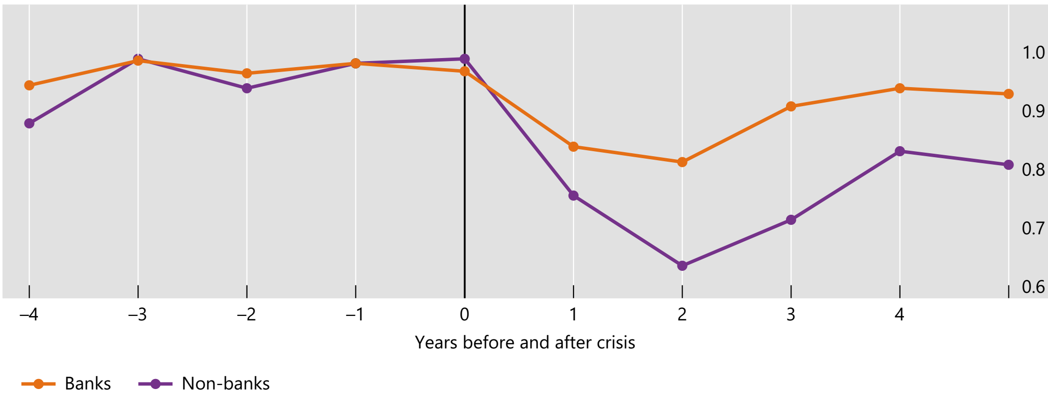
Such capital flow swings give rise to intra- and intertemporal trade-offs for monetary policy. During strong outflows, the central bank faces an intratemporal trade-off as output declines while inflation rises. In normal times, there is an intertemporal trade-off as the risk of a future sudden stop implies financial stability risks in the future. Macroprudential policy, capital flow management measures and FX intervention mitigate both intra- and intertemporal trade-offs. At the same time, the greater leverage of a higher level of public debt and weaker fiscal policy imply greater tail risk for the economy.

Non-bank financial intermediation and financial stability

Parts of the financial system came under pressure in the past year. In this context, BIS research helped central banks understand and respond to emerging financial system fragilities, notably those posed by the greater role played by non-bank financial intermediation.

Bank and non-bank lending during a crisis

Natural logarithm of loan volume, pre-crisis year = 1



This figure plots the evolution of new syndicated credit in logs originated in the years prior to, during, and after a financial crisis. Series are normalised to a value of one in the year of the crisis. A value of 0 on the x-axis denotes the year of the banking crisis in the borrower country. The sample is split into banks (red line) and non-banks (black line). Both lender types see a decline in loan origination during the crisis and the following years, but non-banks see a stronger fall.

Source: "Non-bank lending during crises", *BIS Working Papers,* no 1074.

BIS research shows that non-bank financial institutions cut their syndicated credit by significantly more than banks during crises. The rise of non-banks could therefore exacerbate the repercussions of financial crises, as it comes with a shift from relationship towards transaction lending.

> The rise of non-banks renders credit provision more procyclical, thereby exacerbating repercussions of financial crises.

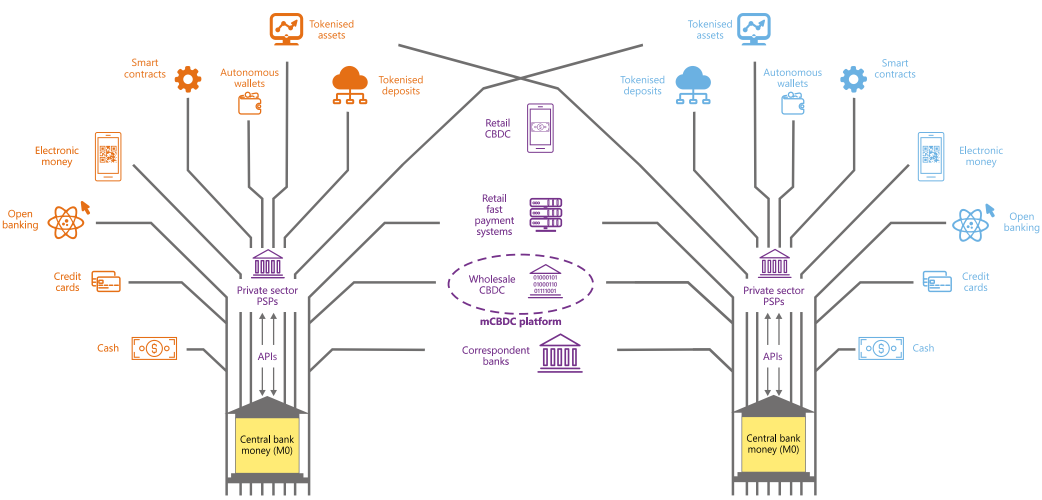
The increased footprint of non-banks in financial market intermediation, at the expense of traditional bank-based broker-dealers, has made markets more fragile and remains an area of risk that the BIS has covered extensively in its analysis. Another crucial change in the financial intermediation landscape since the Great Financial Crisis has been the rise of central clearing. Margin spikes in derivatives and repo markets, following periods of compressed margins, can amplify liquidity crises, given their impact on system-wide leverage. Widespread deleveraging and a "dash for cash" can be two sides of the same coin, as became evident in March 2020 during the Covid-19 crisis. BIS research further finds that clearing members can play an important role in how losses are transmitted between several central counterparties (CCPs). This highlights the need to incorporate these features into current CCP stress testing practice.

Against the backdrop of the greater importance of liquidity stress in a system with growing participation of non-bank financial institutions (NBFIs), BIS researchers have constructed new indicators to track episodes of market stress. Variables capturing investor overextension and risk perceptions, liquidity conditions and intermediaries' market-making capacity can help detect a heightened risk of market stress. While the growing presence of NBFIs helps deepen financial markets, it can also make a country more vulnerable to cross-border spillovers, especially acute for NBFIs' dollar positions. In this vein, the fact that much of the funding and hedging activity by NBFIs takes the form of FX swap positions is a further pressure point. Gauging these exposures is hampered by the fact that trading in FX swaps happens bilaterally in over-the-counter markets. The 2022 BIS Triennial Survey has therefore been playing an invaluable role in helping to quantify trading behaviour in this crucial, but rather opaque, market segment.

Financial innovation and the future of the monetary system

A burst of creative innovation is under way in money and payments, offering a glimpse into a future digital monetary system that can continuously adapt to serve the public interest. In a special chapter, the BIS's 2022 Annual Economic Report presented a vision of the future monetary system that melds new technological capabilities with a superior representation of central bank money – central bank digital currency (CBDC) – at its core. Rooted in trust in the currency, such a system offers a sound basis for innovation, ensuring that the advantages of new digital technologies can be reaped through interoperability and network effects. As new capabilities, such as programmability, composability and tokenisation, can be built on top of CBDCs, the system can adapt to new demands as they arise, thereby ensuring that services are stable and interoperable, domestically and across borders.

A strong canopy sustains the global monetary (eco)system



API = application programming interface; CBDC = central bank digital currency; PSP = payment service provider.

Source: BIS.

Around the world, an increasing number of central banks are exploring how to enhance money with new capabilities. This includes work on CBDCs at both wholesale and retail levels, as well as fast payment systems and their interlinkages across borders. BIS research documents that central banks are keen to offer a robust and low-cost technological basis for CBDCs, while also facilitating consumer enrolment and education as well as fostering interoperability. In emerging market economies, central banks are also focusing their efforts on exploring how retail CBDCs may promote financial inclusion. African countries have shown keen interest in the potential benefits of CBDC to enhance monetary policy effectiveness. Addressing the trade-off between data governance and data privacy is an important element of CBDC design principles. Operational challenges may require central banks to increase their expenditure on cyber security.

> Central banks around the world are actively working towards a monetary system that embeds the best of new technology in the solid foundations of the current two-tiered structure.

Hong Kong Monetary Authority Chief Executive Eddie Yue, then Sveriges Riksbank Governor Stefan Ingves, BIS General Manager Agustín Carstens and then Federal Reserve Vice-Chair Lael Brainard at the BIS Annual Conference, June 2022.

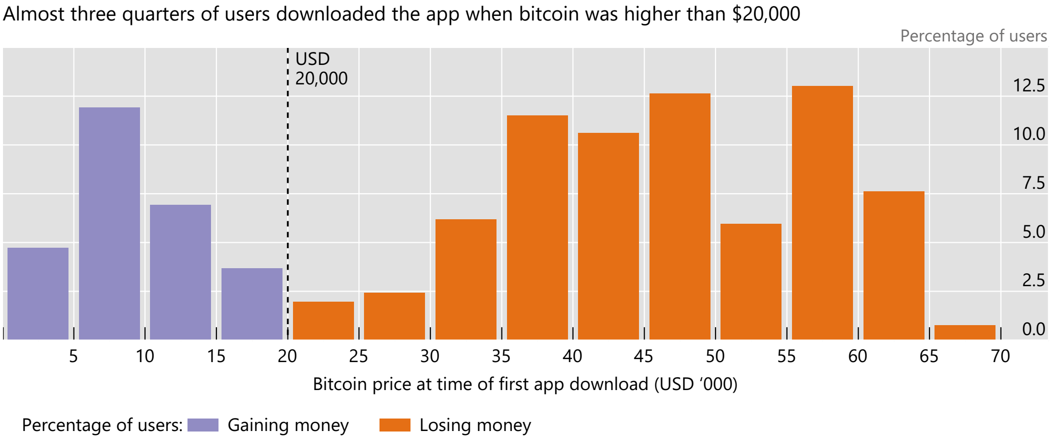
In a speech at the Monetary Authority of Singapore, BIS General Manager Agustín Carstens argued that central banks have a responsibility to help society reap the greatest benefits of innovation in money and payments, which goes beyond the provision of CBDCs. Central banks need to foster an open financial infrastructure that promotes private sector innovation. One approach could be for central banks to collaborate with the private sector in creating a "unified ledger" with a common programming environment. This ledger would allow for new functionalities, such as smart contracts and composability, and has the potential to integrate the monetary system with other registries of real and financial claims. The guiding principle in developing the unified ledger is the "singleness of money", which means that all forms of money – whether private or public – should exchange at par with the sovereign unit of account. This topic is further expanded upon in this year's Annual Economic Report.

> As big techs continue to push into financial services on the back of their data-driven business model, it is increasingly evident that the current regulatory approach is not fully fit for purpose.

The benefits of a monetary system built on the foundations of central bank money are particularly notable when compared with alternatives centred around crypto and decentralised finance. The prevalence of stablecoins, which are crypto's attempt to find a nominal anchor, indicates the pervasive need for cryptoassets to rely on the credibility provided by the unit of account issued by the central bank. The inherent limitations of permissionless blockchains inevitably lead to system fragmentation, accompanied by congestion and high fees. As activities in the crypto system almost exclusively involve exchanging one stablecoin or cryptocurrency for another, the self-referential system is sustained by the inflow of speculative new users who are lured by the prospect of rising prices. Consequently, our research indicates that the crypto system mostly benefits insiders and has led to large losses among retail investors, with negative externalities for the rest of the economy. Although interlinkages between crypto and traditional finance are limited, recent crashes have highlighted the importance of addressing the risks in crypto and the need for protection for retail investors, as they tend to buy cryptocurrencies when prices were high.

Most retail investors downloaded crypto apps when prices were high

Almost three quarters of users downloaded the app when bitcoin was higher than $20,000



The graph shows a histogram of the share of daily downloads of crypto exchange apps by bitcoin price at the time of first download. Estimations of losses or gains assume that the users purchased bitcoin on the same day they downloaded the crypto exchange app.

Sources: "Crypto trading and Bitcoin prices: evidence from a new database of retail adoption", *BIS Working Papers,* no 1049; CryptoCompare; Sensor Tower; authors' calculations.

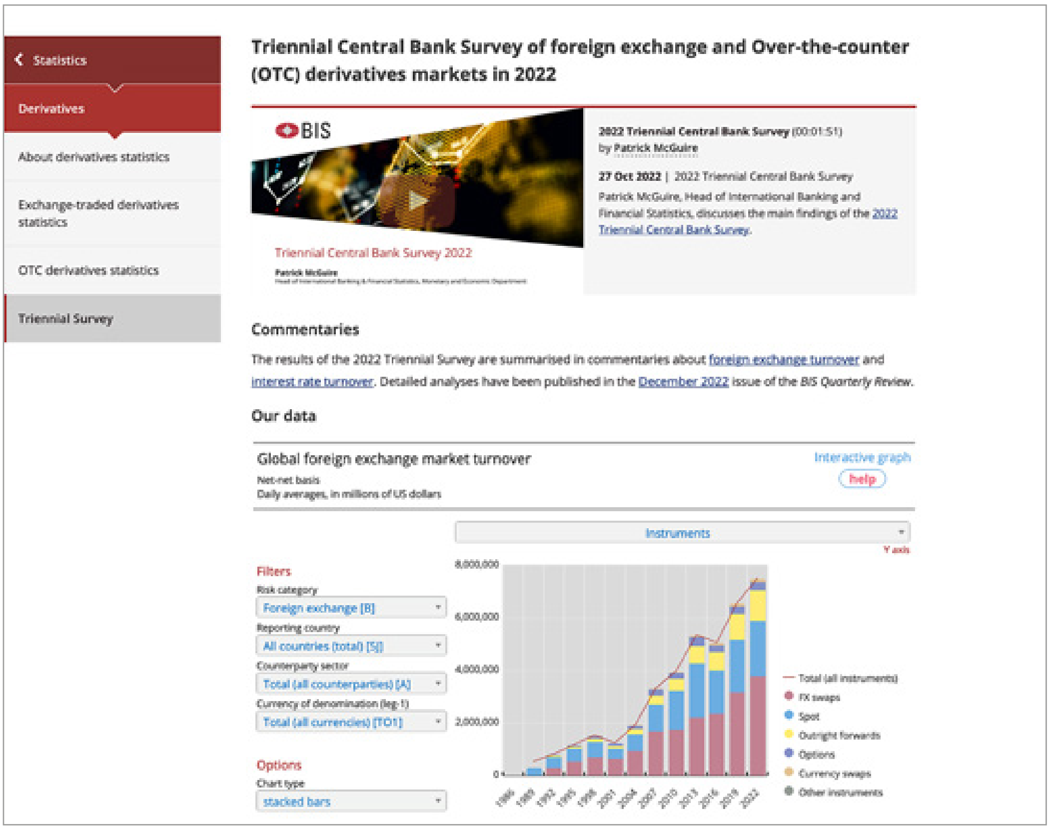
Beyond trends in digital money, BIS research in 2022/23 focused on the entry of large technology companies (big techs) into finance. Big techs enhance access to credit for small businesses by using their digital payment footprints, but pose new challenges. Big tech business models involve significant internal and external interdependencies between commercial and financial activities. This can result in excessive concentration in the provision of services to the public and financial institutions, which may pose a threat to financial stability. Introducing effective regulation at the international level can address these problems. The February 2023 conference "Big techs in finance – implications for public policy" delved deeper into these issues. In his keynote address, the General Manager stated that the entry of big techs into finance warrants a regulatory rethink.

Statistical work and data analytics

BIS international banking and financial statistics are compiled in cooperation with central banks, other national authorities and international organisations. They inform and support analysis of financial stability, international monetary spillovers and global liquidity. BIS research also makes use of the BIS Data Bank of key economic indicators shared among member central banks. The BIS's statistical offering has steadily expanded, facilitating deeper analysis of the global financial system. BIS work to compile, disseminate and analyse data is also a key element of the Innovation BIS 2025 strategy, with the aim of developing capabilities in advanced analytics to make better sense of the information collected. Ongoing projects showcase how new techniques can be leveraged to fully exploit the alternative data sources available.

The year's highlights

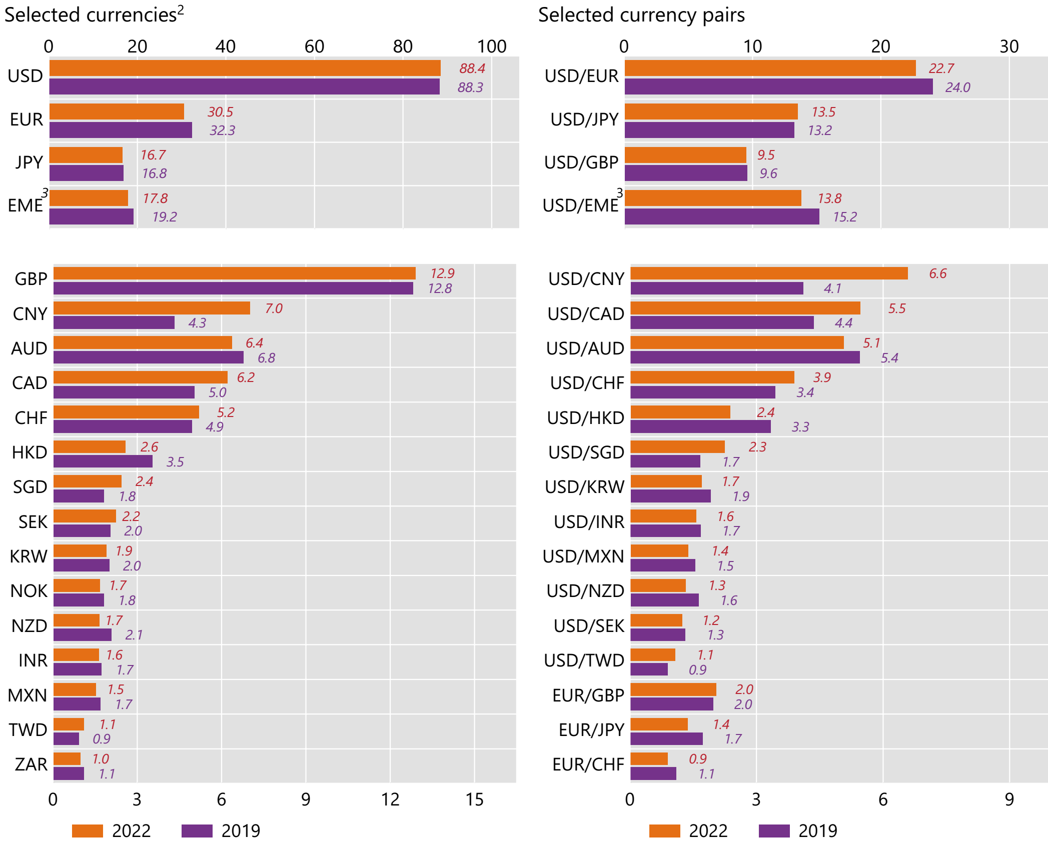
A key highlight of the year was the October 2022 release of the BIS Triennial Central Bank Survey of Foreign Exchange and Over-the-counter Derivatives Markets. This is the most comprehensive source of information on the size and structure of these markets. This unique survey involved central banks and other authorities in 52 reporting jurisdictions. They collected data in April 2022 from more than 1,200 banks and other dealers in their jurisdictions and reported national aggregates to the BIS, which then calculated global aggregates.



BIS Triennial Central Bank Survey webpage.

Foreign exchange market turnover by currency and currency pairs[1]

Net-net basis, daily averages in April, as a percentage of total turnover



[1] Adjusted for local and cross-border inter-dealer double-counting, ie "net-net" basis. [2] As two currencies are involved in each transaction, the sum of shares in individual currencies will total 200%. [3] Emerging market economy currencies excluding the Chinese renminbi and Russian rouble: AED, ARS, BGN, BHD, BRL, CLP, COP, CZK, HKD, HUF, IDR, ILS, INR, KRW, MXN, MYR, PEN, PHP, PLN, RON, SAR, SGD, THB, TRY, TWD and ZAR.

Source: BIS Triennial Central Bank Survey.

The results showed trading in FX markets reached $7.5 trillion per day, up from $6.6 trillion three years earlier. Growth of FX derivatives trading, especially in FX swaps, outpaced that of spot trading. The US dollar retained its dominant currency status, being on one side of 88% of all trades (unchanged from three years earlier). The share for the euro decreased marginally to 31% (from 32% in 2019), while the renminbi's share rose to 7%, making it the fifth most traded currency in 2022 (up from eighth place in 2019). Five countries – the United Kingdom, the United States, Hong Kong SAR, Singapore and Japan – accounted for 78% of all foreign exchange trading (net-gross basis).

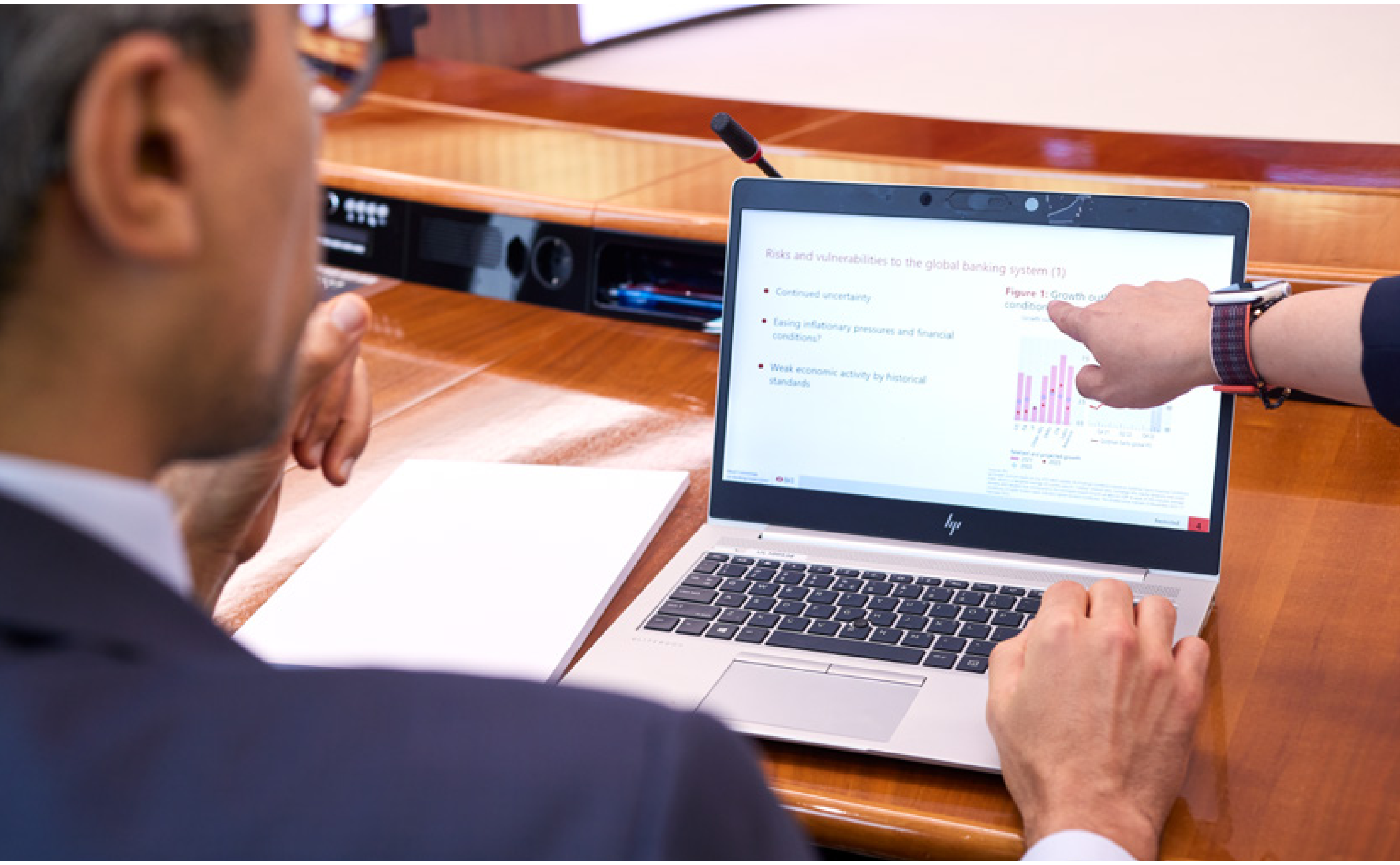
The survey also provided new information about the extent to which two developments contributed to the growth in derivatives turnover: compression of trades, used to net positions to reduce portfolio sizes; and back-to-back trades, which are internal trades through which dealers shift risk within the consolidated group.

A second important statistical release was the BIS Committee on Payments and Market Infrastructures (CPMI) Red Book statistics. The CPMI annually collects and publishes these statistics on payments and financial market infrastructures in its 27 member jurisdictions. Data collected in the second half of 2022 highlighted that the strong growth in digital payments over the past decade continued in 2021. Even so, public demand for cash remained steady. While the digitalisation of payments is a global trend, payment habits still differ across countries.

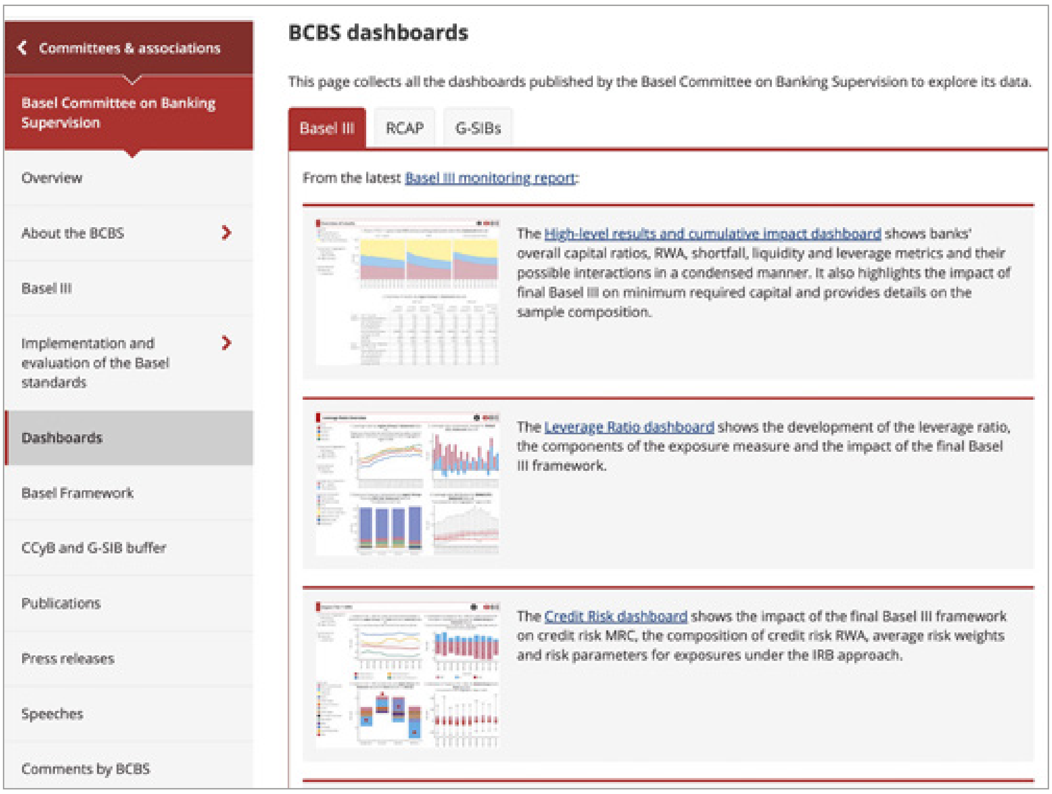
Further expansion of BIS statistics

In 2022/23, the BIS took further steps to expand its statistical offering.

An example is the EME sovereign bonds data set. This experimental data set draws on the BIS's efforts to complete the collection and enhance the global dissemination of debt securities statistics, especially in the context of the G20 Data Gaps Initiative (DGI). It combines BIS statistics on government bonds outstanding with publicly available series on foreign holdings of government bonds for 25 major EMEs from 2005 to 2021, in local and foreign currencies. It reveals that major EMEs have increasingly borrowed abroad in their own currency. However, in this process the currency mismatch has shifted to foreign investors, who can become reluctant to hold local currency bonds in periods of stress.



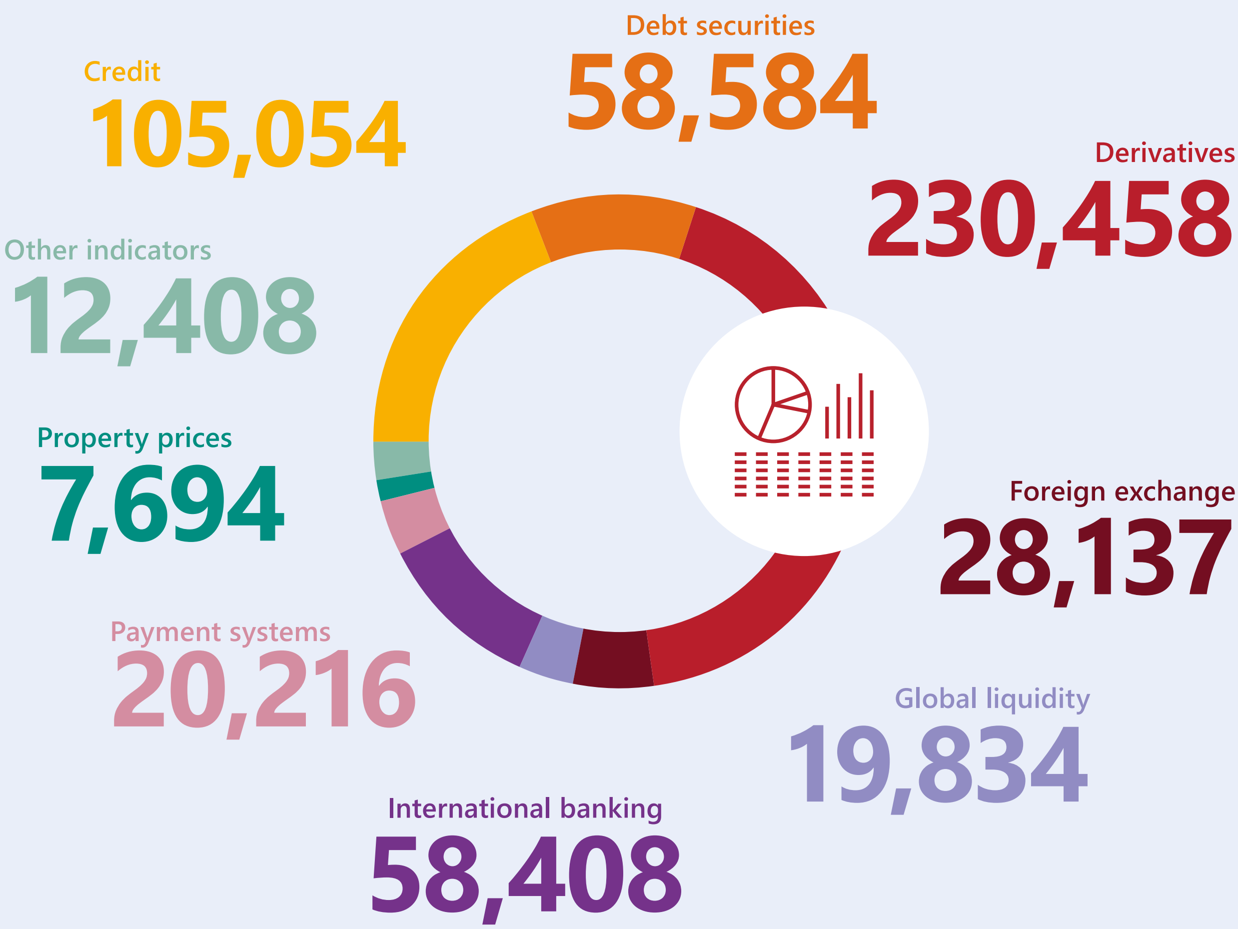
The BIS has also continued to collect more granular data to better monitor the behaviour of individual financial institutions in response to global regulatory initiatives. Institution-level data collected to support the Quantitative Impact Studies organised by Basel-based regulatory groups, especially those conducted by the Basel Committee on Banking Supervision, are published as interactive dashboards (see below). They cover the impact of Basel III, the list of global systemically important banks and the progress of Basel III adoption by jurisdiction.



BCBS dashboards show impact of Basel III, list of global systemically important banks and progress on adoption of Basel III.

Another source of institution-level information is managed by the Bank's International Data Hub. The Data Hub stores confidential balance sheet data for systemically important banks and produces analyses on behalf of participating supervisory authorities. The information collected over 2022/23 continued to expand and helped supervisors to track the impact of global macroeconomic and market developments on the largest institutions' credit exposures and funding profiles.

Users of BIS Statistics Explorer, 2022/23



G20 Data Gaps Initiative

The Bank's statistical work is taking place in the context of the international statistical cooperation framework to close data gaps. This includes, in particular, the Inter-Agency Group on Economic and Financial Statistics (IAG), which comprises the BIS, the ECB, Eurostat, the IMF (Chair), the OECD, the United Nations and the World Bank. With the support of the Financial Stability Board, the IAG has been tasked with monitoring progress in implementing a number of recommendations related to the DGI.

There are two important workstreams related to the DGI. First, despite the progress made, there are remaining challenges for fully closing the data gaps related to some recommendations of the second phase of the DGI, which was formally completed in 2022. Of particular interest to the central banking community is the required follow-up work on securities financing transactions, securities statistics, credit, cross-border exposures and property prices. Implementation will continue to be monitored annually.

Second, IAG members have been working with major economies on a new five-year phase of the DGI, which was backed by the G20 Leaders in November 2022. The associated workplan covers 14 specific recommendations addressing priority policy needs in the areas of: (i) climate change; (ii) distribution of household income and wealth; (iii) fintech and financial inclusion; and (iv) access to private and administrative sources of information and data-sharing. These areas will continue to shape the Bank's statistical work in the coming year.

Rising adoption of the SDMX standard

Another key international initiative for central bank statistics is the Statistical Data and Metadata eXchange (SDMX) standard. This ISO standard is sponsored by IAG member organisations to promote international data-sharing and cooperation. It is now widely used by international bodies, national statistical offices and other data-producing agencies to streamline the transmission and dissemination of data via appropriate data structure definitions. In partnership with the SDMX sponsors, the new SDMX User Forum was launched in December 2022. It connects SDMX users and experts across the globe, serving as a community for knowledge- and experience-sharing and for improving collaboration across institutions. In addition, the BIS recently launched a free and open source platform for SDMX software tools as part of the BIS Open Tech programme. The platform aims to further promote the adoption and use of the SDMX standard by providing a range of software tools and learning resources as a public good (see page 119).

Collaboration with central bank and academic researchers around the world

Collaboration with central bank and academic researchers around the world stimulates a broad dialogue on key policy questions. During the past year, the BIS welcomed 56 academics and central bank researchers under its various visitor programmes to conduct collaborative research on policy-related issues of relevance to the BIS.

In addition, the BIS expanded its Graduate Fellowship Programme. This programme allows PhD- and master's-level students in economics, finance or related fields to acquire practical experience in policy research and analysis in monetary and financial stability issues at an institution with a unique international perspective.

BIS conferences and workshops bring together participants from academia, business and policymaking. The 21st BIS Annual Conference, held in hybrid format in June 2022, focused on challenges for central banking after the pandemic. The annual meeting of the BIS Research Network, held in December in collaboration with the ECB and the Bank of Italy, discussed innovative research on analytical and policy issues relating to foreign exchange markets, financial intermediation and macro-financial stability. In September, the BIS partnered with the Centre for Economic Policy Research and the ECB to host the second WE_ARE_IN Macroeconomics and Finance Conference, which brought together female experts to present and discuss new research on macroeconomics and finance of particular interest to central banks.

In November 2022, the BIS Representative Office for the Americas hosted the 12th CCA Research Conference in Mexico City. The topic was "Structural changes in inflation and output dynamics after Covid and other shocks" (see Chapter 3).

WE_ARE_IN Macroeconomics and Finance Conference, September 2022.

WE_ARE_IN Macroeconomics and Finance Conference, September 2022.

The Representative Office for Asia and the Pacific collaborated with the Bank of Thailand to co-host a high-level conference in Bangkok in early December on "Central banking amidst shifting ground". The event brought together global leaders from public and private sectors and senior officials from the financial industry to discuss key issues facing central banks. These covered the global economy, inflation, how technologies are shaping the financial system and the role of central banks in combating climate change (see Chapter 3).

In January 2023, the Asian Office coordinated the publication of a book entitled *Macro-financial stability policy in a globalised world: lessons from international experience* as a proceeding from the Asian Monetary Policy Forum 2021 and MAS-BIS conference held in May 2021.

The BIS also collaborates closely with international research groups, such as the International Banking Research Network. Working with international banking and financial statistics, the BIS conducts global analyses to complement regional and country-specific studies of other network members, and helps to enhance the comparability of results.

More about BIS research at www.bis.org/forum/research.htm.

3 Promoting international cooperation

The BIS acts as a global forum for dialogue and cooperation among central banks and financial supervisory authorities from around the world. In 2022/23, central banks focused on how to curb inflation and how monetary policy might interact with fiscal policy. In addition, the challenges and opportunities that digitalisation presents for the global monetary and financial system remained a key theme.

A global forum for dialogue and cooperation

The BIS is committed to fostering international cooperation among central banks[1] and financial supervisory authorities from around the world, with a view to supporting their efforts to ensure monetary and financial stability. Innovation BIS 2025 has allowed us to increase our global outreach by further deepening our engagement with central bank committees and hosted organisations in the context of the Basel Process.

The BIS convenes high-level meetings of central bank Governors and financial supervisory authorities to foster dialogue and knowledge-sharing. These meetings are coordinated at a global level in Basel and complemented by regional discussions through the Bank's Representative Offices for Asia-Pacific and the Americas. The offices serve as centres for BIS activities in these regions and are uniquely positioned to address the needs of the central banks in those regions and anticipate the changes affecting them.

The Bank's Financial Stability Institute (FSI) assists central banks and financial regulatory and supervisory authorities worldwide in strengthening their financial systems by supporting the implementation of global regulatory standards and sound supervisory practices. It does so through policy work, knowledge-sharing activities and capacity-building.

The BIS hosts and supports several international committees and collaborates with international associations pursuing financial stability.

[1] The access of the Central Bank of the Russian Federation to all BIS services, meetings and other BIS activities has been suspended since end-February 2022.

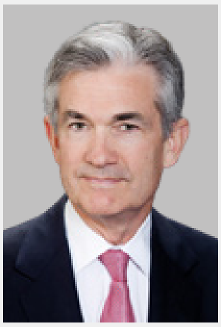
Governors' meetings

All Governors and other senior officials of BIS member central banks meet approximately six times a year to discuss current economic developments and the outlook for the world economy and financial markets. They also exchange views and experiences on issues of particular interest to central banks. In the year under review, following the easing of the Covid-19 pandemic, all meetings resumed in physical format.

The three principal bimonthly global meetings are the Global Economy Meeting (GEM), the Economic Consultative Committee (ECC) and the All Governors' Meeting.

In addition, the Bank's Representative Offices convene central bank Governors from their respective regions through the Asian Consultative Council (ACC) (see page 56) and the Consultative Council for the Americas (CCA) (see page 61). The FSI's advisory board typically meets once per year.

Global Economy Meeting



Jerome Powell
Chair of the Global Economy Meeting and the Economic Consultative Committee

The Global Economy Meeting (GEM) is comprised of 30 BIS member central bank Governors in major advanced and emerging market economies (EMEs) that account for about four fifths of global GDP. The Governors of another 22 central banks attend the GEM as observers.

Chaired by Jerome Powell, Chair of the Board of Governors of the Federal Reserve System, the GEM has two main roles:

- monitoring and assessing developments, risks and opportunities in the world economy and the global financial system; and
- providing oversight for three Basel-based central bank committees: the Committee on the Global Financial System (CGFS), the BIS Committee on Payments and Market Infrastructures (CPMI) and the Markets Committee. It also oversees the work of the BIS Innovation Hub (see Chapter 5).

In 2022/23, the GEM's economic discussion focused on current macroeconomic and financial developments in major advanced and emerging market economies. Topics discussed included inflation and wage growth developments, macroeconomic consequences of global supply chain disruptions, near-term implications of commodity market disruptions, the effect of private debt levels on monetary policy transmission, and global monetary policy tightening.

Economic Consultative Committee

The Economic Consultative Committee (ECC) is a 19-member group that supports the work of the GEM. Also led by the GEM Chair and comprising all Governors participating in the BIS Board meeting and the BIS General Manager, the ECC reviews reports and work programmes of the three committees mentioned above and prepares proposals for the GEM's consideration. In addition, the ECC Chair makes recommendations to the GEM on the composition and organisation of the CGFS, the CPMI and the Markets Committee and the appointment of their Chairs. It is also the body to which the Advisory Committee of the BIS Innovation Hub, led by the Chair of the ECC, is accountable.

In addition to the guidance provided to the work of the three GEM committees, in 2022/23 the ECC discussed the following topics: financial market dysfunctions and central bank tools, hard or soft landing, the informativeness and reliability of alternative inflation indicators, the speed of monetary policy tightening, FX settlement risks and cross-border payments.

All Governors' Meeting

François Villeroy de Galhau
Chair of the BIS Board of Directors and the All Governors' Meeting

The All Governors' Meeting is comprised of the Governors of the BIS member central banks and is chaired by the Chair of the BIS Board, François Villeroy de Galhau, Governor of the Bank of France. It convenes to discuss selected topics of general interest to its members. In 2022/23, topics discussed included communication challenges related to households' inflation expectations, recent developments in world trade, central bank profitability, the options for addressing the risks in crypto and the links between globalisation, price stability and the future of trade.

By agreement with the GEM and the BIS Board, the All Governors' Meeting oversees the work of two groups that have a broader network or membership than the GEM. These are the Central Bank Governance Group (see page 78) and the Irving Fisher Committee on Central Bank Statistics (see page 79).

Other regular gatherings

The Group of Central Bank Governors and Heads of Supervision (GHOS) meets periodically to decide on global banking regulations and oversees the work of the Basel Committee on Banking Supervision (see page 66). Chaired currently by Tiff Macklem, Governor of the Bank of Canada, the GHOS is the highest-level forum responsible for international collaboration on banking regulation and supervision.

The central bank Governors of major EMEs typically meet during the January, May and September bimonthly meetings to discuss issues of importance to their economies. Topics during the past year included capital flows in times of tighter monetary policy, inflation and commodity price developments, and exchange rate adjustments to global shocks.

The BIS also holds regular meetings for the Governors of central banks from small open economies. Discussion themes during the past year included employment and wage evolution and links to prices and activity; housing markets, the economy and monetary policy; inflation dynamics and inflation expectations; exchange rate developments and monetary policy; monetary policy lags and inflation turning points; and why core inflation is so sticky.

During the June AGM and in September 2022, the BIS held two roundtables of Governors from African central banks, one on economic developments and monetary policy outlook, and the other on CBDCs in Africa.

In addition, various meetings brought together senior central bank officials and, occasionally, representatives from other financial authorities, the private financial sector and the academic community to discuss topics of shared interest.

Dr Ngozi Okonjo-Iweala, Director-General of the World Trade Organization, attends the BIS bimonthly meetings in March 2023.

Financial Stability Institute

The Financial Stability Institute (FSI) plays a key role in fostering the BIS's efforts to promote international cooperation in the area of financial stability. In accordance with its mandate, the FSI supports central banks and other financial authorities in the implementation of global regulatory standards and sound supervisory practices.

The FSI delivers on its mandate through three main activities: policy work, policy events and training. These activities are also closely aligned with the FSI's priorities under the Bank's Innovation BIS 2025 strategy, namely the digitalisation of capacity-building activities, knowledge-sharing in financial technology-related regulatory developments and supporting authorities' efforts to enhance their tools for financial crisis management.

The year's highlights

In 2022/23, the FSI undertook a number of projects to support international cooperation and collaboration in financial technology, climate-related financial risks and crisis management. These included carrying out various initiatives in the area of big techs' participation in finance, conducting a Crisis Simulation Exercise in Africa and continuing to expand its offering of online courses.

Policy work

Publications

FSI policy work contributes to the design, dissemination and implementation of sound regulatory and supervisory policies worldwide. This work consists of publications in various series of papers covering several regulatory and supervisory issues (see also Chapter 2). FSI publications are available on the FSI section of the BIS website.

In 2022/23, the FSI published papers on a range of topics. These included technology-related issues such as central bank digital currencies (CBDCs), operational resilience, cryptoassets and suptech in insurance supervision. Importantly, building on the substantial work conducted in the past couple of years, the FSI published two additional papers that explore approaches and policy options for addressing the regulatory challenges posed by big tech's participation in finance and interdependencies with other parts of the financial sector. Other FSI publication topics included supervisory practices (such as frameworks for assessing the sustainability of bank business models, sound practices in supervisory capacity development and accountability regimes for bank executives), bank resolution and crisis management (such as the role of deposit insurers in funding bank failure management, and financial policy responses during the stress

episode of 2008–09 in the Baltic countries), financial inclusion and diversity (such as cross-border remittances and financial inclusion, and diversity and inclusion in financial supervision) and climate change (such as challenges in designing and implementing macroprudential policies for addressing climate-related financial risks). See also Chapter 2 for a discussion of some of the FSI's publications.

Fintech repository

The FSI's fintech repository contains information on regulation and other policy material related to fintech. Launched in March 2022, it aims to provide BIS stakeholders with an easy-to-use reference to support policymaking and benchmarking. The library is updated on an ongoing basis and currently contains more than 2,900 documents from 51 jurisdictions and standard-setting bodies. As of the end of financial year 2022/23, 649 staff from 133 financial authorities in 68 jurisdictions have gained subscriptions. The FSI is working towards enhancing the repository's features and expanding the jurisdictions it covers.

Crisis Simulation Exercises

The Crisis Simulation Exercise (CSE) for Africa was completed in February 2023 and covered eight countries. This exercise drew on the experience gained in conducting similar CSEs in South America in 2021 and in Asia in 2022. As in the previous two cases, the CSE in Africa aimed to identify relevant enhancements to the domestic crisis management frameworks and possible improvements to cross-border cooperation arrangements. A fourth CSE, focusing on seven jurisdictions in the Americas, will be conducted in 2024.

Unidroit project on bank liquidation

Work is ongoing on an FSI joint project with the International Institute for the Unification of Private Law (Unidroit) on a bank liquidation framework. Over the next couple of years, the project will deliver a guide setting out best practices.

Policy events

FSI high-level meetings aim to offer senior officials from financial authorities a forum in which to discuss the latest regulatory developments and supervisory priorities. These meetings are typically held in coordination with the relevant standard-setting body (eg the Basel Committee or International Association of Insurance Supervisors (IAIS)) and regional partners, as applicable. The FSI also offers policy implementation meetings, which are targeted at mid-level officials and in which the discussion focuses on specific regulatory or supervisory topics. A normalisation of conditions post-Covid-19 pandemic has allowed a partial return to in-person meetings, especially for high-level meetings.

As part of its regular programme of events, the FSI also co-organised two conferences, on financial inclusion (co-hosted in 2022 with the Consultative Group to Assist the Poor (CGAP)) and securities markets (co-hosted with the International Organization of Securities Commissions (IOSCO)). The next biannual conference on deposit insurance and bank resolution (co-hosted with the International Association of Deposit Insurers) is scheduled for the second half of 2023.

In February 2023, the FSI co-organised a high-level conference on “Big techs in finance: implications for public policy”, jointly with the BIS Monetary and Economic Department. This event focused on policy approaches to the challenges raised by the participation of big tech companies in finance.

Moreover, in March 2023 the FSI, together with the IMF, hosted the third symposium on capacity development in the financial sector, which had last been held in 2019. This event brought together providers and recipients of capacity development and technical assistance worldwide. It fostered discussion on capacity development needs, current offerings, emerging approaches and effective techniques.

In 2022/23, over 3,900 participants from over 170 jurisdictions, from approximately 400 institutions, attended FSI policy events. Topics covered included financial technology, crisis management, supervisory issues, climate change and financial inclusion.

FSI Chair Fernando Restoy speaks at the “Big techs in finance” conference, February 2023.

Training

The FSI supports the capacity-building objectives of financial authorities through its training activities. Training comprises FSI Connect (the FSI's e-learning platform), virtual seminars and online courses. FSI virtual seminars in 2022/23 covered topics including risk-based supervision, Basel III implementation, insurance standards, crisis management, climate-related financial risks and financial technology.

FSI Connect

FSI Connect contains tutorials on a broad range of regulatory and supervisory topics, mostly relating to global regulatory standards. In 2022/23, the FSI Connect library of tutorials was expanded by 23 new and major update tutorials, as well as three Executive Summaries. These tutorials covered topics such as risk-based supervision, Basel III implementation, insurance standards, IOSCO principles, crisis management, e-money consumer protection, CBDCs for cross-border payments, the Principles for Financial Market Infrastructures (PFMI), stablecoin arrangements and climate risk. As of March 2023, 299 institutions from 160 jurisdictions had subscribed to FSI Connect, with a total of 11,170 users.

Online courses

Reflecting the growing awareness of climate-related financial risks, in 2022 the FSI launched a new online course, the Climate and Environmental Risks Online Course (CEROC), together with the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). In addition, the FSI, together with other units of the BIS, launched the BIS Financial Innovation and Technology course (BIS-FIT). These two courses complement the four other online courses offered by the FSI. Two are provided jointly with the IMF, and cover fundamentals of banking regulation and supervision, and issues relating to crisis management, respectively.

FSI Connect portal.

The other two, with the IAIS, cover core aspects of insurance regulation and supervision, and insurance capital standards. As of March 2023, a total of 2,680 participants attended FSI training sessions (including online courses and virtual seminars) from 280 institutions across 157 jurisdictions.

The delivery of online courses has been facilitated by the launch of the new FSI e-learning platform in April 2022. Thanks to this, all online course content is now available through a single portal, allowing for a seamless user experience.

Central Banks' and Supervisors' Climate Training Alliance (CTA)

The FSI also continues to enhance the CTA portal, which is part of a joint initiative by the BIS, the NGFS, the IAIS and the UN-convened Sustainable Insurance Forum (SIF). As of the end of financial year 2022/23, almost 1,000 officials from around 100 jurisdictions have access to the portal.

Online courses

NEW

Bank Resolution online course (BROC), in partnership with the IMF

437 Participants

124 Institutions

93 Jurisdictions

NEW

BIS financial innovation and technology online course (BIS-FIT)

189 Participants

49 Institutions

39 Jurisdictions

NEW

Climate and Environmental Risks online course (CEROC), in partnership with the Network for Greening the Financial System

195 Participants

76 Institutions

62 Jurisdictions

Supervisory and Regulatory Online Course (SROC), in partnership with the IMF

536 Participants

135 Institutions

122 Jurisdictions

FSI-IAIS regulatory and supervisory training online course (FIRST-ONE)

311 Participants

92 Institutions

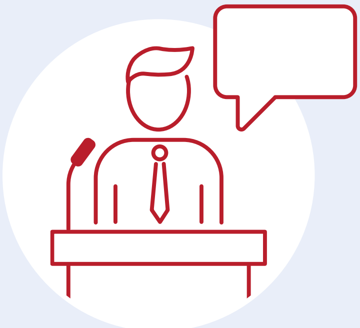
81 Jurisdictions

FSI policy events 2022/23

3,912 participants

396 institutions

171 jurisdictions



7 high-level meetings

12 policy implementation meetings

3 conferences

Representative Office for Asia and the Pacific

Building on the momentum from the region's post-Covid reopening and Asian shareholders' increasing demand to intensify engagement with the BIS, the Asian Office continues to serve as a bridge between Asian constituencies and the broader BIS community. The Asian Consultative Council (ACC), comprising the Governors of the 13 BIS member central banks in Asia and the Pacific, serves as the advisory body for the BIS in the region. It meets twice a year and provides strategic guidance on the broad direction for the Asian Office's work programme. Its chair is Perry Warjiyo, Governor of Bank Indonesia. The Asian Office provides secretariat services for the ACC.

BIS-Bank of Thailand conference "Central banking amidst shifting ground", December 2022.

The Asian Office has 37 staff from over 10 countries. It conducts Asia-focused policy-oriented research and economic analysis and organises engagement with member central banks and other stakeholders in the region, anchored by support to the ACC activities. The Asian Office also works closely with colleagues across the BIS to foster policy dialogue and cooperation beyond Asia and the Pacific, while helping to develop new banking products and services for central banks and international financial institutions around the world.

Through its presence in Hong Kong SAR, the Asian Office facilitates visits of staff to the region. It works closely with and provides support to the operations of BIS hosted committees and associations in the region and works closely with the BIS Innovation Hub Centres in Hong Kong and Singapore to explore ways to meet the sharp increase in regional central banks' interest in central bank digital currencies (CBDCs) and other fintech projects.

The year's highlights

A year of transition

With the gradual removal of Covid-induced restrictions, 2022/23 was a year of transition. A strong rebound in economic activity reinforced the region's status as the most dynamic and fastest growing in the world, accounting for more than half of global economic growth. Central banks in the region have grappled with rising inflation and managed the financial stability risks stemming from monetary tightening. While adapting to the evolving Covid situation in Hong Kong, the Asian Office continued to meet the needs of the BIS members in the region. It brought several long-planned projects to fruition and transitioned from online-based engagement to a hybrid mode of interaction with Asian central banks. Efforts to further strengthen collaboration across different workstreams and build a more integrated engagement approach towards our Asian constituencies are under way.

More strategic and topical ACC discussions

Discussions at the ACC meetings focus on conjunctural issues as well as long-term and frontier topics. Issues discussed included financial stability risks stemming from tightening monetary policy, measures to help provide liquidity at times of market stress, and supporting central banks in their efforts to green their economies and mitigate climate risks in the region.

Providing public goods through frontier research and innovative products

Responding to feedback from the ACC member central banks, the Asian Office, collaborating closely with staff from across the BIS, conducted cutting-edge research in areas including inflation drivers and regimes, monetary spillovers and capital flows, macroprudential policy, the interaction of monetary and prudential policies, CBDC in EMEs, big techs, global supply chains and green and sustainable bonds (see Chapter 2). Banking staff also continued to work closely to develop options to provide liquidity to regional central banks in times of market stress, and helped to operationalise the BIS's Asian green bond fund with a view to a further deepening regional green bond markets (see Chapter 4). In terms of capacity-building, the Asian Office helped the BIS to meet the demand from ACC central banks, including on tailoring the NGFS's climate risk scenarios to Asia's situation, and on cyber security.

Macro-financial stability frameworks and beyond

With strong input from ACC Governors, the Asian Office and MED produced the report *Macro-financial stability frameworks and external financial conditions* for the G20 Finance Ministers and Central Bank Governors meeting in Bali in July 2022 (see Chapter 2). Building on this report and other studies, the Office engaged with the Association of Southeast Asian Nations (ASEAN) under the Indonesian G20 Presidency. In response to new policy challenges from high inflation and tight global financial conditions, the Asian Office launched a new ACC working group on "Inflation, external financial conditions and macro-financial stability frameworks (MFSFs) in Asia-Pacific" in November 2022 to review how ACC central banks and other financial authorities have operated their MFSFs in consideration of country-specific shocks and characteristics since late 2021 and to draw lessons for potential refinement of their policy frameworks.

Banking on Asia in a challenging environment

Leveraging the economic dynamism of Asia and the unique advantages of Hong Kong SAR as an international financial centre, the Regional Treasury team in the Asian Office continued to manage and execute reserve managers' regional investment activities and contribute significantly to the BIS's overall banking business (see Chapter 4). These efforts have included developing and further expanding the BIS's local currency products – including with central banks outside Asia, helping to expand the BIS Asian green bond fund, and undertaking efforts to provide liquidity support tools and products to meet the needs of central banks in the region.

Providing support to BIS hosted committees and associations

Supporting the work and outreach efforts of BIS hosted committees and associations is a priority area for the Asian Office. In 2022/23, this included joining with the Hong Kong Monetary Authority to host a high-level conference on banking supervision alongside the Basel Committee conference in Hong Kong in March 2023, and the Chief Representative's keynote speech at the Asia-Pacific high-level meeting on insurance supervision organised by the International Association of Insurance Supervisors and the FSI in September 2022.

BIS Chief Representative for Asia and the Pacific Tao Zhang speaks at the Hong Kong Monetary Authority-BIS conference "Future-proof supervision for an innovative banking world", Hong Kong SAR, March 2023.

An integrated and multipronged approach to engagement

To further its strategic goal of increasing links between Asia and Basel and deepening engagement with our Asian stakeholders, the Asian Office has further expanded the BIS footprint and outreach in the region. In 2022/23, this included:

- **More regular and strategic engagement with multilateral and regional institutions.** The July 2022 MFSFs report, the General Manager's engagement at the G20 meetings in India in February 2023 on the topic of digital public infrastructure, the Deputy General Manager's remarks at the Board of Governors meeting of the SEACEN Centre in December 2022, the briefing of ASEAN Ministers and central bank Governors in March 2023 and the Chief Representative's speech at the inaugural AMRO Economic Cooperation and Financial Stability Forum in December 2022 all helped to inform and shape policy discussions both within and beyond the region.

- **Wider perspectives gained from targeted outreach to stakeholders beyond central banks.** The General Manager and other management members participated in a wide range of high-level forums and conferences in the region, including the Asian Financial Forum, the Boao Forum, Hong Kong Fintech Week, the Singapore Fintech Festival, the Bloomberg New Economy Forum, the Caixin Summit, the Bund Summit, the Genron Forum, the S&P Asia-Pacific Financial Institutions' conference, and the HKU Business School conference. These provided opportunities to share the Bank's views on inflation, monetary policy, CBDC, green finance and financial stability, and have helped to raise the BIS's visibility in the region and reach important stakeholders and influencers beyond the central banking community.

- **Bringing more of Asia to Basel beyond the regular meetings.** Asian central banks also engaged actively in high-level conferences and events at the BIS, with the People's Bank of China co-hosting one of the BIS flagship events, the Green Swan conference, alongside the ECB and NGFS, and regional central bank Governors taking part in the BIS Innovation Summit, sharing views and experiences from Asia with the broader BIS community.

Representative Office for the Americas

The Americas Office promotes cooperation among central banks and supports the Consultative Council for the Americas (CCA). The CCA brings together the Governors of the BIS shareholder central banks in the Americas (from Argentina, Brazil, Canada, Chile, Colombia, Mexico, Peru and the United States). The CCA provides Governors with a forum in which they can share their views and coordinate on pressing issues of relevance to their institutions. Through the CCA's consultative groups, task forces and research networks, senior central bank officials engage with areas such as financial stability, monetary policy, digital innovation, risk management, scientific research and central bank communication.

The Americas Office is comprised of more than 30 people from 10 countries. The office undertakes research and economic analysis with a regional focus to support the central banking community in the Americas. In close collaboration with BIS headquarters and the Asian Office, the Americas Office offers banking services to central banks and international financial institutions – not just in the Americas, but also in Europe, Asia-Pacific and Africa. This allows for service provision on a near 24-hour basis, and helps maintain close contact with reserve managers and other counterparties across the globe, and from the Asian through the European and late US trading sessions (see Chapter 4).

The year's highlights

The past year brought some major milestones for the Americas Office, including celebrating the 20th anniversary of the office, a range of outreach and collaborative activities and a return to in-person regional meetings. Meanwhile, the CCA's work focused on the various challenges facing the region after the pandemic, including higher global inflation, accelerated digitalisation and longer-term obstacles to growth and trade.

Americas Office 20th anniversary

To commemorate its 20 years in the Americas, the office held a high-level conference in Mexico City in November 2022. The conference brought together more than 20 Governors from CCA and non-CCA central banks in the Americas and beyond, to discuss current and long-term economic challenges. The conference featured discussions on a range of topics, such as the spillovers of US monetary policy, the disinflation path, central banks' practical experiences with central bank digital currencies (CBDCs) and fast payment systems, and the impact of a potential re-ordering of global supply chains.

Americas Office 20th anniversary

New CCA Chair

After three years, John C Williams (Federal Reserve Bank of New York) concluded his time as chair of the CCA in January 2023, handing over responsibilities to Roberto Campos Neto (Central Bank of Brazil).

BIS General Manager Agustín Carstens, John C Williams (Federal Reserve Bank of New York), Roberto Campos Neto (Central Bank of Brazil) and BIS Chief Representative for the Americas Alexandre Tombini.

The CCA's regionally focused efforts

The Americas Office also returned to hosting in-person meetings of the CCA's various consultative groups after two years of virtual meetings brought on by the pandemic. Given the range of concurrent and common issues faced by central banks – including high inflation rates, digitalisation and climate change – the demand for the office's collaborative activities is only increasing.

The office's consultative groups delivered tangible results for CCA members. The Consultative Group on Innovation and the Digital Economy (CGIDE) published its third volume on enabling open finance through application programming interfaces (APIs). Meanwhile, the Consultative Group on Risk Management (CGRM) published two reports, one on incorporating climate risks into central banks' international reserve management frameworks and another on business continuity planning in central banks before and after the pandemic.

The Americas Office continues to facilitate and produce regionally focused research. It hosted the 12th Annual BIS CCA Research Conference on structural changes in inflation and output dynamics. The conference brought together 30 economists from the region and beyond to discuss nine policy-relevant research papers, several of which were subsequently released as BIS Working Papers. The office also launched a research network on the macro-financial implications of climate change and environmental degradation; the network's activities will culminate with a research conference in late 2024. Meanwhile, staff based in the office produced research on numerous issues, including monetary policy challenges, the impact of geopolitical shocks, the economic effects of the pandemic, digitalisation and climate change.

Beyond its economic and financial work, the Americas Office also strengthened its ties and social impact in Mexico through several charitable initiatives which took place across the BIS (see Chapter 6).

International groups at the BIS

The BIS hosts nine international groups engaged in standard setting and the pursuit of financial and monetary stability. The BIS supports their work by providing secretariat functions, and contributing its expertise in economic research and statistics, its practical experience in banking and its knowledge in regulatory and supervisory issues. In addition, its close relationships with policymakers and stakeholders allow the Bank to enrich the debate and to add value to the work of these groups.

These international groups include six committees and three associations. Co-location on BIS premises facilitates communication, knowledge-sharing and collaboration among these groups and prevents overlaps and gaps in the various work programmes. It also facilitates interaction of these groups with policymakers in the context of the BIS's regular meetings.

Committees

The BIS supports the six committees responsible for financial stability by providing secretariat functions, which prepare the committee meetings, background papers and reports and publish the group's work. The committees' agendas are guided by the senior representatives of the various groups of member central banks and supervisory authorities.

BIS committees

- The **Basel Committee on Banking Supervision** develops global regulatory standards for banks and seeks to strengthen micro- and macroprudential supervision.
- The **BIS Committee on Payments and Market Infrastructures** establishes and promotes global regulatory/oversight standards for payment, clearing, settlement and other market infrastructures, and monitors and analyses developments in these areas.
- The **Committee on the Global Financial System** monitors and analyses issues relating to financial markets and systems.
- The **Markets Committee** monitors developments in financial markets and their implications for central bank operations.
- The **Central Bank Governance Group** examines issues related to the design and operation of central banks.
- The **Irving Fisher Committee on Central Bank Statistics** addresses statistical issues relating to economic, monetary and financial stability.

Basel Committee on Banking Supervision

Pablo Hernández de Cos
Chair of the Basel Committee
on Banking Supervision

The Basel Committee on Banking Supervision (BCBS) is the primary global standard setter for the prudential regulation and supervision of banks and provides a forum for regulatory cooperation on banking supervision matters. Its mandate is to strengthen the regulation, supervision and practices of banks worldwide with the purpose of enhancing financial stability. The BCBS reports to the Group of Central Bank Governors and Heads of Supervision (GHOS), its oversight body.

The BCBS comprises 45 members from 28 jurisdictions, consisting of senior representatives of banking supervisory authorities and central banks responsible for banking supervision or financial stability in their respective jurisdictions. The Chair of the BCBS is Pablo Hernández de Cos, Governor of the Bank of Spain. He was reappointed as Chair for an additional three-year term in February 2022.

The GHOS comprises central bank Governors and heads of non-central bank supervisory authorities from BCBS member jurisdictions. It approves the BCBS's work programme and major decisions, and provides overall strategic direction to the BCBS. The Chair of the GHOS is Tiff Macklem, Governor of the Bank of Canada, who was appointed as Chair for a three-year term in April 2022, succeeding François Villeroy de Galhau.

Inflation and the deteriorating macroeconomic outlook

The GHOS and BCBS continued to discuss and share information on financial risks and vulnerabilities and supervisory developments, against the backdrop of a highly uncertain economic outlook and growing risks. The resurgence of inflation in many jurisdictions, coupled with a deteriorating macroeconomic outlook and tighter financial conditions, is exposing some vulnerabilities in the financial system. While the global banking system has remained broadly resilient to date, thanks in part to the Basel III reforms implemented after the Great Financial Crisis (GFC), some stresses have emerged. GHOS members underlined the importance of banks and supervisors continuing to closely monitor, assess and mitigate emerging risks and vulnerabilities.

Implementation and evaluation of the Basel III reforms

In February and September 2022, GHOS members took stock of the implementation status of the outstanding Basel III reforms. These standards, finalised in 2017, seek to strengthen the resilience of banks by addressing some of the weaknesses in the regulatory framework that were exposed by the GFC, including by reducing excessive variability in risk-weighted assets and improving the comparability and transparency of banks' risk-based capital ratios. Addressing these weaknesses remains as important today as it was pre-pandemic.

More than two thirds of jurisdictions plan to implement all or the majority of the outstanding standards in 2023 or 2024, with the remaining jurisdictions planning to implement them in 2025. There are only a limited set of technical standards that are subject to an implementation delay.

GHOS members unanimously reaffirmed their expectation that all aspects of the Basel III framework will be implemented in a full and consistent manner, and as soon as possible, in order to provide a level playing field, in terms of regulation, for internationally active banks. These banks should continue preparing for the forthcoming implementation of the standards.

In December, the BCBS published its first holistic evaluation of the impact and efficacy of the implemented Basel III reforms. It indicated that the implemented reforms are an important driver of the overall increase in bank resilience and found at that time that market-based measures of systemic risk had improved. It also found that there is no considerable evidence of negative side effects of the reforms on banks' lending and capital costs, nor does it identify redundancy among elements of the reforms, while acknowledging greater regulatory complexity.

Basel Committee on Banking Supervision meeting, June 2023.

Mitigating emerging risks

Climate-related risks

In June 2022, the BCBS issued principles for the effective management and supervision of climate-related financial risks, with the aim of promoting a principles-based approach to improving both banks' risk management and supervisors' practices related to climate-related financial risks.

It set out 18 principles covering corporate governance, internal controls, risk assessment, management and reporting. They seek to achieve a balance in improving practices and providing a common baseline for internationally active banks and supervisors, while retaining sufficient flexibility given the degree of heterogeneity and evolving practices in this area.

The BCBS expects implementation of the principles as soon as possible and will monitor progress across member jurisdictions to promote a common understanding of supervisory expectations and support the development and harmonisation of strong practices across jurisdictions.

In December 2022, the BCBS issued responses to frequently asked questions (FAQs) to clarify how climate-related financial risks may be captured through existing requirements in the Basel Framework.

BCBS Chair Pablo Hernández de Cos speaks at the HKMA-BIS joint conference "Future-proof supervision for an innovative banking world", Hong Kong SAR, March 2023.

Cryptoassets

In December 2022, the GHOS endorsed the BCBS's finalised prudential treatment for banks' exposures to cryptoassets. Unbacked cryptoassets and stablecoins with ineffective stabilisation mechanisms will be subject to conservative prudential treatment. The standard will provide a robust and prudent global regulatory framework for internationally active banks' exposures to cryptoassets that promotes responsible innovation while preserving financial stability. GHOS members agreed to implement the standard by 1 January 2025, and tasked the BCBS with monitoring the implementation and effects of the standard.

Sharing supervisory insights

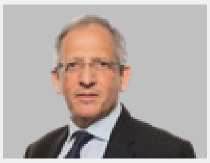
An important element of the BCBS's work is facilitating supervisory exchange on current and emerging risks and vulnerabilities across the banking system, as well as supervisory practices. During the year, the BCBS published guidance on topics including:

- an evaluation of buffer usability and cyclicality in its regulatory framework along with a newsletter on positive cycle-neutral countercyclical capital buffer rates;
- high-level considerations on proportionality which aim to provide practical support to authorities seeking to implement proportionality in their domestic regulatory and supervisory frameworks;
- bank exposures to non-bank financial intermediaries (NBFIs), highlighting increased risks from the sector and lessons learnt from recent episodes of NBFI distress; and
- credit risk in real estate and leverage lending, noting elevated risks in these sectors and encouraging prudent risk management practices by banks.

At its March 2023 meeting, the BCBS discussed the outlook for the global banking system in the light of recent economic and financial market developments. In addition, it agreed to take stock of the regulatory and supervisory implications stemming from recent events, with a view to learn lessons.

More information about the Basel Committee at www.bis.org/bcbs.

BIS Committee on Payments and Market Infrastructures



Sir Jon Cunliffe
Chair of the Committee on Payments and Market Infrastructures

The BIS Committee on Payments and Market Infrastructures (CPMI) is a global standard-setting body that promotes the safety and efficiency of payment, clearing, settlement and reporting systems and other financial market infrastructures (FMIs). The CPMI also serves as a forum for central banks to monitor and analyse developments and cooperate on related oversight, policy and operational matters, including the provision of central bank services. Chaired by Sir Jon Cunliffe, Deputy Governor of the Bank of England, the CPMI comprises senior officials from 28 central banks.

Advancing G20 roadmap for enhancing cross-border payments

In close coordination with the Financial Stability Board (FSB) and other international bodies, the CPMI contributed to the development of an ambitious multi-year programme on enhancing cross-border payments, which resulted in the publication of the October 2020 G20 roadmap, consisting of 19 building blocks (see next page).

The second full year of the CPMI's work under the G20 roadmap saw 13 reports completed, and work progressed across all of its assigned 11 building blocks. During the year, it published reports on how cross-border payments could be improved through interlinking payment systems, CBDCs, central bank liquidity bridges, multilateral platforms, increasing adoption of payment versus payment (PvP) and harmonisation of the ISO 20022 payment messaging standards.

Going forward, the CPMI and other leading organisations will focus on three priority themes: (i) interoperability and extension of payment systems; (ii) data exchange and messaging standards; and (iii) legal, regulatory and supervisory frameworks.

G20 roadmap for enhancing cross-border payments: building blocks

A

Public and private sector commitment

1. Develop common cross-border payments vision and targets
2. Implement international guidance and principles
3. Define common features of cross-border payment service levels

B

Regulatory, supervisory and oversight frameworks

4. Align regulatory, supervisory and oversight frameworks
5. Apply AML/CFT consistently and comprehensively
6. Review interaction between data frameworks and cross-border payments
7. Promote safe payment corridors
8. Foster know-your-customer and identity information-sharing

C

Existing payment infrastructures and arrangements

9. Facilitate increased adoption of PvP
10. Improve (direct) access to payment systems
11. Explore reciprocal liquidity arrangements
12. Extend and align operating hours
13. Pursue interlinking of payment systems

D

Data and market practices

14. Adopt a harmonised version of ISO 20022 for message formats
15. Harmonise API protocols for data exchange
16. Establish unique identifiers with proxy registries

E

New payment infrastructures and arrangements

17. Consider the feasibility of new multilateral platforms and arrangements for cross-border payments
18. Foster the soundness of global stablecoin arrangements
19. Factor an international dimension into CBDC designs

Addressing policy issues arising from digital innovations in payments

Addressing policy issues associated with stablecoin arrangements, the CPMI, together with the International Organization of Securities Commission (IOSCO), published final guidance confirming that stablecoin arrangements should observe international standards for payment, clearing and settlement systems.

The CPMI continued to monitor developments in payments. It collected, analysed and published the 2021 data for the Red Book statistics on payments and FMIs in member jurisdictions. These data highlight the acceleration of digitalisation of payments alongside a resurgence in the use of cash.

Contributing to international work to strengthen the resilience of non-bank financial intermediaries

In September, the CPMI published the final report *Review of margining practices*, which feeds into the Financial Stability Board's work programme to enhance the resilience of the non-bank financial intermediation sector. Together with the BCBS and IOSCO, in this report the CPMI analysed margin calls during the March 2020 market turmoil, margin practice transparency, predictability and volatility across various jurisdictions and markets, and market participants' liquidity management preparedness.

The report built on a consultation published in October 2021 which was based on surveys of central counterparties (CCPs), clearing members and broker-dealers, clients (ie entities that participate in these markets through an intermediary) and regulatory authorities, and other data analyses. It took into account the feedback received on the consultative report, including through a series of stakeholder outreach events.

Evaluating and addressing risks in FMIs

The periods of market turmoil over recent years – including the one in March 2020 – have demonstrated the benefits that central clearing brings for global financial stability and the importance of CCP resilience. As part of its standard-setting work, the CPMI has continued its work to strengthen this resilience.

To this end, it published the report *Client clearing: access and portability*, which aims to increase common understanding of new access models that enable clients to directly access CCP services, and of effective porting, or transferring, practices for their positions. The report considers the potential benefits and challenges – particularly ones related to risk management – of the new access models developed by CCPs, taking into account industry feedback.

In August, the CPMI issued a discussion paper in conjunction with IOSCO seeking industry input on CCP practices to address non-default losses (NDLs), such as cyber attacks, which can threaten a CCP's viability as a going concern and its ability to continue providing critical services. The discussion paper seeks to advance industry efforts and foster dialogue on the key concepts and processes used by CCPs to manage potential losses arising from NDLs. It outlines current practices at various CCPs to address NDLs in business as usual, recovery and orderly wind-down scenarios.

The CPMI and IOSCO also continue to monitor implementation of the international standards for FMIs. In 2022/23, this included publishing an assessment of the cyber resilience of FMIs, which found reasonably high adoption of the CPMI-IOSCO guidance on cyber resilience for FMIs. However, it identified a serious issue relating to a small number of FMIs not fully meeting expectations regarding the development of cyber response and recovery plans.

More information about the BIS Committee on Payments and Market Infrastructures at www.bis.org/cpmi.

Committee on the Global Financial System

Philip Lowe
Chair of the Committee on the Global Financial System

The Committee on the Global Financial System (CGFS) monitors financial sector developments and analyses their implications for financial stability and central bank policy for the Governors of the BIS Global Economy Meeting. Chaired by Philip Lowe, Governor of the Reserve Bank of Australia, the CGFS comprises senior officials from 28 central banks plus the BIS.

Global financial vulnerabilities

The CGFS focused its attention on the consequences of forceful monetary tightening for financial stability. In 2022, the global financial system proved largely resilient to a sharp tightening of financial conditions, a large appreciation of the US dollar and volatile commodity prices. The resilience of many EMEs was underpinned by past improvements in fundamentals and institutional frameworks. In early 2023, business models that relied on low-for-long interest rates felt the strain and individual banks in some countries came under stress.

Looking forward, members cautioned that the financial system's continued stability was likely to be tested by a sustained global tightening of monetary policy. To bring inflation back to target, monetary policy might need to remain tighter for longer than markets had priced in. Also, owing to differences in inflationary pressures, the stance of monetary policy might diverge across countries in the future, increasing the likelihood of disruptive moves in exchange rates.

Members shared perspectives on the specific risks that a downturn in property markets might pose to the financial system and macroeconomy. In many markets, valuations remained stretched, which increased their vulnerability to a large, prolonged correction. The high level of household debt in some countries exacerbated the sensitivity of residential property prices and consumer demand to changes in interest rates. Non-bank financial institutions (NBFIs) and foreign investors had become prominent players in commercial property markets, resulting in closer links between these markets and many parts of the financial system. As a result, any troubles could quickly spread.

During the Covid-19 crisis, the simultaneous easing of monetary, fiscal and prudential policies had reinforced their stimulative effect on demand. In the light of this experience, the CGFS exchanged views about complementarities between prudential and monetary policies during periods of monetary tightening. Members concurred that the main role of macroprudential policies was to support the resilience of the financial system, and that a resilient financial system gave central banks more room to tighten monetary policy.

Vulnerability of NBFIs to rising interest rates

When interest rates were near historical lows, a "snapback" had been seen as a salient threat to financial stability. Although the rise in interest rates worldwide in 2022 did not cause widespread financial strains among NBFIs, members remained wary that higher rates might reveal vulnerabilities at NBFIs that had built up during the period of low rates and lead to systemic stress. Also, the growing presence of NBFIs in the financial system heightened concerns about how their vulnerabilities might exacerbate cross-border spillovers, through channels outlined in a paper prepared for the CGFS. Meaningful improvements in the liquidity management practices of money market and other open-ended funds were seen as particularly urgent to mitigate potential systemic risks.

Central bank asset purchases in response to the Covid-19 crisis

Following the outbreak of the Covid-19 pandemic in early 2020, central banks moved quickly and forcefully to limit the economic and financial fallout from the health crisis. In addition to cutting rates, they engaged in large-scale asset purchases. In a report published in March 2023, the CGFS found that asset purchases were broadly successful in addressing disruptions in monetary policy transmission and providing additional stimulus when the policy rate was constrained by the effective lower bound.

The impact of asset purchases and relative importance of various transmission channels differed across time and economies. The liquidity channel, whereby purchases improved financial market liquidity, was particularly important during the early weeks of the Covid-19 crisis, when markets were stressed. The signalling channel, whereby purchases foreshadowed the future stance of monetary policy, was less important than the portfolio rebalancing channel, through which purchases altered the duration and credit risk in private investors' portfolios. The contribution of the signalling channel to the easing of financial conditions was weak in countries where policy rates remained above the effective lower bound.

Climate risks and asset prices

To what extent are climate risks priced in financial markets? The CGFS brought together central banks, market participants and academics to explore this question and identify ways to enhance the incorporation of information about climate risks into asset prices. Drawing on a review of the academic literature, climate risks were seen as underpriced. Steps that could be taken towards better pricing included improving disclosures and strengthening the credibility of energy transition paths. Financial stability risks arising from climate change might be severely underestimated if they did not take account of indirect effects, such as the macroeconomic consequences of underinvestment in fossil fuels during the energy transition. These risks would increase the longer that it took to improve the pricing of climate risks.

More information about the Committee on the Global Financial System at www.bis.org/cgfs.

Markets Committee

John C Williams
Chair of the Markets Committee

The Markets Committee is a forum for senior central bank officials to discuss current market conditions, market functioning and monetary policy operations. It comprises senior officials from 27 central banks. The Market Committee is chaired by John C Williams, President and Chief Executive Officer of the Federal Reserve Bank of New York. His three-year term started in January 2023, as he took over from Jacqueline Loh, Deputy Managing Director of the Monetary Authority of Singapore, who had chaired the Markets Committee since 2017.

In 2022/23, the Markets Committee held regular meetings to analyse market developments and share experiences on ongoing monetary policy operations. A key focus was an exchange of views on the practicalities of implementing monetary tightening, including quantitative tightening, and assessing the implications and interactions with market dynamics. In the wake of emerging stress in financial markets in March 2023, the Markets Committee intensified its monitoring activities and exchange of experiences of central bank operations.

In January, it published a paper on funding for lending programmes (FFLs) that discussed salient features of FFLs across both advanced and emerging market central banks, drawing on insights from a Markets Committee workshop and survey responses from 14 central banks covering 27 FFLs.

It also held its fourth workshop on market intelligence. This highlighted that traditional market intelligence, through direct interaction and dialogue with market participants as well as expert judgment, remains critical. But technology, real-time monitoring and data-driven approaches have become an integral part. In recent years, market intelligence has also been expanded to include coverage of new players and markets, or those that have previously not been a focus for central banks.

The Markets Committee also held a workshop to explore some of the trade-offs of greater central clearing and all-to-all trading in government bond markets. While some benefits were identified, trade-offs depend critically on the specific market structure and its inherent design considerations.

Work was also undertaken to better understand the market structure of energy and commodity markets after market disruptions in 2022 increased market vulnerabilities and challenges for central banks. The Markets Committee held a workshop with private sector participants to assess structural changes and market functioning after the 2022 turmoil.

More information about the Markets Committee at www.bis.org/markets.

Central Bank Governance Group

Lesetja Kganyago
Chair of the Central Bank Governance Group

The BIS supports central banks in thinking about their governance and institutional design. It facilitates Governors' discussions and knowledge-sharing on these topics through the Central Bank Governance Group (CBGG), chaired by Lesetja Kganyago, Governor of the South African Reserve Bank. The CBGG comprises Governors from nine BIS member central banks as standing members, while other Governors join discussions when the topic is of particular relevance for them. The CBGG's secretariat prepares background analyses for these meetings. It also supports the Central Bank Governance Network and acts as a clearing house among central banks for information on the governance and institutional design of BIS members.

Central Bank Governance Network

The Network is an informal mechanism to facilitate the flow of information on central bank institutional design. Responding to requests from central banks for such information about other central banks, it improves the efficiency of information-gathering. Specialised surveys are conducted, as needed, to help this information flow, and to inform CBGG discussions.

Governance challenges for central banks

In its recent discussions, the CBGG considered governance issues related to the upturn in inflation, including central bank profitability and accountability in the conduct of monetary policy. The group also discussed the evolution of central bank roles as they relate to improving cross-border payments efficiency and addressing climate-related risks. Additional discussion themes over the 2022/23 period were central bank board structures and decision-making at central banks.

More information about the Central Bank Governance Group at www.bis.org/cbgov.

Irving Fisher Committee on Central Bank Statistics

Pablo García
Chair of the Irving Fisher Committee
on Central Bank Statistics

The Irving Fisher Committee on Central Bank Statistics (IFC) is a forum in which central bank economists and statisticians engage with and address statistical topics related to monetary policy and financial stability. Governed by BIS member central banks, it is hosted by the BIS and associated with the International Statistical Institute (ISI), and is a member of the International Association for Official Statistics. The IFC has 101 members, including all BIS member central banks. It is chaired by Pablo García, Deputy Governor of the Central Bank of Chile.

Organisational issues

A highlight of the reporting period was hosting the central bank network on historical monetary and financial statistics under the IFC umbrella. This group brings together central bank statisticians and academic experts to focus on long-run historical monetary and financial data that are relevant to policymakers.

A second initiative was the strengthening of the IFC contribution to promoting knowledge-sharing and international cooperation on statistics-related methodologies, initiatives and training, reflecting the important role played by central banks in the production of official statistics. To this end, the restricted network on statistical methodological issues was complemented by the launch of a dedicated public IFC knowledge centre webpage that comprises guidance notes and related methodological and training assistance, including through the joint development of an online course on macroeconomic financial accounts.

The IFC has also continued to support the international cooperation framework under the Data Gaps Initiative (DGI) endorsed by the G20, especially its new phase, initiated in 2022. This calls for better data to understand climate change, income and wealth, and financial innovation and inclusion. It also requires improved access to private and administrative data to make official statistics more detailed and timely. Moreover, IFC member central banks and the BIS have been actively participating in the ongoing revision of international statistical manuals (the System of National Accounts (SNA) and balance of payments (BPM)) and supporting the global legal entity identification (LEI) system and the Statistical Data and Metadata eXchange standard (SDMX).

Areas of focus

Landscape for central bank statistics
The IFC has continued to update its webpage with statistical resources. The page details relevant official projects and experiences. Moreover, the IFC's 11th Biennial Conference, held in August 2022, was an opportunity to reflect on the environment for official statistics looking forward.

Managing (big) data
The IFC furthered its analyses of the use of big data in central banks and on the contribution that machine learning, in particular, can make. In addition, the Committee has set up recurrent workshops on data science in central banking to review developments in the big data ecosystem and the ongoing adoption of data analytics.

Governance of official statistics including issues relating to communications
The IFC has promoted the establishment of strong data governance standards, and co-organised with the Banco de Portugal a conference on communications by central banks about official statistics. A related report based on a survey of IFC members was published in February 2023.

Fintech
IFC work has continued to document how fintech is transforming the financial landscape and how it is creating a number of challenges for statisticians. The IFC also participated in a global consultation on the revised structure of the International Standard Industrial Classification of All Economic Activities in relation to fintech activities.

Sustainable finance
The IFC has launched a number of initiatives on sustainable finance, including a publication in 2022 on the development of statistics in the environmental, social and governance (ESG) area.

More information about the Irving Fisher Committee at www.bis.org/ifc.

International associations at the BIS

The following associations have secretariats at the BIS. They have their own separate legal identities and governance structures. The BIS is a member of the FSB and IAIS.

Financial Stability Board

The Financial Stability Board (FSB) promotes international financial stability by coordinating the work of national financial authorities and international standard-setting bodies as they develop regulatory, supervisory and other policies. It fosters a level playing field by encouraging consistent implementation of these policies across sectors and jurisdictions. The FSB is chaired by Klaas Knot, President of De Nederlandsche Bank.

Over the past year, the FSB continued to take forward an ambitious programme to strengthen the resilience of the non-bank financial intermediation sector, enhance cross-border payments and address financial stability risks posed by climate change. The FSB also coordinated international work on addressing the financial stability implications of digital innovation, in particular cryptoassets. To this end, the FSB proposed a framework for the international regulation of cryptoasset activities, grounded in the principle of "same activity, same risk, same regulation".

The return of inflation, higher interest rates, record high debt levels and geopolitical tensions were a stark reminder that global financial stability should not be taken for granted. The FSB intensified its monitoring of current vulnerabilities and took forward work to reinforce the resilience of the financial system. This included conducting in-depth analyses and assessments of specific potential vulnerabilities, with a particular focus on decentralised finance, commodity markets, liquidity in core government bond markets and liquidity mismatches in open-ended funds.

More information about the FSB at www.fsb.org.

International Association of Deposit Insurers

The International Association of Deposit Insurers (IADI) is the global standard-setting body for deposit insurance systems. It contributes to the stability of financial systems by advancing standards and guidance for effective deposit insurance systems and promoting international cooperation among deposit insurers, bank resolution authorities and other safety net organisations. The President and Chair of IADI's Executive Council is Alejandro López, Chief Executive Officer of Seguro de Depósitos Sociedad Anónima, Argentina.

IADI marked its 20th anniversary in May 2022. It achieved notable milestones in its second decade, including playing an integral role as a safety net standard-setting body during times of financial crisis and establishing the IADI Core Principles for Effective Deposit Insurance Systems.

In 2022/23, IADI produced research and briefing papers on topics including the impact of inflation on deposit insurance, central bank digital currencies and emerging issues such as fintech and Covid-19. It also conducted thematic assessments of compliance with the Core Principles and advanced the process to review and update the Core Principles. In addition, it developed the global database on deposit insurance so that members can access its annual survey data. IADI also conducted international conferences, webinars and training and technical assistance activities to promote and facilitate the sharing and exchange of expertise among IADI participants. It also held workshops to train selected members to become experts in applying the Core Principles and Compliance Assessment Methodology. Further, it worked closely with the FSB, the FSI, the IMF, the World Bank and other international financial organisations to conduct conferences and meetings on deposit insurance and bank resolution issues.

More information about IADI at www.iadi.org.

International Association of Insurance Supervisors

The International Association of Insurance Supervisors (IAIS) is the global standard-setting body for insurance supervision. Its aim is to promote effective and globally consistent supervision of the insurance industry to develop and maintain fair, safe and stable insurance markets. The IAIS is chaired by Victoria (Vicky) Saporta, Executive Director of Prudential Policy Directorate at the Bank of England.

In 2022/23, the IAIS continued to support financial stability through key reforms. An important accomplishment was the FSB's endorsement of the IAIS Holistic Framework as a more effective basis for assessing and mitigating systemic risk in the insurance sector than the previous annual global systemically important insurer identification. A vital element of the Holistic Framework is the assessment of the comprehensive and consistent implementation of IAIS global macroprudential standards. In 2022, the IAIS completed detailed Targeted Jurisdictional Assessments, which are intensive assessments of the implementation of the Holistic Framework supervisory material in 10 major insurance markets.

In spring 2023, the IAIS launched the fourth year of the Insurance Capital Standard (ICS) monitoring period, and momentum is growing ahead of adoption of the standard at end-2024. The ICS will create a common language for supervisory discussions of group solvency of internationally active insurance groups and enhance global convergence amongst group capital standards.

The IAIS also worked on key themes such as climate change, cyber risk, digital innovation, financial inclusion, equity and inclusion, and conduct, culture and diversity, publishing supporting materials addressing the interests and demands of insurance supervisors. The IAIS also continued to enable cooperation among insurance supervisors and the exchange of supervisory information through its many forums and capacity-building programmes.

More information about the IAIS at www.iaisweb.org.

Other areas of international cooperation

The BIS participates in international forums such as the G20 and collaborates with key international financial institutions. It also contributes to the activities of central banks and regional central bank organisations by participating in their events as well as hosting joint events. During the past year, the Bank co-organised events or collaborated with the following organisations:

- Arab Monetary Fund (AMF)
- Asian Forum of Insurance Regulators (AFIR)
- ASEAN+3 Macroeconomic Research Office (AMRO)
- Association of Insurance Supervisors of Latin America (ASSAL)
- Association of Supervisors of Banks of the Americas (ASBA)
- Association of Southeast Asian Nations (ASEAN)
- Center for Latin American Monetary Studies (CEMLA)
- Centre for Economic Policy Research (CEPR)
- European Banking Authority (EBA)
- European Commission
- European Investment Bank (EIB)
- European Money and Finance Forum (SUERF)
- European Stability Mechanism (ESM)
- Eurostat
- Executives' Meeting of East Asia-Pacific Central Banks (EMEAP)
- Institute of International Finance (IIF)
- International Journal of Central Banking (IJCB)
- International Monetary Fund (IMF)
- International Organization of Securities Commissions (IOSCO)
- Joint Vienna Institute (JVI)
- Network of Central Banks and Supervisors for Greening the Financial System (NGFS)
- Organisation for Economic Co-operation and Development (OECD)
- South East Asian Central Banks (SEACEN)
- United Nation Secretary-General's Special Advocate for Inclusive Finance for Development (UNSGSA)
- World Bank Group

4

The bank for central banks

The BIS provides a broad range of banking services to central banks and other official sector customers. Activities include deposit-taking, gold and foreign exchange trading services, and the management of pooled fixed income products and dedicated investment mandates. Banking staff also manage the BIS's own funds and conduct knowledge-sharing activities for the broader reserve management community.

Banking activities

Introduction

BIS banking services are provided by the Banking Department and are designed to meet the reserve management demands of central bank and other official sector customers. This includes, in particular, accommodating reserve managers' needs in the face of dynamic shifts in market pricing, such as those triggered by the full-scale reassessment of the monetary policy outlook that took place across the major economies in 2022/23. In addition to delivering on reserve managers' core objectives of safety, liquidity and return, this involves reliable execution, around-the-clock service provision and strong customer focus. The BIS's banking activities thus evolve continuously to keep pace with the reserve management community's adjustment to the changing macro-financial environment (see box), placing a strong emphasis on product innovation and competitive pricing across the whole product range.

The BIS's banking business is underpinned by a strong capital position as well as stringent cyber security and risk management frameworks (see page 143). It is conducted in accordance with all relevant principles and industry standards, such as the FX Global Code and the SWIFT Customer Security Programme, as well as best market practices and the highest ethical standards. As part of its institution-wide environmental sustainability agenda (see page 123), the Bank also strives to promote green finance by enabling large-scale climate-friendly investments and by helping to establish relevant market standards for sustainability-focused financial instruments, including by offering a range of green financial products to reserve managers and other BIS clients (see "Asset management services" below).

The year's highlights

As the financial year started, market participants were continuing to reassess the outlook for monetary policy. Covid-related supply bottlenecks had already pushed up inflation in 2021, and the war in Ukraine – with the associated increases in food and energy prices – added further inflationary impetus. As a result, inflation forecasts for 2022 and 2023 continued to be revised upwards across both the major advanced and emerging market economies, upending hopes that the inflationary surge would be transitory. This, in turn, has translated into higher projected interest rates for 2023 and beyond, with valuations across fixed income and other reserve asset markets repricing accordingly (see box).

While this made for a challenging and volatile market environment, especially during the banking sector-related market stress in March 2023, key activity metrics point to a successful year for the BIS. Supported by continued strong demand for the Bank's products, at end-March 2023 BIS total assets stood at SDR 350 billion, up from SDR 348 billion the previous year (the Special Drawing Right, or SDR, is a basket of currencies defined by the IMF which serves as the Bank's unit of account or "numeraire").

How are reserve managers responding to the changing macroeconomic environment?

Some answers to this question can be gleaned from survey responses gathered by the BIS in 2022 and 2020. Reactions from participating reserve managers are summarised below in the form of "word clouds" that picture the frequency with which particular keywords were mentioned. The graph compares answers to the 2022 question, "Looking ahead, what adjustments are you planning to implement as the interest rate environment normalises?" with those to the prompt, "Please share any early experiences in the reserve management area in the context of the Covid crisis", put forward in 2020.

Reserve management responses to the changing macroeconomic environment

2022

2020

The size of each keyword in the two word clouds is proportional to the frequency of these words in the full text responses collected in 2022 and 2020, respectively.

Source: BIS; based on over 120 full-text responses from reserve managers collected in 2020 and 2022.

The responses reveal a clear change in emphasis. They indicate that, as interest rates started to normalise, reserve managers have been adjusting duration (ie reducing or planning to reduce interest rate risk), while cautiously taking steps to further diversify their reserve holdings. The graph highlights the elevated frequency of the word "duration" in the context of "increases" in "yields". Indeed, 47% of respondents indicated that they had cut duration relative to the period two years before, while 41% broadened their asset class universe. Another 31% had increased currency diversification, while 15% said that they had raised the risk budget for active management to increase the leeway available for portfolio managers.

These findings for 2022 compare with a distinct focus on the liquidity of reserve portfolios at the start of the Covid crisis in 2020, which was characterised by a pronounced "dash for cash" even in otherwise highly liquid markets. Reserve managers therefore appear to have refocused from concerns over the liquidity of their assets (liquidity risk) to the duration (interest rate risk) of their portfolios. Going forward, one challenge will be the timing of any increase in durations to benefit from the higher level of interest rates. Indeed, many reserve managers now report that they have started to lengthen portfolio durations or are expecting to do so in the near future, as current market uncertainties are clarified.

Although both customer deposits and third-party assets under management declined somewhat from the peak levels realised during the previous year, net profits for financial year 2022/23 reached SDR 679 million. This was up from the SDR 341 million reported in 2021/22.

Total comprehensive income stood at SDR 414 million at end-March 2023, down from SDR 918 million the previous year, with the change reflecting unrealised net losses on own funds assets in the context of rising government bond yields over the 2022/23 financial year (see page 154). These higher yields will, in turn, translate into increased carry income across the Bank's own funds portfolios over the coming years, supporting net profit.

> Despite the challenging macroeconomic environment and corresponding market backdrop, net profits are up from the previous year, reaching SDR 679 million at end-March.

During the financial year, further progress was made on implementing the Banking Department's ambitious transformation agenda as part of the overall Innovation BIS 2025 strategy. One key objective of this agenda is to improve product development and related services, as reflected in a new series of Medium-Term Instruments (MTIs) tied to the new post-Libor reference rates and the continuing expansion of the Bank's asset management services, where a new SDR-denominated dedicated mandate was added to the product range.

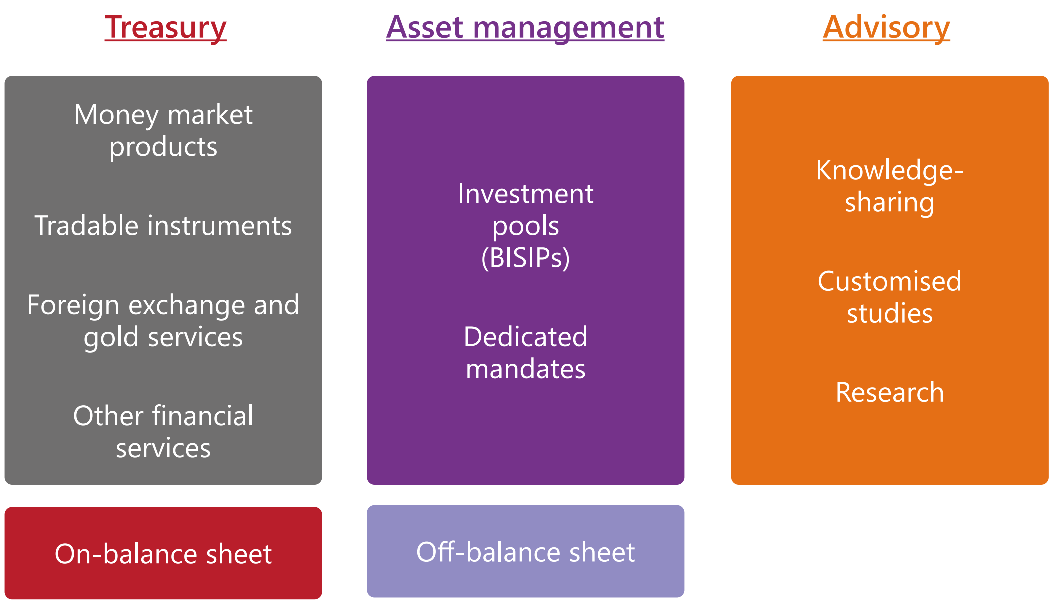
Progress in all these areas was supported by continuing upgrades of our trading and reporting systems. Completion of the implementation work for a new asset management system was a key milestone during the year, while major enhancement projects on electronic trading and client reporting have now been accelerated. These initiatives will help support an even more efficient delivery of banking services and faster, more client-focused product development.

Scope of banking services

Overview

The BIS offers a broad range of financial services to a global customer base of about 180 central banks, monetary authorities and international organisations (see graph below). To provide these services, BIS banking operates from three interlinked dealing rooms, located in Basel, Hong Kong SAR and Mexico City. Jointly, the three locations offer services on a near 24-hour basis to all BIS clients, and maintain close contact with reserve managers and other counterparties across the globe, and from the Asian through the European and late US trading sessions.

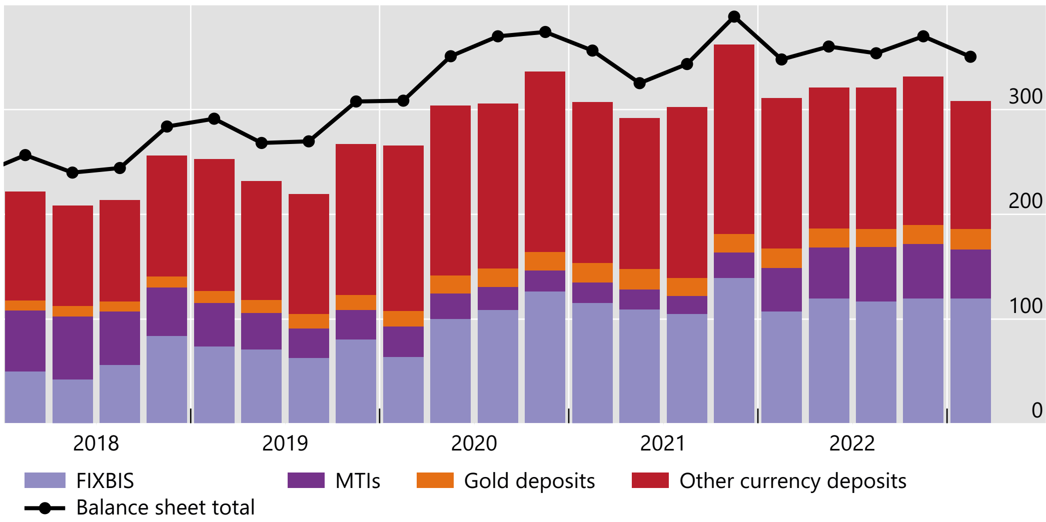
Products and services offered by the BIS Banking Department



Source: BIS.

Reflecting further additions to the Bank's product range as well as adaptive pricing, and despite the challenging environment faced during most of the year (see box), average currency deposits (on a settlement date basis) over the financial year increased to SDR 294 billion, up from SDR 284 billion in 2021/22, with a peak of SDR 321 billion in daily deposits reached on 10 June 2022. As of 31 March 2023, total deposits, a broader measure covering additional placements, stood at around SDR 308 billion, of which about 94% was denominated in currencies (SDR 289 billion) and the remainder in gold (see graph on next page).

Balance sheet total and deposits by product



End-quarter figures, in billions of SDR.

Source: BIS.

Financial products and services

Money market and tradable instruments

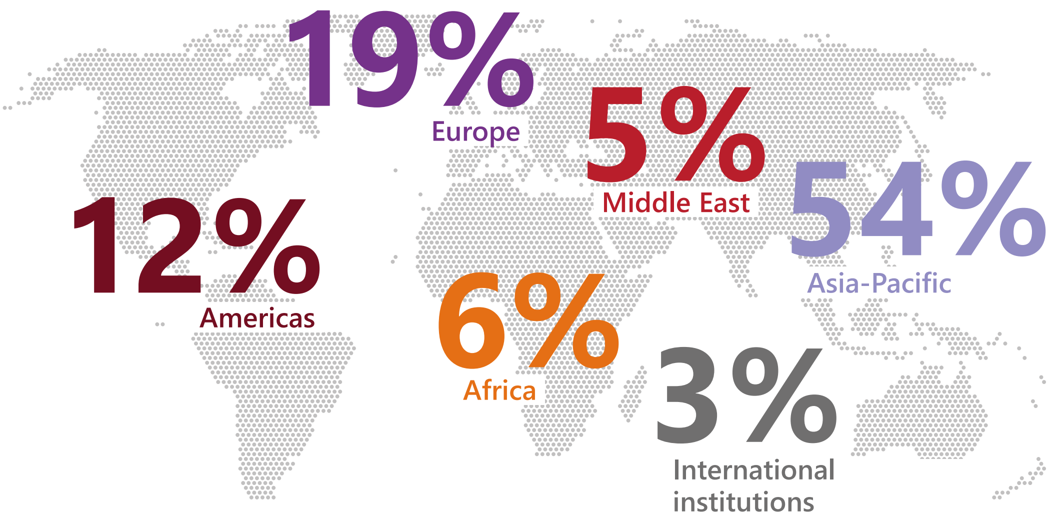
BIS Treasury offers money market placements, such as sight/notice accounts and fixed-term deposits, and tradable instruments in maturities ranging from one week to five years. These take the form of Fixed-Rate Investments at the BIS (so-called FIXBIS), Medium-Term Instruments (MTIs) and products with embedded optionality (known as callable MTIs).

All these products are designed and priced to offer returns that are competitive with those of comparable sovereign debt instruments, while providing the high credit quality and liquidity required by reserve management clients.

> Consistent client focus and close cooperation between the Bank's three regional offices have been key to maintaining a high level of customer placements.

Over the past year, accelerated development of new customer products and the attractive pricing of existing ones remained a key priority, helping to maintain a high level of customer placements. Highlighting the Bank's global geographical reach as well as the distribution of foreign exchange reserve holdings across regions, some 54% of overall currency deposits came from the Asia-Pacific region, with Europe contributing another 19%, the Americas adding 12%, and much of the remainder shared by Africa and the Middle East (see graph below).

Geographical distribution of currency deposits



Percentage; based on balance sheet values in SDR, excluding gold; financial year-end.
Figures do not sum to 100% due to rounding.

Source: BIS.

In this context, a particular focus was placed on the finalisation of the Bank's comprehensive Libor reform programme. After the successful launch of the GBP MTI referencing the new benchmark risk-free rate (SONIA) in 2021, a USD MTI referencing SOFR was added in 2022/23, and all legacy MTI Libor exposures transitioned to the fallback methodology. Euro-denominated MTIs, in turn, continue to reference Euribor. In the meantime, work has been continuing on the introduction of products in new currencies and the development of additional investment products in the medium-term sector, as central bank demand is expected to migrate to higher-duration exposures (see box). Preparatory work on eletronic trading capabilities based on a new execution and order management system has also been progressing, with implementation to commence shortly.

Foreign exchange and gold services

Foreign exchange (FX) services are another key part of the product range. The Bank conducts FX transactions on behalf of its central bank customers, providing access to a large and diversified liquidity pool. The BIS's FX services encompass spot transactions, swaps, outright forwards, options and dual currency deposits (DCDs).

In recent years, advanced electronic FX trading capabilities have been developed to provide BIS customers with enhanced liquidity and transparency for their spot transactions. This includes the Bank's e-FX platform, which offers price aggregator-based trade execution capabilities to help customers navigate the increasingly fragmented FX marketplace and implement even large spot and FX swap trades at competitive rates. As a result, about 57% of customer spot deals are now handled via this platform, up from about 54% in 2021/22 and 42% two years ago.

> The BIS e-FX platform has become an important tool for central bank customers looking to implement large FX spot and swap trades at competitive rates.

The BIS also provides comprehensive gold-related services that include buying and selling on a spot basis and via outright forwards, swaps and options. In financial year 2022/23, activity in both the foreign exchange and gold areas benefited from volatile gold prices and depreciation pressures across a range of currencies vis-à-vis the US dollar. Other gold services comprise sight accounts, fixed-term and dual currency deposits as well as physical services, such as quality upgrading, refining, safekeeping and location exchanges.

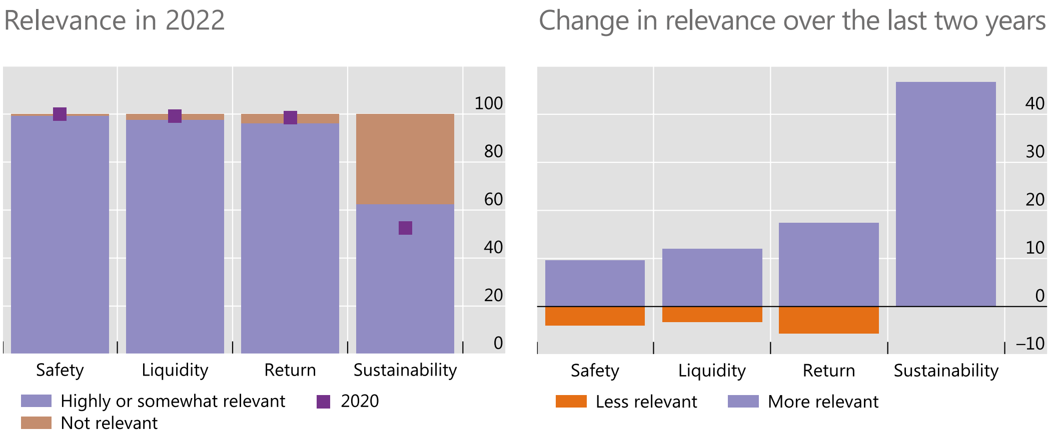
Asset management services

In addition to managing the Bank's own funds (see below), BIS Asset Management offers two types of customer product: (i) dedicated portfolio management mandates tailored to each central bank customer's individual preferences; and (ii) open-ended fund structures – so-called BIS Investment Pools (BISIPs) – that allow groups of BIS customers to invest in a common pool of reserve assets.

The BISIP structure, in addition to offering investments in core US dollar- and euro-denominated sovereign bonds, is a key tool for accommodating central bank interest in more diversified foreign exchange reserve portfolios. This includes BISIPs dedicated to US inflation-protected Treasury securities and to sovereign bonds denominated in emerging market economy currencies, such as the Chinese renminbi (CNY) and the Korean won (KRW). In addition, working closely with client central banks, the BIS has developed a suite of products to help meet reserve managers' growing demand for climate-friendly investments and to support the adoption of best market practices and reporting standards for these new instruments.

The latter include the Bank's three green bond funds, which have attracted rising interest across the reserve management community, given increased focus on environmental sustainability as a fourth reserve management objective, on top of the traditional objectives of safety, liquidity and return (see graph below).

Relative importance of main reserve management objectives



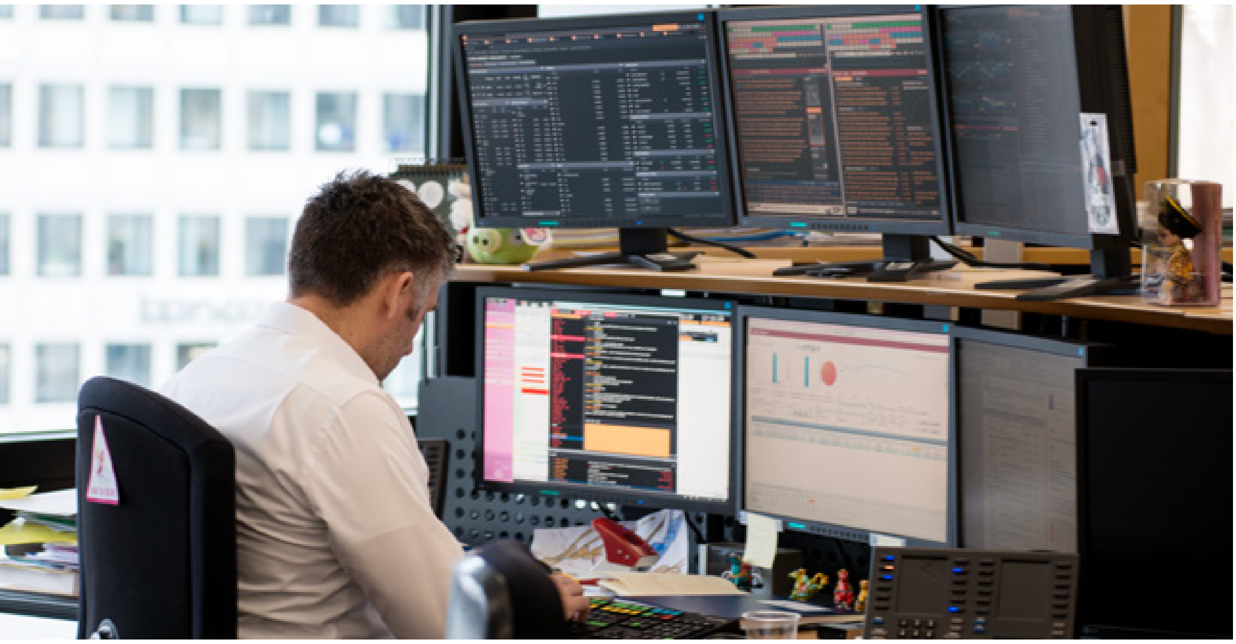
Percentage of respondents.

Source: BIS; based on over 120 responses from reserve managers collected in 2022 and 2020.

Client assets across both dedicated mandates and BISIPs, which are not included in the BIS balance sheet, amounted to around SDR 24 billion at 31 March 2023. This was down from the record of about SDR 25 billion recorded the previous year, due in large part to valuation changes in the context of rising yields and US dollar appreciation. Net investor flows were more limited, as inflows into the green bond funds and a new SDR-focused investment mandate partially offset outflows from other portfolios.

> Sustainable investment flows have helped to stabilise BIS asset management volumes in the context of falling overall levels of foreign exchange reserves.

As a result, despite generally declining total foreign exchange reserve levels across the central bank community, the overall size of BIS-managed sustainable investments amounted to around SDR 4 billion by the 2022/23 financial year-end; up some 13% from end-March 2022 and accounting for 16% of total third-party assets under management. This includes some SDR 3 billion across the three green bond BISIPs issued in 2019, 2021 and 2022, with the remainder invested in a corporate bond BISIP managed on the basis of responsible investment guidelines and in dedicated investment mandates managed on behalf of individual BIS clients. As an additional service offered to its green BISIP investors, the BIS also prepares annual impact reports, based on information provided by the issuers of the underlying bonds, to indicate the environmental benefits that investors can expect to achieve.



Other services

In addition to the products described above, the BIS offers a range of other financial services, including short-term liquidity facilities through which central banks can make drawings against high-quality collateral. Liquidity facilities come in two forms: (i) standalone bilateral facilities, which are agreements between the BIS and individual central banks; and (ii) central bank liquidity facilities, which were implemented mainly because of the market liquidity stress resulting from the Covid-19 pandemic. The latter leverage on bilateral agreements that the BIS has with major reserve currency-issuing central banks to support the provision of liquidity via the BIS. As such, BIS liquidity facilities add to the crisis management toolkit available to central banks, with key advantages being their speed of disbursement, operational efficiency and lack of stigma.

The Bank can also act as a trustee and collateral agent in connection with international financial operations. This includes providing ancillary reserve management services, such as supporting client central banks in reviewing and assessing their reserve management practices, and providing them with customised quantitative studies on asset allocation topics (see also "Customer outreach activities" below).

Management of the Bank's own funds

The BIS's equity capital stems from the paid-in capital of its shareholders and the retained earnings from its banking activities. Total shareholders' equity was SDR 24 billion as of 31 March 2023, up from SDR 23 billion the previous year, of which SDR 5 billion was held in gold (102 tonnes). The remainder of the Bank's equity is invested in high-quality, highly liquid fixed income instruments, with additional, diversifying asset classes phased in as part of the Innovation BIS 2025 strategy.

Set by BIS Management within parameters established by the Board of Directors, the strategic benchmark for the Bank's fixed income investments is regularly reviewed in the context of an established strategic asset allocation (SAA) process. It comprises SDR-weighted bond indices and currently has a target duration of about three years. The Asset Management function is charged with managing these investments within the constraints established by the Bank's risk management framework.

> The Bank's equity is invested in high-quality, highly liquid fixed income instruments, based on a strategic asset allocation that is reviewed at least annually.

In line with the Bank's strategic objective to broaden the return drivers of the Bank's own funds, exposures have previously been diversified to include selected highly rated investment grade corporate bonds, US Treasury inflation-protected government securities (TIPS) and US agency mortgage-backed securities (MBS). In financial year 2022/23, portfolio weights and target durations were twice adjusted to better align the own funds' strategic asset allocation with the changing macroeconomic backdrop. Following the regular reassessment of the Bank's SAA in early 2023, further adjustments to the allocation of own funds investments are planned for 2023/24.

Customer outreach activities

Regular programme of client events

The BIS maintains an active programme of regular, bilateral banking client meetings as well as a schedule of larger seminar-style knowledge-sharing events. These are enhanced by more ad hoc outreach activities, such as seminars on particular topics or BIS products. BIS banking staff also regularly participate in events organised by other central banks or industry bodies. As part of the Bank's broader outreach activities, these meetings strengthen the feedback mechanism between the BIS and its banking customers, informing product development as well as service delivery. They also facilitate the exchange of information among reserve managers and promote the development of investment and risk management capabilities within the reserve management community.

Following the lifting of all Covid-related constraints on knowledge-sharing activities in early 2022, bilateral client meetings have mostly reverted to in-person formats. In addition, returning to the traditonal schedule of in-person workshops and seminars, five such events took place in 2022/23, hosting some 170 participants from a total of 72 BIS client institutions. Furthermore, reflecting the positive experience with online events gained during the pandemic, three series of webinars were conducted throughout the year, including a joint webinar series on FX reserve management offered with the Federal Reserve Bank of New York. Overall, these events attracted a total of about 1,500 participants from 150 institutions. Topics included recent trends and challenges in foreign exchange reserve management, strategic asset allocation techniques, channels for the implementation of sustainable investments in reserve management, and findings from topical BIS research and their implications for reserve managers.

> The Banking Department's outreach activities are a key ancillary service delivered to the reserve management community, rounding off the services provided by BIS financial products.

As in previous years, various events featuring BIS banking products and general reserve management topics were organised for regional clients, leveraging the expertise of the two regional dealing rooms in Asia and the Americas, and part of the knowledge-sharing programme was offered in time frames and with content focused on particular regions. Recordings of these virtual events were made available also for clients in other time zones.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5

Fostering innovation

Rapid technological change in the financial sector brings both opportunities and risks. This situation creates significantly complex challenges for central banks. The BIS helps central banks continue to deliver on their core mandates of monetary and financial stability in a changing environment. Central banks must embrace sound innovation in the digital era to maintain the safety, integrity and stability of money and payments.

The BIS Innovation Hub: exploring public goods

The BIS Innovation Hub's core objective is the investigation and exploration of the potential for innovative technologies to address problems in the financial sector of importance to central banks. It pursues a threefold mandate:

- Exploring in-depth insights into critical trends in financial technology.
- Developing new technological solutions to problems in the financial sector that can be shared as public goods.
- Fostering a network of central bank experts on innovation.

As the Innovation Hub entered its fourth year of operation, its project portfolio was reaching a "cruising altitude" with 21 ongoing and five concluded projects. It is gradually evolving into a more mature operation, with six fully operational Hub Centres, in Hong Kong SAR, Singapore, Switzerland, London, Stockholm and Paris/Frankfurt. The new Eurosystem Centre formally opened in the first quarter of 2023. The Hub also plans to open a centre in Toronto. In addition, the Innovation Hub has in place a Strategic Partnership with the Federal Reserve System through the New York Innovation Center of the Federal Reserve Bank of New York.

Advancing collaboration and fostering synergies

The Innovation Hub aims to advance collaboration and foster synergies. The current work programme features projects spanning six subject themes of importance to central banks: supervisory and regulatory technology (suptech/regtech), next-generation financial market infrastructures, central bank digital currencies (CBDCs), open finance, cyber security and green finance.

The project portfolio reflects emerging interconnections between projects. Collaboration across centres is happening organically, as exemplified by Project Mariana (see below). While some of these interconnections have already been identified and have resulted in new project proposals, other potential synergies are being explored.

These interconnections are happening in at least two important dimensions: data and architectures. An example of the first is Project Viridis (see below), which extends a platform for regulatory reporting and data analytics developed in Project Ellipse to help stakeholders understand climate-related financial risks. Project Viridis reflects important connections with other Innovation Hub projects such as Project Gaia (Eurosystem Centre), which focuses on the production of climate-related data for the benefit of regulators and market participants.

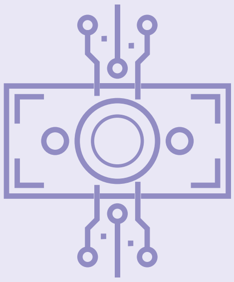
The Innovation Hub's work on technological architectures is firmly rooted in the project portfolio for CBDC, as new projects build on the findings of already completed experiments. In July 2022, the Innovation Hub published an analysis of lessons learned from its wholesale cross-border CBDC projects.

The Innovation Hub's work is closely linked with other BIS initiatives that support the work of the G20. Together with the BIS Committee on Payments and Market Infrastructures, the Hub continues its role as co-lead for building block 17 on multilateral payment platforms and building block 19 on CBDC under the G20 programme to strengthen cross-border payments (see page 71). The Hub also collaborates with the G20 Presidency through the G20 TechSprint, a global competition that explores technological innovations aimed at common challenges and priorities of the global regulatory and central banking community. Conducted in collaboration with Bank Indonesia, the 2022 edition of the G20 TechSprint invited firms to develop solutions to specific problem statements in the area of CBDC.

Collaboration with stakeholders outside the BIS is pursued through various initiatives. The BIS Innovation Network celebrated its second anniversary. As a network of more than 290 experts on innovation drawn from the BIS's member central banks, it focuses on the sharing of knowledge and the exchange of information on current trends in financial technology. Active engagement between the network and the Innovation Hub Centres has helped the BIS to ensure that its projects address the common challenges faced by central banks.

The year's highlights

In 2022/23, the BIS Innovation Hub focused its work on the six strategic themes that form the foundation of its project portfolio.



Central bank digital currencies

Reflecting the priorities of the central bank community, the project portfolio shows a strong focus on CBDC. Projects spanned both wholesale and retail CBDC from both domestic and cross-border perspectives as well as a deeper look into the cyber security aspects of CBDC systems.

Aurum

The project portfolio demonstrated a growing focus on retail CBDC. In July 2022, Project **Aurum** successfully developed a prototype for two-tier retail CBDC. The project created a technology stack comprising a wholesale interbank system and a retail e-wallet system, setting up two different types of tokens: intermediated CBDC and stablecoins backed by CBDC in the interbank system.

Rosalind

Project **Rosalind** was directed towards the development of prototypes for an application programming interface (API) layer for CBDC. In January 2023, it completed its first phase by building an open API for distributing retail CBDC. Future phases of the project are now being planned.

Tourbillon

Project **Tourbillon**, launched in November 2022, explores how to improve cyber resiliency, scalability and privacy in a prototype retail CBDC. It aims to reconcile the complex trade-offs involved in balancing these three elements by combining proven technologies such as blind signatures and mix networks with the latest research on cryptography and CBDC design.

mBridge

In the area of wholesale CBDC, Project **mBridge** completed its second phase in October 2022. A new blockchain – the mBridge Ledger – was custom-built by central banks for central banks to serve as a specialised and flexible platform for the implementation of multi-currency cross-border payments in CBDCs. In this phase, the mBridge platform was put to the test through a six-week pilot involving real-value transactions between 20 commercial banks from mainland China, Hong Kong SAR, Thailand and the United Arab Emirates.

Icebreaker

In the field of cross-border retail CBDC, Project **Icebreaker**, completed in March 2023, explored the potential for a "hub and spoke" model to serve as a mechanism for facilitating cross-border payments and transfers. It was a collaboration between the Innovation Hub's Nordic Centre with the central banks of Israel, Norway and Sweden, and connects three diverse retail CBDC systems while imposing minimum requirements at the domestic level.

Sela

The Innovation Hub's CBDC projects also explore issues of cyber security to ensure the resilience of CBDC systems. Project **Sela** investigates the cyber security and technical feasibility of a two-tier retail CBDC architecture. It aims to find solutions for intermediaries, such as commercial banks, payment service providers and financial technology firms, to provide CBDC services without any related financial exposure.

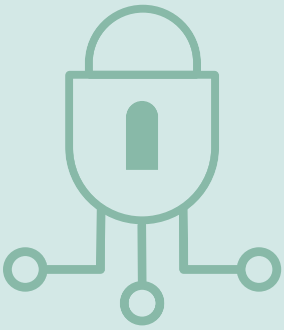
Mariana

Project **Mariana** is the Innovation Hub's first cross-centre project, involving the Swiss, Singapore and Eurosystem Centres. Launched in November 2022, it is a collaboration between the Innovation Hub and the Bank of France, the Monetary Authority of Singapore and the Swiss National Bank to enable the cross-currency exchange of wholesale central bank digital currencies (wCBDCs) using automated market makers (AMMs). AMM protocols combine pooled liquidity with innovative algorithms to determine the prices between two or more tokenised assets and could form the basis for a new generation of financial infrastructures, facilitating the cross-border exchange of CBDCs.

Polaris

Project **Polaris** examines the information needed to implement and operate an end-to-end, secure and resilient CBDC system, including the provision of offline functionality. A comprehensive handbook for offline payments with CBDC, published in May 2023, addresses key aspects such as security, resilience, financial inclusion, cash resemblance and accessibility. Another playbook setting out the cyber security framework for CBDC implementation will be published later this year.

Cyber security



Leap

Project **Leap**, launched in 2023, seeks to build quantum-resistant IT environments for the financial system. It will first test the implementation of post-quantum cryptographic protocols in central bank processes. It will then seek to advance the central banking community's knowledge of post-quantum cryptography. A report, along with the accompanying technical architecture (tested through the experiments), will be published later this year.

Next-generation financial market infrastructures

Titus

Project **Titus** is a collaboration between the Innovation Hub and four central banks to develop a simulation of a new concept for a liquidity mechanism using machine learning technology. This novel mechanism offers participants choice and incentives to provide liquidity to the system. The report will be published later this year and the simulator itself will be made available for central banks to use via BIS Open Tech (see page 119).

Meridian

Project **Meridian**, completed in April 2023, examined synchronous settlement in RTGS systems. It developed a prototype synchronisation operator which serves as an intermediary platform to connect counterparties and coordinates the settlement process directly in central bank money.

Nexus

Project **Nexus** aims to create a cross-border payments bridge that interlinks multiple instant payment systems. After publishing a blueprint in 2021, project Nexus entered a new phase in 2022. A working prototype, the Nexus Gateway, was developed and used to connect the test systems of three established instant payment systems in the EU, Malaysia and Singapore. Project Nexus has successfully completed the testing phase and will continue to work with five Association of Southeast Asian Nations central banks as they work towards connecting their domestic payment systems, using the Nexus blueprint as the foundation.

Open finance

Dynamo

Project **Dynamo**, launched in September 2022, aims to deliver a prototype for the compliant use of decentralised finance (DeFi) tools, such as blockchain and smart contracts, to improve access to finance for unfunded and underfunded small and medium-sized enterprises. It looks into whether and how these technologies can reduce transaction and borrowing costs, facilitate productive financing and promote financial inclusion.

Green finance

Genesis 2.0

Following the completion of a proof of concept on the tokenisation of retail green bonds (Genesis 1.0), in October 2022 Project **Genesis 2.0** successfully developed two different prototype distributed ledgers upon which tokenised green bonds and certain types of carbon credits can be traded by retail investors. The prototype includes functions to track, deliver and transfer digitised carbon forwards (also known as mitigation outcome interests (MOIs)).

Viridis

Project **Viridis**, launched in June 2022, builds on the previous work of Project Ellipse, and is investigating how regulatory data can be integrated with external climate data sources to provide insights into climate-related financial risks. It explores the application of advanced analytics to these integrated data sources, which could then help authorities to triangulate this information to identify material climate risk drivers that could affect the safety and soundness of financial institutions and the stability of the financial system.

Gaia

Project **Gaia**, announced in April 2023, aims to help analysts search corporate climate-related disclosures quickly and efficiently. It will develop an open, web-based tool to facilitate climate and environmental risk assessments based on a large corpus of publicly available corporate reports. A variety of innovative technologies such as natural language processing, optical character recognition and machine learning will be explored in this project.

Regtech and suptech

Rio and Samba

Project **Rio** continues to explore the use of cloud-based data streaming technologies to monitor fast-paced electronic markets. Rio's dashboard has continuously been developed with user-friendly design and functionalities to create a minimum viable product that can be used as a public good by the central bank community. A new project, **Samba**, has been developed in collaboration with the Central Bank of Brazil to incorporate FX futures into Rio.

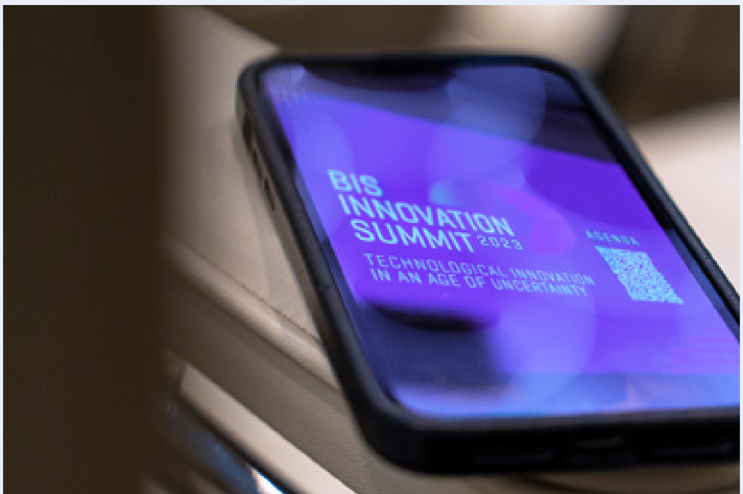
Pyxtrial and Atlas

Two new projects were introduced in 2023. Project **Pyxtrial** aims to enable the systemic monitoring of the asset backing of stablecoins. It will investigate various technological tools that may help supervisors and regulators to build policy frameworks based on integrated data. Project **Atlas** will create a data platform to provide information on market capitalisation, economic activity and international flows of decentralised finance and cryptoassets. It will fuse reported data gathered from crypto exchanges and attestation reports with data from public blockchains.

BIS Innovation Summit 2023

For the first time, the Innovation Hub hosted its flagship conference, the BIS Innovation Summit, as a hybrid event. The theme of the 2023 edition of the Summit was "Technological innovation in an age of uncertainty". The event took place in Basel and was attended by 240 participants and more than 3,500 virtual registrants from various backgrounds, including central banks, technology companies, universities and international organisations.

As was the case in previous editions, the Innovation Summit featured a number of prominent and high-level speakers, who examined issues related to the work of the Innovation Hub. The two-day event addressed topics in such areas as CBDC, crypto regulation, ethical artificial intelligence and the use of technology to address climate risks. In-person attendees also participated in workshops on selected Innovation Hub projects.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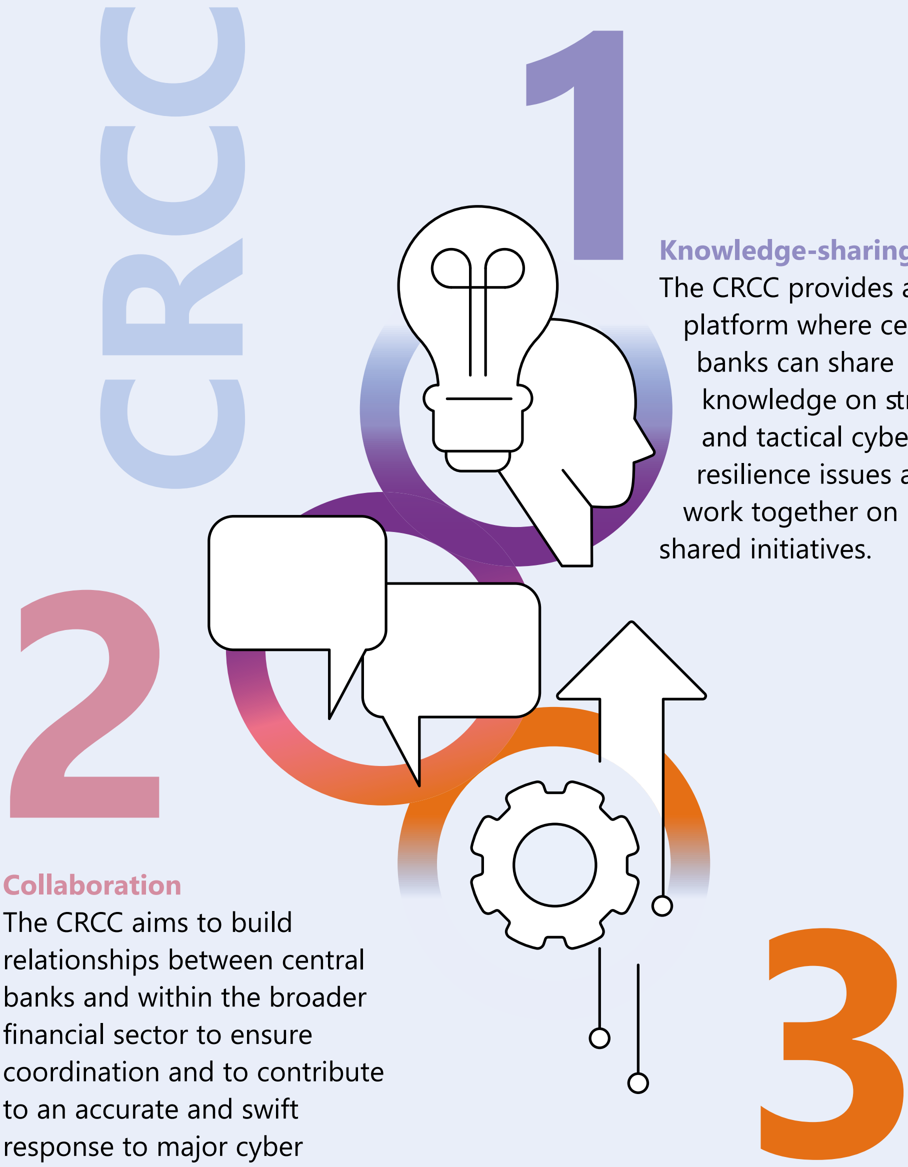
AGENDA

Cyber Resilience Coordination Centre

The BIS Cyber Resilience Coordination Centre (CRCC) helps to strengthen the collective cyber resilience of central banks by providing a structured approach to knowledge-sharing, collaboration and operational readiness. The CRCC carries out its mandate as one of the BIS's key entities to support the central bank community by delivering cyber resilience services in three main activity areas:



Knowledge-sharing
The CRCC provides a platform where central banks can share knowledge on strategic and tactical cyber resilience issues and work together on shared initiatives.

Collaboration
The CRCC aims to build relationships between central banks and within the broader financial sector to ensure coordination and to contribute to an accurate and swift response to major cyber threats.

Operational readiness
Realistic hands-on cyber response training exercises and active collaboration by the CRCC with BIS member central banks help strengthen operational readiness.

The year's highlights

The CRCC continues to provide cyber resilience services for the central bank community. It held 15 events that were attended by 395 central bank colleagues from 78 central banks.

Knowledge-sharing

Cyber Resilience Assessments

In 2022, the CRCC started phase two of its Cyber Resilience Assessments (CRAs). CRAs look at the cyber resilience of a specific critical business service and the mix of strategies that are needed to protect and sustain the people, information, technology and facilities assets deployed to deliver that service. In addition to adding more CRA results to its central bank resilience benchmark, the CRCC continues to apply lessons learnt from the pilot phase to the facilitated CRA process. This includes expanding the data set to improve the CRA benchmark as well as modifying the CRA tool to include ISO 27001 and the National Institute of Standards and Technology's Cyber Security Framework mappings. Finally, in 2022/23 the CRCC began developing a prototype enterprise-wide methodology that will expand the resilience assessment from assessing a critical business service to an enterprise.

Workshops on blockchain and CBDC security

Distributed ledger technology (DLT) has been gaining prominence within the financial industry as one of the leading novel technologies used in fintech. As of July 2022, there were four live retail CBDCs, 29 pilots and 72 central banks in the exploration phase. Many of the proof-of-concept CBDCs in the exploration phase tend to be based on DLT rather than a conventional infrastructure. Accordingly, central bank cyber security staff need more knowledge on the application of blockchain and DLT technologies and the best practices on securing such solutions. In February 2022, the CRCC offered a two-day online blockchain and CBDC security workshop for Asia and the Pacific, which was attended by 26 participants from 14 central banks. The course was then offered again in October 2022 for Europe, the Middle East and Africa and was attended by 30 participants from 17 central banks. Topics included blockchain and smart contract basics, CBDC contracts, privacy on blockchain and common attacks and vulnerabilities.

Collaboration

Global Cyber Resilience Group

The Global Cyber Resilience Group (GCRG) is a forum where central bank Chief Information Security Officers (CISOs) or their equivalent can discuss both tactical and strategic cyber resilience topics. The GCRG aims to enhance international consistency and seek ways that central banks can coordinate to increase the effectiveness and efficiency of approaches to strengthening cyber resilience.

Set up in 2020, the group has 57 members. Its first in-person meeting took place at the BIS in November 2022. The meeting was attended by 38 central banks, with over 40 participants attending in person and additional subject matter experts in special focus groups who attended virtually. The GCRG's work is continuing with three special focus groups on: (i) risk management; (ii) zero trust; and (iii) cloud monitoring and identity and access management.

Collective Strength 22

In recent years (and especially during the pandemic), digitalisation has accelerated at unprecedented rates, particularly in the financial sector. The financial ecosystem is highly interconnected, and given the borderless nature of cyber threats, it is imperative that the financial sector at both the national and international level work closely together to manage cyber risks, strengthen our overall cyber resilience and ensure the smooth and safe delivery of key financial services.

The CRCC again partnered with Israel's Ministry of Finance to deliver a multinational cyber-driven financial crisis simulation tabletop exercise in December 2022, Collective Strength 22. The exercise participants included the financial and cyber experts from eight countries' ministries of finance and treasuries. The CISOs from five central banks also participated in the event.

BEACON secure collaboration portal

As the CRCC's primary mission is to promote and enhance collaboration amongst BIS member central banks, in October 2022 it launched BEACON, a secure portal for collaboration on cyber resilience. The portal was created for central bank security professionals, who can use the site to communicate, collaborate and share information with like-minded colleagues from more than 60 central banks across the globe. Currently BEACON has 160 members from the global central bank cyber security community.

Cyber Resilience Coordination Centre 2022/23

15
events held

57
central banks joined the **Global Cyber Resilience Group**

143
participants attended the Annual **Cyber Security Seminar**

50
participants entered the **Capture the Flag** competition organised by the CRCC

395
members from central banks and the cyber security community joined in CRCC activities

59%
of BIS member central banks joined CRCC-organised events

480
minutes of course content developed for the FSI's **BIS-FIT** cyber security module

Secure Collaboration Portal (BEACON)
130 central bank users
6,137 site visits

Operational readiness

Blockchain & CBDC Cyber Security Workshops
30 participants **17** central banks

Cyber range exercises
56 participants **30** central banks

Capture the flag competitions
77 participants **46** central banks

Collaborative activities

Webinars
Delivered webinars on several topics: Covid-19 and cyber risks; cyber range activities; cyber resilience and threat landscape

Collective Strength
The CRCC partnered with Israel's Ministry of Finance to deliver a multinational table top exercise

Cyber Resilience Assessments (CRAs)

9
central banks participated and completed the **CRA pilot**

10
meetings per central bank

299
questions asked per CRA

100
meetings held during the CRA pilot

220
central bank staff members involved

2,000
hours spent during assessments

Operational readiness

Capture the Flag tournaments

Capture the Flag (CTF) tournaments are computer security competitions involving a series of security challenges. As competitors complete exercises by solving various forensics and defence challenges, they "capture flags", increasing their score. CTF objectives include practising cyber defence skills to detect, investigate, contain and recover from a cyber attack, developing analytical thinking to identify and characterise an ongoing cyber attack, and exercise collaboration and information-sharing within the team and with external entities.

The CRCC held two CTF tournaments in 2022/23. The first was an on-demand tournament running for the month of July, with 44 participants from 26 central banks. The second was for the Europe, Middle East and Africa region, with 33 participants from 20 central banks taking part. The hands-on technical exercises utilised common cyber security tools available in a security operations centre environment.

Secure Code Warrior

In December 2022, the BIS Innovation Hub Switzerland Centre and the CRCC held Secure Code Warrior, a friendly secure coding competition for central bank developers. Sixty-four participants from 22 central banks competed. Participants were presented with a series of real code challenges that asked them to identify the vulnerability, locate the insecure code and fix the vulnerability. Each player chose from a range of software languages, ie Python, C#, JavaScript (Node.js and React) and GO, to earn points.

Participants in the Cyber Resilience Coordination Centre's Resilience Crossweave cyber range exercise, March 2023.

Cyber Range Exercises

The CRCC and the BIS Office for the Americas hosted a custom-made cyber range exercise in Mexico City in August 2022. These exercises are designed to help build a determined community of cyber security experts by testing our collective cyber security operational readiness. Twenty-six cyber security subject matter experts from 15 central banks participated in the event, which used a cyber range scenario fully customised for the central bank community with IT systems, processes and organisational structures similar to those found in many central banks today.

Resilience Crossweave: a full-scale cyber range exercise

In March 2023, the BIS held its first full-scale cyber range exercise offered to all BIS shareholders in Basel. Resilience Crossweave aimed to enhance collaboration between technical and decision-making stakeholders and allowed participants to test the handling of a major cyber incident response in a low-stress, safe environment. It consisted of a 4.5-day hands-on on-site cyber incident response that closely emulated day-to-day activities in a security operations centre.

6

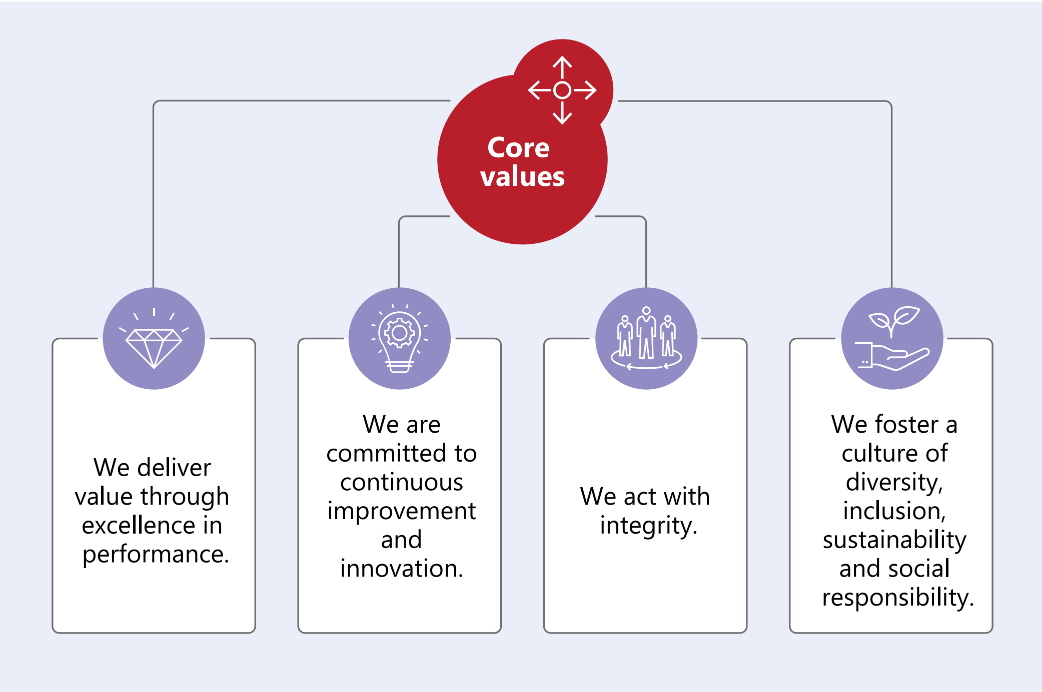
The way we work

In 2022/23, in the wake of the pandemic, we reconnected and found out how new ways of working can enhance our performance as individuals and as an institution. Throughout the transition to a new flexible working environment, we continued to work with a strong sense of mission and purpose, in an inclusive and dynamic work environment, while promoting sustainable and socially responsible work practices.

Living our values

The BIS continuously adapts its activities to support central banks as they face their current and future challenges, and to adjust to external developments. To this end, the BIS fosters a culture of diverse thought and innovation to create an environment in which our people embrace change and work together to achieve stronger outcomes for the central banking and supervisory community. Our culture is grounded by our core values and built around a team of professionals working with a strong sense of purpose and collaborative spirit.

BIS core values



In 2022/23, BIS staff in all of our offices were able to return to the workplace and reconnect with a renewed sense of commitment to fulfil our mission: supporting central banks' pursuit of monetary and financial stability by fostering international collaboration and acting as a bank for central banks. In an environment marked by unprecedented volatility for our customers, shareholders and employees, our values continue to inform and guide our decision-making.

Supporting our people

We recognise that the environment we work in today is constantly evolving. To help our people adapt and grow in this environment, we continue to invest in learning and development while also ensuring we have a listening strategy in place that allows us to understand the experiences of our staff.

Learning and development

Moving to a hybrid working environment required us all to adapt, add new skills and learn new habits. To support this transition, we developed a learning programme incorporating both technical and soft skills to ensure an inclusive working environment in which we can all contribute. This programme has helped our staff to navigate the challenges of hybrid working but also to leverage the opportunities it brings.

The BIS mentoring programme expanded last year. The programme was launched as a pilot programme in 2021 with three key goals: supporting mentees' individual growth; supporting mentors' ability to help others to grow and develop; and exposing both mentors and mentees to diverse perspectives, thus promoting a culture of diversity and inclusion. The success of the pilot led to the opening of the programme to all BIS staff, with a second cohort of mentors/mentees launching their journey in October 2022.

We also introduced the Emerging Leader Programme to support talent development across the organisation. This is one of a number of measures to enhance diversity and inclusion at the BIS. The 12-month programme helps selected staff strengthen specific skills to prepare them for wider career paths across the Bank. The programme's first cohort includes 10 staff members from two sites and five departments.

Our listening strategy

Today's approaches to staff engagement suggest a broader focus on continued listening approaches than the traditional measurement of point-in-time engagement and satisfaction levels. We now apply an integrated methodology to understand how staff perceive relevant work situations at different points in time to help us improve or refine specific processes to contribute to a fulfilling staff experience.

We use this "listening strategy" to track and improve overall staff engagement and inform our policy development and internal communication. As part of this strategy, in 2022/23 we gathered staff feedback on health and well-being and the employee experience, as well as diversity and inclusion and hybrid working. Our first diversity and inclusion survey, which will provide insights on the inclusiveness of our workplace from the perspective of people from different backgrounds, embodying different and intersectional identities, will help us design action plans to make the workplace more inclusive for all. Returning to our "new normal" post-pandemic, we used our listening strategy to help us to design a hybrid working policy that best matches staff and organisational needs. The feedback received shows that the approach, equipment, support and flexibility are appreciated and are functioning well for our people.

Enhancing the way we work

Our Innovation BIS 2025 strategy aims to expand the Bank's flexibility and adaptability. In 2022/23, we made further progress on this journey, leveraging technology and new ways of working to offer more and better solutions to our clients.

Hybrid working and virtual collaboration

Our approach to hybrid working offers staff flexibility to work either from home or in the office. Remote working has been enabled by investment in a variety of technology tools over recent years. We developed a comprehensive suite of technology, support materials and practical guidance to ensure that the move to hybrid working is seamless and the culture we establish is as inclusive as possible.

New technology supporting virtual collaboration has enabled new ways of working for BIS staff and helped to extend our collaboration with external partners and researchers. It has also been critical in reinforcing the BIS's role as a convener of international meetings and events for central banks, regulators and supervisory authorities around the globe. New state-of-the-art conferencing technologies have been adopted to provide an inclusive atmosphere for both on-site and remote participants.

At the same time, we are reviewing our physical premises to better understand what our people need from their workplace in a hybrid environment. To this end, we have been experimenting with activity-based working (ABW), which enables teams to choose where and how they want to work. Instead of a traditional office space, our ABW concept provides teams with diverse space, furniture, atmosphere and technology. By creating a working environment where people interact better and more efficiently, collaboration and sharing of ideas become effortless, resulting in an agile way of working.

Open Tech

An initiative geared towards promoting international cooperation and coordination is Open Tech, which we launched to facilitate sharing statistical and financial software as public goods. These software tools are developed collaboratively, according to best practices and standards, and can be reused and further developed (see Chapter 2).

One Open Tech project, the SDMX Fusion Metadata Registry (FMR) software, was rolled out in May 2022. It enables organisations to automate data processing and collection in a metadata-driven environment (see page 39). Through a controlled repository that acts as a single source of truth, organisations can benefit from the maintainability, reuse, standardisation, harmonisation and improved metadata and data governance. SDMX/FMR is managed by the BIS. The SDMX sponsor organisations (the BIS, the ECB, Eurostat, the IMF, the OECD, the World Bank and the United Nations Statistics Division) are prioritising its further development by proposing and implementing features for different use cases.

Expanded asset management services

Asset management is a growing activity of our Banking Department (see Chapter 4). In 2022, we introduced new technological capabilities supporting the expansion of our asset management services, allowing us to respond to shifting customer preferences, streamline business processes and simplify our IT architecture.

Resiliency, accountability and transparency

We conduct ourselves in a manner that upholds high ethical standards and promotes resiliency and transparency. We are committed to ethical conduct in everything we do, from our interactions with clients and partners to our internal policies and procedures. This commitment has been instrumental in driving a positive and inclusive culture, and we remain dedicated to upholding these values.

Our risk culture

As the Bank adopts change and complexity, it is important that we are mindful of the risks this change poses and ensure it is adequately managed to protect the financial assets of the Bank and preserve the trust of our stakeholders. Building a culture of risk awareness is important in all that we do. This has been particularly true as the nature of risk shifted in the last year as some of the challenges of the pandemic eased and new challenges associated with financial market volatility emerged. Resilience hinges on an organisation's ability to manage external and internal risks.

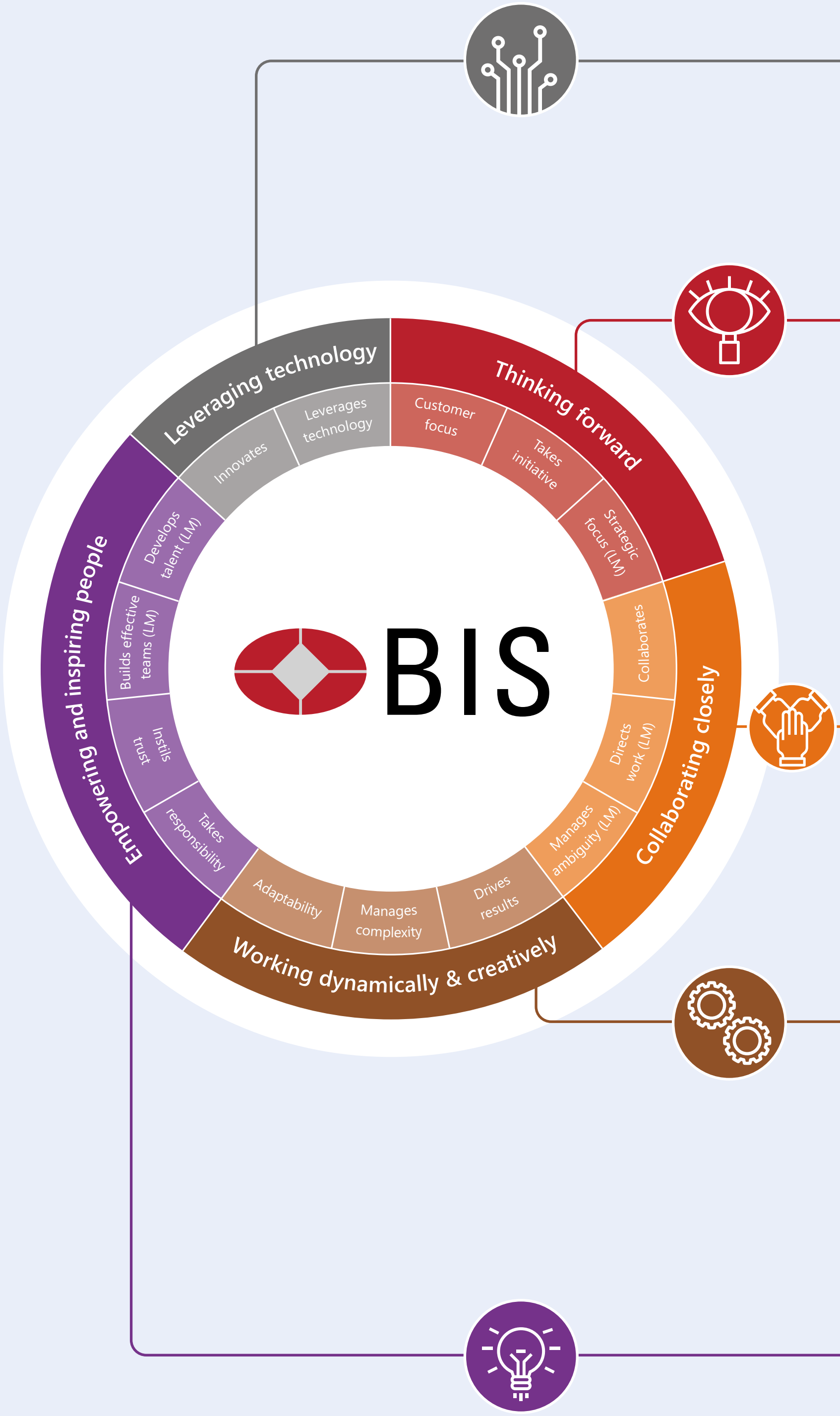
Our "three lines of defence" approach identifies structures and processes that best assist in achieving objectives and facilitate strong governance and risk management. By educating all BIS staff involved in core business activities regarding their role as the first line of defence against operational risk, we have increased our resiliency despite the significant change efforts we are undertaking in pursuit of our mission (see Chapter 7).

Safe and Respectful Workplace Policy

We are committed to promoting a safe work environment where everyone treats others with dignity and respect. In October 2022, we reinforced this commitment by introducing a Safe and Respectful Workplace Policy. The policy, which strengthens specific sections of our Code of Conduct, restates the existing formal channels for addressing alleged instances of improper behaviour and introduces an informal conciliatory process, which provides staff members with the opportunity to resolve any complaint of inappropriate conduct in an open, non-threatening and non-contentious manner (see page 147).

BIS competency framework

The five behaviours and 15 underlying competencies that enable us to achieve our goals are the following:



Leveraging technology is embracing relevant new trends, technologies and best practices to continuously improve ways of working.

Thinking forward means anticipating future business requirements and acting proactively to meet current and emerging customer needs.

Collaborating closely involves building connections and working together to meet shared objectives. Staff establish partnerships and foster open communication and collaboration.

Working dynamically and creatively means managing execution effectively and flexibly, despite complexity and changing priorities.

Empowering and inspiring people is taking responsibility for one's own actions with honesty and respect for others, and contributing to a safe work environment.

Working in this way, with a strong sense of purpose, enabled us to attain multiple and significant achievements during financial year 2022/23 that demonstrated our commitment to our values.

Fostering a culture of diversity, inclusion, sustainability and social responsibility

In 2022/23, we cemented our determination to promote diversity, inclusion and fairness in all dimensions. The year saw numerous initiatives in the areas of sustainability, social responsibility, volunteering and fundraising.

Diversity and inclusion

The BIS strives to create and sustain an inspiring and inclusive workplace in which people from all over the world, with diverse backgrounds and perspectives, feel welcomed and can flourish. In 2022/23, we hired 136 new employees from 37 countries with diverse cultural, educational and social backgrounds.

A key aim of the BIS is to measurably increase gender diversity. Reflecting its full commitment to equal opportunity employment, the Bank has set a 50/50 gender target to fill vacancies for line managers and senior professionals. In 2022/23, our overall recruitment distribution was 33% for female line managers and 31% for senior professionals. While we fell short of our target, the BIS remains committed to improving our gender balance over the long term.

To implement its wider diversity agenda, the BIS has a Diversity Steering Committee made up of representatives from around the Bank. The committee provides input into the Bank's activities related to diversity and inclusion. The BIS also has four staff-led diversity and affinity networks (see box).

In support of our quest to become a more inclusive employer, in February 2023 we introduced a guide to inclusive recruitment and a training course to support those involved in hiring decisions. We also introduced new inclusive language and imagery guidelines. These tools will help open more opportunities, access a wider talent pool, ensure fair hiring decisions and ultimately improve our performance.

Environmental sustainability

We are committed to promoting environmental sustainability through our work for and with the central banking community and as part of our role as an environmentally responsible international financial institution (see Chapter 4).

In June 2022, the BIS's Environmental Sustainability Steering Group (ESSG) was established. This advisory committee, which includes representatives from around the Bank, supports the implementation of the BIS's Environmental Sustainability Agenda and advises the General Manager on the development and adoption of an environmental sustainability strategy for the Bank. We also hosted the second Green Swan conference, which examines policy issues facing central banks related to climate change (see Chapter 3).

In November 2022, we introduced two additional energy-saving measures to address the impact of the European energy crisis that resulted from the Ukraine war. They modify the operating hours and temperature settings of the air conditioning systems in our headquarters to save an estimated 35% of air conditioning energy consumption. Based on the experience, we are considering adopting similar energy consumption savings measures for other BIS office locations.

Donations and fundraising

The BIS provides modest financial support for charities and selected social activities (which may include environmental sustainability aspects) and cultural activities located where the Bank maintains business operations. The BIS also makes special donations to global charities for major disaster relief efforts, including from staff fundraising.

In 2022/23, the Donations Committee joined forces with staff on four fundraising campaigns:

- In June 2022 for World Refugee Day and to mark Pride Month at the BIS, staff raised funds in support of Queeramnesty, a charity helping LGBTQI+ refugees. The donation was matched by the BIS.

- In November 2022, in commemoration of the 20th anniversary of the Representative Office for the Americas, staff participated in two donations campaigns. BIS staff donated 335 gifts to children living in five institutions in Mexico City. And staff fundraising, matched by the Bank, sponsored the construction of three family houses in Mexico City by the charity Construyendo, bringing the total BIS sponsorship to date to five units.

Gifts donated by BIS staff to children in Mexico City.

- In February 2023, the Donations Committee and BIS staff came together in response to the earthquake that struck southern and central Türkiye and northern and western Syria on 6 February 2023, and raised funds for Doctors Without Borders. The BIS also made a special donation to Doctors Without Borders for major disaster relief efforts.

In 2022/23, the funds of the Donations Committee were distributed internationally to the following organisations:

- **Basel:** TBB Switzerland, Stiftung TBB Schweiz, Verein Neustart, Verein Orchesterschule Insel, Rotes Kreuz Basel, WERT!Stätte gemeinnützige GmbH, Kinder-Spitex from SPITEX BASEL, Aids-Hilfe beider Basel, Suchthilfe Region Basel, Foundation OrphanHealthcare, LETPack, Buchkinder Basel, Caritas Beider Basel, Pro Infirmis, Stiftung Jugendsozialwerk

- **Mexico City:** Casa de la Amistad para Niños con Cáncer IA, Construyendo Comunidades Integrales AC, ANTHUS AC National Association against Human Trafficking in Society, DEI Comunidad AC

- **Hong Kong SAR:** P C Lee OneSky Global Centre for Early Childhood Development, The Bethune House Migrant Women's Refuge Limited, Changing Young Lives Foundation

The Bank regularly donates outdated corporate computers and mobile phones to charities. In 2022/23, the beneficiaries were two charities in Mexico City, Casa de la Amistad and Athanus.

Diversity and affinity networks

The BIS has four employee-led networks focused on encouraging employee engagement, fostering an inclusive culture, and promoting awareness of issues related to diversity.

EMBRACE @BIS Affinity Network

EMBRACE@BIS celebrates, promotes and advocates ethnic and cultural diversity and representation in the BIS. To further promote the value of that diversity for the BIS and its employees, EMBRACE undertook initiatives over the past year which included a celebration of the World Day for Cultural Diversity for Dialogue and Development, the authoring of internal articles recognising the various cultures represented by BIS staff and social events to recognise various cultural celebrations. These initiatives were in addition to EMBRACE's ongoing initiatives such as its regular book club meetings. The highlight of the year was the hosting of an all-staff event: "In conversation with Dr Ngozi Okonjo-Iweala, Director-General of the World Trade Organization".

Visit of World Trade Organization Director-General Dr Ngozi Okonjo-Iweala, March 2023.

The Parents and Carers network promotes connection, information exchange, learning and knowledge-sharing amongst parents, carers and others who are supportive of parents and carers. The network also seeks to raise awareness of the challenges they face, and to facilitate a more inclusive culture for parents and carers at the BIS. In 2022/23, in addition to bringing parents together regularly, the network organised presentations to staff and parents on the Swiss schooling system and contributed to a cross-company discussion on working parents. It also held an event for Ukrainian refugee family hosts and their guests.

The mission of Pride@BIS is to provide a safe and open support network for LGBTQI+ colleagues so that they can bring their whole self to work; to support colleagues with LGBTQI+ family members; and to enable colleagues who are LGBTQI+ allies to demonstrate support. In 2022, Pride@BIS celebrated Pride month by raising the rainbow flag at BIS locations, and distributing rainbow lanyards and posters to staff to show their support. The network also hosted a powerful panel session allowing BIS staff who themselves or whose family members are LGBTQI+ to share their personal experiences, which brought the community closer together.

WE@BIS helps women and their allies support each other to achieve their full potential at the BIS and beyond. It delivers events and programmes focused on building skill, confidence and a sense of connection. A particular highlight during the year was the Athena mentoring programme for women, which saw its second cohort graduate in January 2023. To celebrate International Women's Day in March 2023, the network hosted an inspiring panel discussion on challenging questions related to gender equity and diversity, featuring both internal and external speakers.

International Women's Day panel discussion hosted by WE@BIS, March 2023.

Staff

The BIS is a diverse global organisation with a truly international workforce. As of 31 March 2023, the Bank employed 637 staff members from 64 countries, excluding hosted associations. Its modest size encourages collaboration and knowledge-sharing both inside and outside the institution.

Meet our people

Nertila
Senior Portfolio Manager, Banking

I am part of the Portfolio Management team, which manages fixed income portfolios in different reserve currencies for our central bank clients and the BIS's own funds. Days are rarely boring when following financial markets, and last year was no exception. Amongst the portfolios under our management, I am particularly proud of the growth of the green bond funds. Interest from central banks has continued to grow remarkably, which keeps us busy – but I'm also happy to play a part in our joint effort of promoting green finance. Another exciting part of our responsibilities is keeping regular contact with both issuers and clients, which provides opportunities to share views and better align our respective expectations. The key milestone for the team in 2022 was the successful implementation of our new asset management system, a demanding project that came to fruition through intensive collaboration among staff across the entire Banking Department.

Varshaa
Diversity and Inclusion Adviser

I joined the BIS in March 2022. The Bank recognises that performing its mission of serving central banks in the pursuit of monetary and financial stability and fostering international cooperation means we need staff with diverse backgrounds and thinking styles from all over the world. Promoting a culture of diversity and inclusion helps to ensure the rich thinking and debate necessary to understand the complex problems the global economy faces and to support our member central banks better. In my role, I research, develop, recommend and help execute strategies in partnership with senior management, Human Resources and all staff to foster the organisation's diversity and inclusion goals. I work closely with the Diversity Steering Committee, which is comprised of representatives from different departments across the bank, the members of the four staff-led diversity and affinity networks and the BIS staff committee. I also act as the liaison with central banks and other international financial institutions and represent the BIS in international forums on diversity and inclusion.

James
Principal Economist, Representative Office for Asia and the Pacific

I've spent most of my 15 years at the BIS based in the Representative Office in Hong Kong SAR. My work is split between policy work – often related to meetings of senior central bank officials from the Asia-Pacific region – and research on topics relevant to central banks. One exciting current area of work relates to a working group consisting of policymakers from each of the region's central banks. The group is focused on how central banks and other financial authorities set policies during the volatile 2022 period, as the global economy was buffeted by volatile commodities prices and tightening global financial conditions. The objective is to provide a context where central banks can effectively learn from each other, as they strive to continuously hone their macro-financial stability frameworks. This working group follows a similar effort, in 2019, that focused on a calmer period for policymaking.

Kafu
Senior Security Specialist, Corporate Security

The Bank's cyber security operations team is mainly responsible for leading incident response in the event of potential cyber intrusions and conducting threat detection and hunting activities. Beyond my day-to-day cyber operations responsibilities, I had the privilege of representing Corporate Security in guaranteeing the Bank's preparedness for the 2022 SWIFT Customer Security Programme attestation. This was an invaluable opportunity to collaborate with individuals from various departments, working collectively to achieve a successful attestation. I have been involved in coordinating security assessments from the cyber security operations team. These activities help bolster the effectiveness of the Bank's defences in adapting to the ever evolving cyber threat landscape. I value the freedom to introduce fresh perspectives, driving continuous improvements in our operations. Being a part of the Corporate Security team in such a renowned international organisation is both intellectually stimulating and professionally challenging, as each day brings new and distinct experiences.

Deniz
Head of Macroeconomic Analysis,
Monetary and Economic Department

I joined the BIS in November 2021 after 15 years at the IMF. A big part of my job is monitoring global economic and financial developments and shedding additional light on these developments through sound, policy-relevant research. Though mainly conducted in MED with teams in Basel, Hong Kong SAR and Mexico City, our monitoring and in-depth analysis of themes with strategic importance to the central banks also involve regular exchanges with colleagues in Banking. Altogether, the BIS is uniquely placed for these activities. As an active forum for exchange of ideas among central bankers, we get to hear perspectives from very different parts of the world in candid discussions. And the audience for our own analyses and assessments includes central bankers of all ranks, from Governors to junior staff/economists. Along the way, we challenge and learn from each other, all in pursuit of monetary and financial stability.

Codruta

Adviser, BIS Innovation Hub

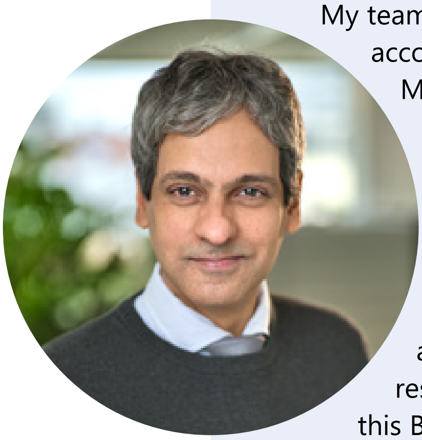
I help to develop strategy and policy in many areas related to our innovation projects. One key part of my role is to bridge the gap between the Hub's practical experiments and the policy work related to central bank digital currencies (CBDCs). This work supports key initiatives such as the G20 programme for enhancing cross-border payments and the work of other international groups. This year, together with my colleagues, I conducted a comparative study of our cross-border CBDC projects and discussed the lessons learned from these experiments in various forums. Another important part of my work is to prepare background documents to support discussions in the Advisory Committee of the BIS Innovation Hub and in other high-level meetings of central bank Governors. I also expanded my understanding about innovation with an exchange visit at the Innovation Hub of the Reserve Bank of India. All these give me a great sense of purpose.

Avis

Librarian, Information Technology and Services

I am one of two Librarians responsible for managing the Bank's library, which includes unique and valuable collections on finance, economics and statistical publications, some of which date back to the 17th century. Our main purpose at the library is to support the research output of the BIS, by providing access to accurate, current and pertinent information resources primarily to the economists, but also to staff members Bank-wide. Over the past year, our team focused on implementing new technological systems to streamline and modernise all library assets in one discoverable interface. This will improve access to both our expanding digital and our physical collection, which is still in high demand. It is an exciting and rewarding project that demonstrates the impact that access to quality information resources has on the research performance of the BIS. I am happy to be part of a team that has such a valuable impact.

Pradeep
Senior Business Analyst, Finance



My team's goal is to ensure accurate and compliant accounting and financial reporting for the Board, Management and the general public in a timely manner. I have played a pivotal role in the strategic transformation project to transition from an on-premise financial application to a cloud-based platform. In the process, we also put our efforts towards optimising the core business functions of the finance operations and procurement teams. My team and I are also responsible for the functional/technical support of this Bank-wide system, and we have been instrumental in resolving complex production issues and ensuring business continuity on a day-to-day basis. This year our focus was on the delivery of the financial system configurations for the multi-year new site development project which the BIS might embark on. We are working in close collaboration with other teams to facilitate the potential cost capture, capitalisation accounting and financial reporting across the various phases of the construction of the new building. I am fortunate to be a part of the BIS's dynamic, international and diverse community, and at the same time I am making the most of the lovely city of Basel.

Irasema
Administrative Assistant, Representative Office for the Americas

I am responsible for accounting and procurement, translation, travel and expense logistics, coordination of meetings and general support of the Americas Office team. Working in the Office, you must manage your time well to beat the time difference, get to know the key areas and learn as quickly as possible since the BIS moves so fast. Last year was quite dynamic: we coordinated several in-person meetings in Mexico, including a high-level conference to celebrate the Office's 20th anniversary with attendance by around 20 central bank Governors from the Americas and elsewhere. Coordination and logistical work by the entire team helped make the events successful. I am lucky to have a great team and to meet such special people within the Americas Office and at the BIS as a whole.

7

Governance and organisation

The BIS is governed at three levels: the General Meetings of member central banks, the Board of Directors and BIS Management. Each of these bodies participates in the governance and decision-making related to BIS activities in the areas of international cooperation, policy analysis, banking operations, corporate operations and innovation.

BIS member central banks and General Meetings

Sixty-three central banks and monetary authorities are currently members of the BIS.

The BIS Annual General Meeting (AGM) is held within four months of the end of the financial year on 31 March. The AGM approves the Annual Report and the accounts of the Bank, decides on the distribution of a dividend and elects the Bank's auditor. Each of the BIS member central banks has rights of voting and representation at General Meetings.

Bank of Algeria	Algeria
Central Bank of Argentina	Argentina
Reserve Bank of Australia	Australia
Central Bank of the Republic of Austria	Austria
National Bank of Belgium	Belgium
Central Bank of Bosnia and Herzegovina	Bosnia and Herzegovina
Central Bank of Brazil	Brazil
Bulgarian National Bank	Bulgaria
Bank of Canada	Canada
Central Bank of Chile	Chile
People's Bank of China	China
Central Bank of Colombia	Colombia
Croatian National Bank	Croatia
Czech National Bank	Czechia
Danmarks Nationalbank	Denmark
Bank of Estonia	Estonia
European Central Bank	Euro area
Bank of Finland	Finland
Bank of France	France
Deutsche Bundesbank	Germany
Bank of Greece	Greece
Hong Kong Monetary Authority	Hong Kong SAR
Magyar Nemzeti Bank	Hungary
Central Bank of Iceland	Iceland
Reserve Bank of India	India
Bank Indonesia	Indonesia

Central Bank of Ireland	Ireland
Bank of Israel	Israel
Bank of Italy	Italy
Bank of Japan	Japan
Bank of Korea	Korea
Central Bank of Kuwait	Kuwait
Bank of Latvia	Latvia
Bank of Lithuania	Lithuania
Central Bank of Luxembourg	Luxembourg
Central Bank of Malaysia	Malaysia
Bank of Mexico	Mexico
Bank Al-Maghrib (Central Bank of Morocco)	Morocco
De Nederlandsche Bank	Netherlands
Reserve Bank of New Zealand	New Zealand
National Bank of the Republic of North Macedonia	North Macedonia
Central Bank of Norway	Norway
Central Reserve Bank of Peru	Peru
Bangko Sentral ng Pilipinas	Philippines
Narodowy Bank Polski	Poland
Banco de Portugal	Portugal
National Bank of Romania	Romania
Central Bank of the Russian Federation	Russia
Saudi Central Bank	Saudi Arabia
National Bank of Serbia	Serbia
Monetary Authority of Singapore	Singapore
National Bank of Slovakia	Slovakia
Bank of Slovenia	Slovenia
South African Reserve Bank	South Africa
Bank of Spain	Spain
Sveriges Riksbank	Sweden
Swiss National Bank	Switzerland
Bank of Thailand	Thailand
Central Bank of the Republic of Türkiye	Türkiye
Central Bank of the United Arab Emirates	United Arab Emirates
Bank of England	United Kingdom
Board of Governors of the Federal Reserve System	United States
State Bank of Vietnam	Vietnam

Board of Directors

The Board determines the Bank's strategic and policy direction, supervises BIS Management and fulfils specific tasks as set out in the Bank's Statutes. It meets at least six times a year. The Board elects a Chair from among its members for a three-year term and may elect a Vice-Chair. The current Board Chair is François Villeroy de Galhau, Governor of the Bank of France, who was elected in January 2022.

François Villeroy de Galhau
Chair; Bank of France, Paris

Shaktikanta Das
Reserve Bank of India, Mumbai

Christine Lagarde
European Central Bank, Frankfurt am Main

Tiff Macklem
Bank of Canada, Ottawa

Victoria Rodríguez Ceja
Bank of Mexico, Mexico City

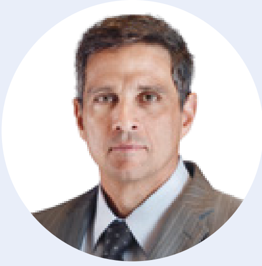
Ignazio Visco
Bank of Italy, Rome

Erik Thedéen
Sveriges Riksbank, Stockholm

Changes in the Board

On 31 December 2022, Stefan Ingves retired from his position as Governor of Sveriges Riksbank, and therefore also from the BIS Board. With effect 9 January 2023, the Board appointed Erik Thedéen, new Governor of Sveriges Riksbank, as a Board member for a period of three years. Haruhiko Kuroda's term as Governor of the Bank of Japan ended on 8 April 2023, and he thereby also left the BIS Board. His successor, Kazuo Ueda, was elected as a member of the Board for a period of three years starting from 1 May 2023.

Andrew Bailey
Bank of England, London



Roberto Campos Neto
Central Bank of Brazil, Brasília

Yi Gang
People's Bank of China, Beijing

Thomas Jordan
Swiss National Bank, Zurich

Klaas Knot
De Nederlandsche Bank, Amsterdam

Joachim Nagel
Deutsche Bundesbank, Frankfurt am Main

Jerome H Powell
Board of Governors of the Federal Reserve System, Washington DC

Chang Yong Rhee
Bank of Korea, Seoul

John C Williams
Federal Reserve Bank of New York, New York

Pierre Wunsch
National Bank of Belgium, Brussels

Kazuo Ueda
Bank of Japan, Tokyo

Board remuneration

The AGM approves the remuneration of members of the Board of Directors, with adjustments taking place at regular intervals. The total fixed annual remuneration paid to the Board was CHF 1,076,924 as of 1 April 2023. Board members also receive an attendance fee for each Board meeting in which they participate. Assuming that the full Board is represented in all Board meetings, the annual total of these attendance fees for financial year 2022/23 amounts to CHF 992,196.

BIS Management

The management of the Bank is directed by the General Manager, who is responsible to the Board of Directors for the conduct of the Bank. The General Manager is assisted by the Deputy General Manager and advised by the Executive Committee.

The Executive Committee is chaired by the General Manager and includes the Deputy General Manager, the Heads of the four BIS departments (the Banking Department, the General Secretariat, the BIS Innovation Hub and the Monetary and Economic Department), the Economic Adviser and Head of Research, and the General Counsel.

Other BIS senior officials are the Deputy Heads of these departments, the Chair of the Financial Stability Institute, the Head of Risk Management, the Head of the BIS Representative Office for Asia and the Pacific and the Head of the BIS Representative Office for the Americas.

Changes in Management

In June 2022, Tao Zhang was appointed as Chief Representative for the BIS Representative Office for Asia and the Pacific. He replaced Siddharth Tiwari, who was Chief Representative since November 2018 and left the Bank in August 2022.

Also in June, Cecilia Skingsley was appointed as Head of the BIS Innovation Hub. She succeeded Benoît Cœuré, who was appointed President of France's Competition Authority in January 2022. In March 2023, Andréa M Maechler was announced as the next Deputy General Manager of the BIS. She will be appointed for a five-year term, effective 1 September 2023. She will succeed Luiz Pereira da Silva when he retires at the end of August 2023.

Senior management remuneration

The salaries of senior officials are regularly benchmarked against compensation in comparable institutions and market segments. As of 1 July 2022, their annual remuneration, before expatriation and other applicable allowances, is based on the salary structure of CHF 691,634 for the General Manager, CHF 585,229 for the Deputy General Manager and CHF 532,026 for Heads of Department. In addition, the General Manager enjoys enhanced pension rights.

Agustín Carstens
General Manager

Luiz Awazu Pereira da Silva
Deputy General Manager

Monica Ellis
Secretary General

Claudio Borio
Head of Monetary and Economic Department

Peter Zöllner
Head of Banking Department

Hyun Song Shin
Economic Adviser and Head of Research

Cecilia Skingsley
Head of BIS Innovation Hub

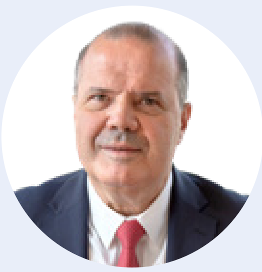
Diego Devos
General Counsel

Bertrand Legros
Deputy Secretary General

Stijn Claessens
Deputy Head of Monetary and Economic Department

Fernando Restoy
Chair of Financial Stability Institute

Jens Ulrich
Head of Risk Management



Alexandre Tombini
Chief Representative for the Americas

Tao Zhang
Chief Representative for Asia and the Pacific

Luis Bengoechea
Deputy Head of Banking Department

Organisation

The BIS has four main departments. They encompass economic research, banking activities, support to central bank collaboration on technological developments impacting the financial system, and general internal support.

Departments and services

The **Monetary and Economic Department** (see Chapter 2) undertakes research and analysis to shape the understanding of policy issues concerning central banks, including innovation and monetary policy frameworks, provides committee support and organises key meetings of senior central bankers and other officials in charge of financial stability.

The **Banking Department** (see Chapter 4) provides a range of financial services to support central banks in the management of their foreign exchange and gold reserves and invests the BIS's own capital.

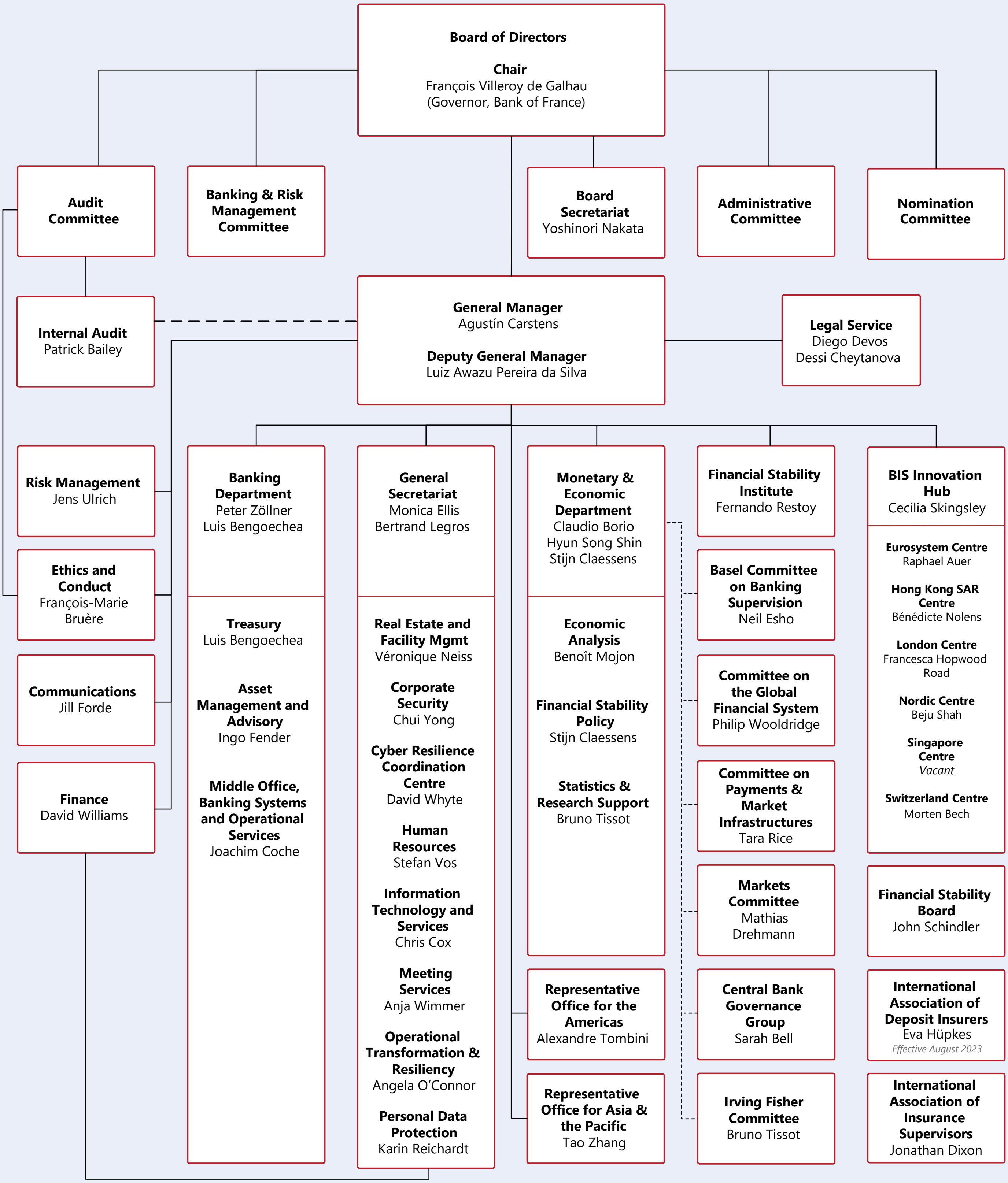
The **BIS Innovation Hub** (see Chapter 5) identifies and develops in-depth insights into critical trends in financial technology of relevance to central banks, explores the development of public goods to enhance the functioning of the global financial system, and serves as a focal point for a network of central bank experts on innovation.

The **General Secretariat** provides the organisation with comprehensive corporate services in the areas of IT, cyber security, operational resiliency, operational risk management, human resources, finance, facilities management, security and meeting services.

The BIS is further supported by the **Legal Service** and the **Risk Management, Internal Audit, Ethics and Conduct** and **Communications** units. The BIS's **Financial Stability Institute** (see Chapter 3) promotes the implementation of global regulatory standards and sound supervisory practices worldwide.

The BIS has two **Representative Offices:** one for Asia and the Pacific, located in Hong Kong SAR, and one for the Americas, located in Mexico City (see Chapter 3). A number of **international groups** engaged in the pursuit of financial stability have their secretariats at the BIS (see Chapter 3).

Organisation of the BIS, June 2023



Risk management

The BIS has risk management policies and practices in place to ensure that risks are duly identified, measured, monitored and reported. To achieve these objectives, the Bank has an independent Risk Management function covering financial risks and an Operational Transformation and Resiliency unit covering operational risks.

Following the Bank's three lines of defence approach to reduce operational risk and improve resilience (see below), the Risk Management function, jointly with the Legal Service, provides guidance and monitoring for compliance risk (a variety of operational risk) related to BIS banking services.

In addition, the Ethics and Conduct unit underlines the strategic importance of ethics for the Bank and its corporate culture (see page 147).

Financial risks

The Risk Management function continuously monitors and manages the Bank's financial risks. The Head of Risk Management is part of the Management of the BIS, reports directly to the Deputy General Manager and acts as deputy in matters related to financial risk management.

The BIS manages its financial risks within a financial risk management framework established by the Board. The implementation of the financial risk management framework is monitored by the Board's Banking and Risk Management Committee. Within this framework, BIS Management has established risk management policies designed to ensure that the Bank's financial risk exposures – credit, market and liquidity risks – are identified, appropriately measured and controlled, and monitored and reported. The unit develops policies and proposals while monitoring adherence to defined rules and limits. It continuously assesses the Bank's capital adequacy, considering both balance sheet leverage and economic capital utilisation.

The financial risk management framework ensures that the Bank maintains a prudent risk profile, by:

- maintaining an exceptionally strong capital position;
- ensuring a high level of liquidity;
- carefully managing its market risk exposures, which include strategic positions such as the Bank's gold holdings; and
- investing its assets predominantly in high credit quality financial instruments and seeking to diversify its assets across a range of sectors.

The resulting superior financial strength and robust liquidity have allowed the BIS to navigate a challenging market environment characterised by rising global interest rates, persistently high inflation and continued geopolitical tensions including the war in Ukraine.

In 2023, the Bank remained flexible in its approach to managing its balance sheet, and continued to support its central bank customers in responding to economic challenges.

Operational risks

The Bank's Management takes a cautious approach to operational risk management under the guidance of the Board of Directors. As the Bank continues to embrace new ways of working and technological innovation, it is taking steps to refine its approach to risk management. This is to ensure that its control environments evolve in tandem with new practices in order to sustain the Bank's operational excellence and resilience.

The three lines of defence model

As the Bank embraces a mindset of innovation and change, it is important that our control activities keep pace to ensure we protect the Bank's financial resources and reputation. With this in mind, in 2020 the BIS started an initiative to strengthen its approach to operational risk management by expanding its three lines of defence model. The Bank's Operational Risk and Resiliency Framework was revised in 2021, and in subsequent years the BIS has taken steps to expand risk management roles and increase the frequency of risk assessment and monitoring activities to ensure risk conditions are aligned with the Bank's risk appetite. These activities have also helped to fortify even further our commitment to our core values and ensure that our values are reflected in everything we do.

Advancing the Bank's resiliency

As the severity of the Covid-19 pandemic ebbed and flowed across the Bank's different operational sites, the BIS put in place a Response Team to guide working arrangements and staff safety plans to ensure critical activities continue to be performed and the Bank advances its strategic goals. The Bank's response plans placed top priority on health and safety and invested in Covid-19 testing for staff, their families and visitors, and vaccination for staff and their families. The BIS closely followed the guidance of local authorities on social distancing and remote working practices to prevent infection. Thanks to these measures, activities continued uninterrupted, and the BIS did not encounter any material operational risk incident directly caused by Covid-19-related measures over the past year.

The experience of managing through the pandemic helped to fortify the Bank's resiliency for other unexpected disruptions. Response plans now include more options for weathering unforeseen events, and preparedness exercises now account for "stress test scenarios" to prepare for multiple events that may take place at the same time. Thus, the pandemic leaves the BIS better prepared for future events and more aware of response options we can employ.

Audit mechanisms

All BIS operations are audited and examined regularly. The Bank's audit mechanisms include an Internal Audit unit and an independent external audit firm.

Internal Audit

The Internal Audit unit evaluates and improves the effectiveness of risk management, control and governance systems and processes. It aims to promote effective controls at reasonable cost.

Internal Audit operates within a mandate established by the BIS Board of Directors, and its activities are overseen by the Board's Audit Committee. To ensure independence, the Head of Internal Audit reports functionally to the Chair of the Audit Committee of the Board and administratively to the General Manager. Every activity and entity of the Bank, including outsourced activities, falls within the overall scope of Internal Audit.

To fulfil its responsibilities, Internal Audit conducts assurance and consulting engagements that lead to recommendations subsequently followed up to ensure that effective remedial actions are being taken by Management. To maintain objectivity, Internal Audit does not have operational responsibility for or authority over any of the activities audited.

Independent external auditor

In addition, the BIS engages an independent external auditor to confirm that its annual financial statements give a true and fair view of the Bank's financial position, financial performance and cash flows. For the year ended 31 March 2023, PricewaterhouseCoopers was the auditing firm chosen to audit the Bank's financial statements, which can be found in the annex at the end of this report.

In accordance with Article 46 of the BIS Statutes, the Annual General Meeting is invited to elect an independent auditor for the ensuing year and to fix the auditor's remuneration. The Board policy is to rotate the auditor on a regular basis. The financial year ended 31 March 2023 was the fourth year of PricewaterhouseCoopers' term as auditor.

Legal Service

The BIS Legal Service advises the BIS Board, Management and business areas on all legal matters relating to the Bank's activities, to ensure that the Bank acts at all times with due respect for the rule of law. It also assists in internal rule-making and maintains the Bank's central repository of internal policies, procedures and rules. In addition, it facilitates discussion and cooperation among central bank legal experts and other professionals on legal topics of common interest.

In addition to its main advisory role, the Legal Service contributes to the identification, management and control of legal risks, including litigation, across the organisation. Further, jointly with Risk Management, the Legal Service contributes to providing guidance on and monitoring of compliance risk regarding banking activities under the applicable BIS banking rules and policies. In 2022/23, the Legal Service and Risk Management formulated a set of banking compliance standards for BIS banking activities, informed by a review of external standards from selected relevant jurisdictions.

In the year under review, the Legal Service also advised on, and contributed to, several BIS strategic initiatives. These included: the expansion of the BIS Innovation Hub in new jurisdictions and the adoption of related host country agreements establishing an immunity framework for BIS activities; the modernisation of the Bank's human resources management practices and processes as well as updating relevant policies; the IT transformation and digitalisation of the workplace; and the update of the Bank's Operational Risk Management Policy and the support to the Banking Department as it continued to implement its transformation agenda, including through development of new products and services.

The Legal Service also advised on and supported organisational developments including:

- legal aspects related to the various projects of the BIS Innovation Hub (see Chapter 5).
- the enhancement of the Bank's accountability and integrity framework.

BIS Innovation Hub Eurosystem Centre agreement signing ceremony.

Ethics and conduct

The Bank's Management and Board of Directors attach the highest importance to ethics and conduct. Ethical conduct is one of the BIS's core values and therefore a key pillar of its corporate culture (see Chapter 6). The Bank's independent Ethics and Conduct function provides assurance that the activities of the BIS and its personnel are conducted in accordance with the highest ethical standards and the relevant codes of conduct. The Chief Ethics and Conduct Officer reports to the General Manager and the Deputy General Manager and also has direct access to the Board's Audit Committee.

Working with integrity

The BIS Code of Conduct requires that all BIS staff members maintain the highest standards of conduct, both at and outside the Bank; devote their working activities to the service of the Bank; avoid possible conflicts of interest; not accept other functions or employment unless explicitly authorised to do so by the Bank; and maintain the utmost discretion with regard to confidential information concerning the Bank.

To ensure that staff adhere to the highest ethical standards, Ethics and Conduct organises mandatory training for all new staff members on the Code of Conduct and fraud awareness, as well as periodic training on those topics for all staff.

Safe and respectful workplace

In October 2022, the Bank adopted the Safe and Respectful Workplace Policy, which strengthens various provisions contained in the Code of Conduct and other rules. As a general ethical principle, the Bank does not tolerate any form of harassment, discrimination, abuse of authority or retaliation. The Bank's whistleblowing policy, the Safe and Respectful Workplace Policy and the Code of Conduct encourage staff to report any incidents related to such forms of improper behaviour that they notice or are subject to, thus helping to ensure that the BIS remains a respectful work environment in which every individual is treated with dignity and respect.

Budget and remuneration

Budget policy

On an annual basis, Management prepares an overall business plan for the forthcoming financial year consistent with the strategic direction and financial framework agreed with the BIS Board of Directors. Corresponding resource requirements are assessed and plans prioritised to produce a draft budget for discussion with the Board. The agreement of the Board on the Bank's budget and related business plans is required before the start of each financial year.

The budget of the Bank comprises three key components:

- The regular administrative budget, which covers the Bank's ongoing annual expenditure, and its direct contribution to support the secretariats of the FSB, the IAIS and IADI.
- The regular capital budget, which covers annual expenditure on fixed assets (such as buildings, IT hardware and software).
- Special budgets, which are occasionally established to support large multi-year change programmes and include both administrative and capital elements. An example of this is the budget for the Innovation BIS 2025 strategy, which is a multi-year envelope covering all costs related to the programme as well as targeted savings.

The consolidation of these various components represents the overall budget of the Bank. Regular reporting on expenditure relative to the approved budget is provided to Management and the Board throughout the year to support oversight and monitoring.

Remuneration policy

Jobs and roles at the BIS are classified into grades associated with a structure of salary ranges. The salaries of individual staff members move within the ranges of the structure on the basis of performance.

The BIS regularly carries out comprehensive surveys to benchmark its salaries against compensation in comparable institutions and market segments.

The Annual General Meeting approves the remuneration of members of the Board of Directors, with adjustments taking place at regular intervals (see page 137).

BIS staff members have access to a contributory health insurance plan and a contributory defined benefit pension plan. Subject to certain conditions, staff members who are not nationals of the host countries where the BIS offices are located, including senior officials, are entitled to expatriation benefits as well as an education allowance for the international schooling of their children.

Taxation

Pursuant to host country agreements or legislation, BIS staff members are generally exempt from income tax on Bank salaries and allowances that would otherwise be levied by the relevant host countries. However, they remain subject to tax levied in the host countries on income from sources other than the Bank, as well as other taxes (eg wealth or property tax). The exemption from national taxation reflects a well established international practice for international organisations.

8

Financial results and profit allocation

The Bank's balance sheet and financial results are driven mainly by its banking activities and by the management of the funds associated with its shareholders' equity. The annual net profit is allocated as a dividend or transferred to a reserve fund according to the Bank's Statutes.

Portfolio organisation

The Bank's portfolios are organised into simple layers, which helps with portfolio management and supports the analysis of profit and risk. The structure of the main portfolios is as follows:

Own funds

The Bank invests most of its shareholders' equity in fixed income portfolios.

Own gold

The remainder of the Bank's shareholders' equity is invested in gold and gold loans.

Borrowed funds

The BIS takes currency and gold deposits from central banks and invests the proceeds, earning a margin.

The **own funds** and the **own gold** position relate to the investment of the Bank's shareholders' equity. They are primarily accounted for as fair value through other comprehensive income assets. This means that they are presented in the balance sheet at fair value, while their contribution to the profit reflects the accrual of interest along with realised gains and losses on sales. The Bank's total comprehensive income includes their total change in fair value, including unrealised valuation movements.

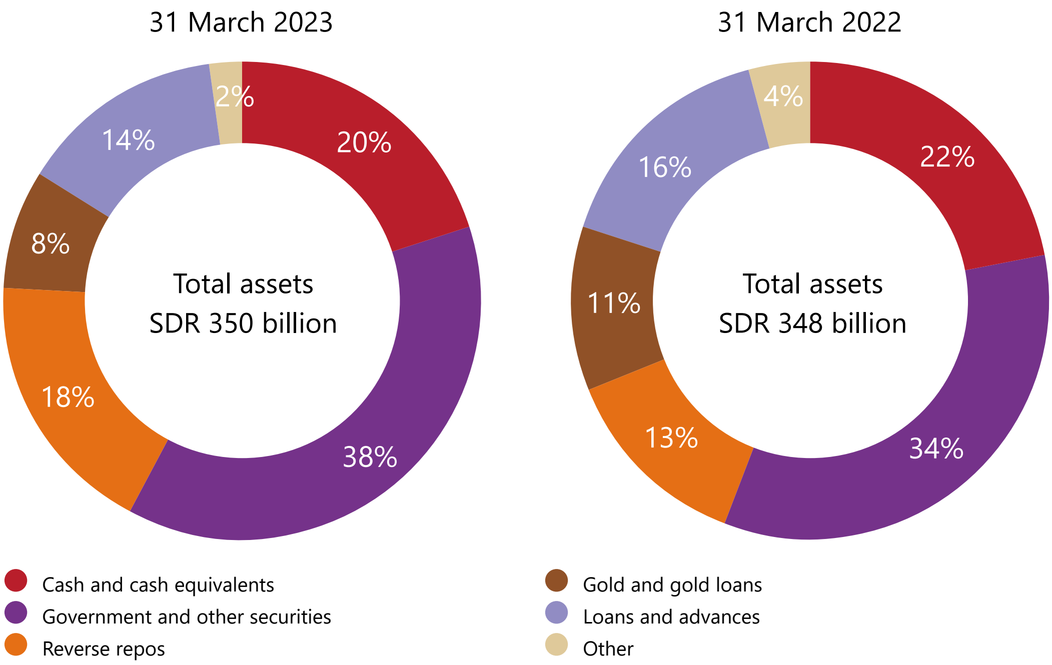
The **borrowed funds** represent deposits from central banks and other official sector customers in currency and gold, and the investment of the proceeds and associated hedging through derivative financial instruments. These portfolios are managed on an overall fair value basis. They are primarily accounted for as fair value through profit and loss. This means that they are presented in the balance sheet at fair value and their contribution to the Bank's profit reflects the total change in value, including interest accruals and realised and unrealised valuation movements.

Apart from the portfolios mentioned above, the Bank has other portfolios which include the income from asset management services and income from foreign exchange and gold services.

Balance sheet

The BIS's balance sheet total as of 31 March 2023 was SDR 350 billion. The composition of the Bank's assets is shown in the graph below.

Balance sheet asset composition



The balance sheet increased by SDR 2 billion over the year. This reflected an SDR 3 billion increase in total liabilities offset by an SDR 1 billion increase in shareholders' equity. Within total liabilities, currency deposits decreased by SDR 3 billion over the year, while other liabilities (principally the volume of transactions awaiting settlement) increased by SDR 6 billion.

Currency deposits	Gold deposits	Other liabilities	Total liabilities
SDR 289 billion	SDR 19 billion	SDR 19 billion	SDR 327 billion
31 March 2023	31 March 2023	31 March 2023	31 March 2023
SDR 292 billion	SDR 19 billion	SDR 13 billion	SDR 324 billion
31 March 2022	31 March 2022	31 March 2022	31 March 2022
– SDR 3 billion	No change	+ SDR 6 billion	+ SDR 3 billion

Financial performance

Net profit

The net profit for 2022/23 was SDR 679 million, comprising:

Borrowed funds total income		Own funds total income		Income on other business		Operating expense
SDR 803 million	+	SDR 162 million	+	SDR 51 million	−	SDR 337 million
reflecting the margin earned on an average currency deposit volume of SDR 294 billion				including asset management services, and foreign exchange and gold services		

The net profit for 2022/23 was SDR 338 million higher than the profit recorded in the prior year. This can be explained by two main factors.

First, the total income on the borrowed funds was SDR 375 million higher compared with the prior year, reflecting a favourable margin along with the positive valuation impacts of tighter money market spreads. In addition, the average volume of deposits was SDR 10 billion higher than in 2021/22.

Second, the total income on the own funds was SDR 30 million lower than in 2021/22. The reduction reflects the impact of rising yields, which led to a reduction in realised gains on sales of fair value through other comprehensive income securities, partially offset by higher interest accrual reflecting reinvestment in the higher yield environment.

Total comprehensive income

The Bank's total comprehensive income for 2022/23 was SDR 414 million. The total comprehensive income includes the net profit along with three valuation changes which are reflected directly in the shareholders' equity.

First, the unrealised valuation gain on own gold of SDR 216 million was a result of a 5% increase in the gold price.

Second, the unrealised valuation movement on own funds securities of SDR –533 million reflected a revaluation loss due to the sharp increase in SDR bond yields, along with a transfer to the profit and loss account when own funds securities were sold during the year.

Third, an actuarial re-measurement gain of SDR 52 million on the Bank's post-employment defined benefit obligations reflected the rise in bond yields, which led to an increase in the discount rates used to value the obligations.

Proposed dividend

The dividend policy of the BIS has three fundamental principles:

- the Bank should maintain an exceptionally strong capital position;
- the dividend should be predictable, stable and sustainable; and
- the dividend should be an annual decision reflecting prevailing financial circumstances.

The policy incorporates a normal dividend, which usually increases by SDR 10 per share per annum, with the payout ratio between 20 and 50% in most years. The dividend policy was revised in 2021/22 to incorporate the use of the Special Dividend Reserve Fund to help smooth future dividend payments. The Special Dividend Reserve Fund would be drawn on to support dividend payments in years when profits are low (when the payout ratio would be above 50%). Conversely, when profits are high (and the payout ratio would be below 30%), the dividend policy allows for the Special Dividend Reserve Fund to be replenished by an allocation of profit. The policy also allows for the possibility of a supplementary dividend when the payout ratio would be below 20%.

Consistent with the dividend policy, it is proposed to declare a normal dividend of SDR 285 per share for financial year 2022/23. The proposed dividend would be paid on 567,125 eligible shares at a total cost of SDR 161.6 million. This would represent a payout ratio of 24% of net profit, and SDR 34.9 million will be transferred to the Special Dividend Reserve Fund.

Proposed allocation to reserves

In accordance with Article 51 of the BIS Statutes, the Board of Directors recommends that the General Meeting allocate the 2022/23 net profit of SDR 678.7 million in the following manner:

SDR 161.6 million	SDR 25.9 million	SDR 34.9 million	SDR 456.3 million
to be paid out as dividend	to be transferred to the General Reserve Fund	to be transferred to the Special Dividend Reserve Fund	to be transferred to the Free Reserve Fund

Annex

Financial statements

The BIS's financial statements for the financial year ended 31 March 2023 provide an analysis of the Bank's balance sheet and profit and loss account, together with other financial, capital adequacy and risk management disclosures. The financial statements are prepared in accordance with the Statutes and accounting policies of the Bank, and are externally audited.

Letter to shareholders

Submitted to the Annual General Meeting of the Bank for International Settlements held in Basel on 25 June 2023

Ladies and gentlemen

It is our pleasure to submit to you the financial statements of the Bank for International Settlements for the financial year ended 31 March 2023.

Pursuant to Article 49 of the Bank's Statutes, they are presented in a form approved by the Board of Directors on 16 May 2023, and are subject to approval by shareholders at the Annual General Meeting.

The net profit for the year was SDR 678.7 million. The Board of Directors proposes to allocate this profit as follows. First, SDR 161.6 million to pay a normal dividend of SDR 285 per share. Second, SDR 25.9 million to the general reserve fund. Third, SDR 34.9 million to the special dividend reserve fund. Fourth, SDR 456.3 million to the free reserve fund.

Basel, 16 May 2023

Agustín Carstens
General Manager

Luiz Awazu Pereira da Silva
Deputy General Manager

Contents

Balance sheet

As at 31 March

SDR millions	Note	**2023**	2022
Assets			
Cash and cash equivalents	1	69,707.1	77,554.5
Securities purchased under resale agreements	2	64,120.9	43,934.7
Loans and advances	2	50,003.8	56,442.5
Government and other securities	2	133,206.4	118,391.9
Gold and gold loans	3	27,681.0	39,656.2
Derivative financial instruments	4	3,332.2	7,994.1
Accounts receivable and other assets	5	2,053.3	3,443.3
Land, buildings and equipment	6	204.9	201.9
Total assets		**350,309.6**	347,619.1
Liabilities			
Currency deposits	7	288,678.0	292,178.4
Gold deposits	8	19,194.1	18,858.8
Derivative financial instruments	4	4,922.2	3,246.0
Accounts payable	9	13,022.7	9,135.2
Other liabilities	10	787.6	753.7
Total liabilities		**326,604.6**	324,172.1
Shareholders’ equity			
Share capital	12	710.2	710.2
Less: shares held in treasury	12	(1.7)	(1.7)
Statutory reserves	13	18,270.0	18,085.0
Profit and loss account		678.7	341.0
Other equity accounts	14	4,047.8	4,312.5
Total shareholders’ equity		**23,705.0**	23,447.0
Total liabilities and shareholders’ equity		**350,309.6**	347,619.1

Profit and loss account

For the financial year ended 31 March

SDR millions	Note	**2023**	2022
Interest income	15	513.8	222.8
Interest expense	16	(1,209.0)	(226.7)
Change in expected credit loss impairment provision	17	(0.4)	(1.2)
Net income on financial assets and liabilities at fair value through profit and loss	18	1,674.8	542.5
Net interest and valuation income		**979.2**	537.4
Net gain / (loss) on sales of currency assets at fair value through other comprehensive income	19	(26.8)	102.0
Net fee income	20	14.7	5.9
Net foreign exchange income	21	48.3	11.3
Total income		**1,015.4**	656.6
Administrative expense	22	(310.9)	(289.3)
Depreciation and amortisation	6	(25.8)	(26.3)
Operating expense		**(336.7)**	(315.6)
Net profit		**678.7**	341.0

Statement of comprehensive income

For the financial year ended 31 March

SDR millions	Note	**2023**	2022
Net profit		**678.7**	341.0
Other comprehensive income			
Items that are or may be reclassified subsequently to profit and loss			
In respect of currency assets at fair value through other comprehensive income:			
Net change in fair value during the year		(559.9)	(281.8)
Net change in expected credit loss impairment provision		0.4	1.2
Reclassification to profit and loss	19	26.8	(102.0)
Net movement on currency assets at fair value through other comprehensive income		**(532.7)**	(382.6)
In respect of gold at fair value through other comprehensive income:			
Net change in fair value during the year	14B	215.9	682.5
Reclassification to profit and loss		–	–
Net movement on gold at fair value through other comprehensive income		**215.9**	682.5
Items that will not be reclassified to profit and loss			
Re-measurement of defined benefit obligations	14C	**52.1**	277.2
Total comprehensive income		**414.0**	918.1

Statement of cash flows

For the financial year ended 31 March

SDR millions	Note	**2023**	2022
Cash flow from / (used in) operating activities			
Interest income received		387.9	262.3
Interest expense paid		(1,167.4)	(196.9)
Net fee income	20	14.7	5.9
Net gain on foreign exchange transactions	21	71.4	17.4
Administrative expense	22	(310.9)	(289.3)
Adjustments for non-cash flow items			
Net income on financial assets and liabilities at fair value through profit and loss	18	1,674.8	542.5
Net change in expected credit loss impairment provision	17	(0.4)	(1.2)
Net foreign exchange translation gain / (loss)	21	(23.1)	(6.1)
Lease interest expense	16	(0.1)	(0.1)
Change in accruals		83.0	(69.4)
Change in operating assets and liabilities			
Currency deposits		644.4	4,231.5
Currency banking assets		(26,505.4)	19,239.1
Gold deposits		335.3	9.9
Gold banking assets		12,192.5	2,692.0
Change in cash collateral balance on derivatives transactions		5.8	(4.2)
Accounts receivable and other assets		(4.6)	(1.4)
Accounts payable and other liabilities		89.6	94.1
Net derivative financial instruments		6,315.9	665.6
Net cash flow from / (used in) operating activities		**(6,196.6)**	27,191.7
Cash flow from / (used in) investment activities			
Change in currency investment assets		(1,463.3)	(165.5)
Capital expenditure on land, buildings and equipment	6	(28.3)	(29.2)
Net cash flow from / (used in) investment activities		**(1,491.6)**	(194.7)

SDR millions	Note	**2023**	2022
Cash flow from / (used in) financing activities			
Dividends paid	23	(156.0)	(294.1)
Repayment of principal on lease liabilities		(3.2)	(3.0)
Net cash flow from / (used in) financing activities		**(159.2)**	(297.1)
Total net cash flow		**(7,847.4)**	26,699.9
Net effect of exchange rate changes on cash and cash equivalents		(342.4)	(786.9)
Net movement in cash and cash equivalents		(7,505.0)	27,486.8
Net change in cash and cash equivalents		**(7,847.4)**	26,699.9
Cash and cash equivalents, beginning of year	1	**77,554.5**	50,854.6
Cash and cash equivalents, end of year	1	**69,707.1**	77,554.5

Movements in shareholders' equity

SDR millions	Note	Share capital	Shares held in treasury	Statutory reserves	Profit and loss	Other equity accounts: Defined benefit obligations	Other equity accounts: Securities revaluation	Other equity accounts: Gold revaluation	Shareholders' equity
Balance as at 31 March 2021		**710.2**	**(1.7)**	**17,141.8**	**1,237.3**	**83.0**	**216.2**	**3,436.2**	**22,823.0**
Payment of 2020/21 dividend		–	–	–	(294.1)	–	–	–	(294.1)
Allocation of 2020/21 profit		–	–	943.2	(943.2)	–	–	–	–
Total comprehensive income	14	–	–	–	341.0	277.2	(382.6)	682.5	918.1
Balance as at 31 March 2022		**710.2**	**(1.7)**	**18,085.0**	**341.0**	**360.2**	**(166.4)**	**4,118.7**	**23,447.0**
Payment of 2021/22 dividend		–	–	–	(156.0)	–	–	–	(156.0)
Allocation of 2021/22 profit		–	–	185.0	(185.0)	–	–	–	–
Total comprehensive income	14	–	–	–	678.7	52.1	(532.7)	215.9	414.0
Balance as at 31 March 2023		**710.2**	**(1.7)**	**18,270.0**	**678.7**	**412.3**	**(699.1)**	**4,334.6**	**23,705.0**

Introduction

The Bank for International Settlements (BIS, "the Bank") is an international financial institution which was established pursuant to the Hague Agreements of 20 January 1930 as well as the Bank's Constituent Charter and its Statutes. The headquarters of the Bank are at Centralbahnplatz 2, 4002 Basel, Switzerland. The objectives of the BIS, as laid down in Article 3 of its Statutes, are to promote cooperation among central banks, to provide additional facilities for international financial operations and to act as trustee or agent for international financial settlements.

The financial statements were approved for issue by the General Manager, Deputy General Manager and Head of Finance on 16 May 2023 and are subject to approval by the Annual General Meeting of shareholders on 25 June 2023.

Accounting policies

The accounting policies set out below have been applied to both of the financial years presented unless otherwise stated.

1. Critical judgments and estimates

The preparation of the financial statements requires the Bank's Management to apply judgment and to make estimates. The judgments which have the most significant effect on the financial statements concern the selection and application of accounting policies to ensure that the financial statements present a true and fair view of the financial position and performance of the Bank. The most critical accounting policies for the Bank's financial reporting are those which concern:

- the scope of the financial statements (see accounting policy 2);
- the functional and presentation currency (see accounting policy 3);
- the classification and measurement of financial instruments, and the application of these policies to the Bank's portfolios (see accounting policies 4–6); and
- accounting for gold assets and liabilities, and for the Bank's overall own gold position (see accounting policies 10 and 14).

The critical estimates having the most significant effect on the amounts recognised in the financial statements are those which concern:

- the valuation of currency deposits classified as fair value through profit and loss; and
- post-employment obligations, the estimation of which is dependent on long-term actuarial assumptions.

There are also judgments involved in making disclosures, including the methodology used to determine the fair value hierarchy disclosures.

When making estimates, Management exercises judgment based on available information. Actual results could differ significantly from these estimates.

2. Scope of the financial statements

These financial statements recognise all assets and liabilities that are controlled by the Bank and in respect of which the economic benefits, as well as any rights and obligations, lie with the Bank.

As part of its activities, the Bank undertakes financial transactions in its own name but for the economic benefit of other parties, including transactions on a custodial or agency basis. These include transactions undertaken on behalf of the staff pension fund and BIS Investment Pools (BISIPs). These are reporting entities with their own financial statements, but which do not have separate legal personality from the Bank. The Bank also undertakes transactions in its name on behalf of dedicated mandates, where the Bank is the investment manager of a customer investment portfolio. Unless otherwise stated, such transactions are not included in these financial statements. Note 25 provides further information on BISIPs and dedicated mandates. Note 11 provides further information on the staff pension fund.

The Bank hosts the secretariats of three independent associations – the Financial Stability Board (FSB), the International Association of Deposit Insurers (IADI) and the International Association for Insurance Supervisors (IAIS) – and supports the activities of the BIS Sports Club. It also acts in an administrative capacity for the International Journal of Central Banking (IJCB). These five associations each have their own legal personality and financial statements, and are therefore independent of the Bank. Unless otherwise stated, the activities of these five independent associations are not included in these financial statements.

The BIS Innovation Hub is a department of the BIS that fosters international collaboration on innovative financial technology in the central banking community. All the assets and liabilities associated with the Innovation Hub are included in these financial statements, with the costs included within "Administrative expense". Cost-sharing arrangements have been established with the host central banks and in connection with certain BIS Innovation Hub projects. Contributions received under cost sharing arrangements are included within "Net fee income".

3. Functional and presentation currency

The functional and presentation currency of the Bank is the Special Drawing Right (SDR) as defined by the International Monetary Fund (IMF). The composition of the SDR is subject to periodic review. Following the most recent review, changes were made to the SDR basket effective from 1 August 2022. As currently calculated, one SDR is equivalent to the sum of USD 0.57813, EUR 0.37379, RMB 1.0993, JPY 13.452 and GBP 0.080870.

Monetary assets and liabilities are translated into SDR at the exchange rates ruling at the balance sheet date. Other assets and liabilities and profits and losses are translated into SDR at the exchange rates ruling at the date of the transaction. Exchange differences arising from the retranslation of monetary assets and liabilities and from the settlement of transactions are included as net foreign exchange income in the profit and loss account.

All figures in these financial statements are presented in SDR millions unless otherwise stated. Amounts are presented to the nearest SDR 0.1 million, and may be rounded up or down to reduce summation differences within disclosure or rounding differences between disclosures.

4. Recognition, de-recognition, classification and measurement of financial assets

The Bank recognises financial assets on the trade date, being the date on which the Bank commits to purchase the assets. Financial assets are de-recognised on the trade date of a sale (when the Bank commits to transfer substantially all the risks and rewards of ownership), or when the contractual cash flows from the assets have expired. On initial recognition, financial assets are classified as either:

- amortised cost;
- fair value through other comprehensive income (FVOCI); or
- fair value through profit and loss (FVPL).

The classification determines the measurement of financial assets, and how this is reflected in the Bank's financial statements. The classification depends on the business model for managing the assets and on the cash flow characteristics of the assets, as described below.

Amortised cost

Financial assets can be classified as amortised cost if two criteria are met:

1. the financial assets are held within a business model with the objective of holding the assets to collect the contractual cash flows; and
2. the contractual terms on the financial assets give rise to cash flows that are solely payments of principal or interest.

Amortised cost financial assets are measured in the balance sheet using the effective interest rate method, with the carrying value adjusted by the expected credit loss (ECL) for each asset. Interest is included in the profit and loss account under "Interest income" or "Interest expense" (negative interest) on an accruals basis. The movement in the ECL impairment provision on these assets is recognised in the profit and loss account under "Change in expected credit loss impairment provision".

Fair value through other comprehensive income (FVOCI)

Financial assets can be classified as FVOCI if two criteria are met:

1. the financial assets are held within a business model with the objective of collecting the contractual cash flows or potentially selling the assets; and
2. the contractual terms on the financial assets give rise to cash flows that are solely payments of principal or interest. A contractual cash flow characteristic does not affect the classification of the financial asset if it could have only a "de-minimis" effect on the contractual cash flows of the financial asset, or if it could have an effect that is more than de-minimis but the characteristic is not genuine because it relates to circumstances that are extremely rare, highly abnormal and very unlikely to occur.

FVOCI financial assets are measured in the balance sheet at fair value. In addition, an amortised cost book value is calculated using the effective interest rate method, including an adjustment for the ECL impairment provision of each asset. Changes in the book value (due to the accrual of interest) are included as "Interest income" or "Interest expense" (negative interest) in the profit and loss account. Unrealised valuation movements, adjusted by the ECL impairment provision, are recognised through the "Securities revaluation account" in other comprehensive income (OCI). Interest revenue, the movement in ECL impairment provision and foreign exchange gains or losses are recognised in the profit and loss account. Upon disposal of the assets, gains or losses are recognised in the profit and loss account as "Net gain on sales of financial assets at fair value through other comprehensive income".

Fair value through profit and loss (FVPL)

All other financial assets are classified as FVPL. These include:

- derivative financial assets;
- assets that are held for trading, or that are held within a business model that is managed on a fair value basis; and
- assets which contain contractual terms that give rise to cash flows that are not solely payments of principal or interest.

In addition, the Bank chooses to classify financial assets as FVPL if the use of the classification removes or significantly reduces an accounting mismatch. Any such classification is made on the date of initial recognition, and is irrevocable.

FVPL financial assets are measured in the balance sheet at fair value. The accrual of interest and all realised and unrealised movements in fair value are included within "Net income on financial assets and liabilities at fair value through profit and loss".

Reclassification

Groups of financial assets are reclassified if there is a fundamental change to the way they are managed. Reclassifications are applied prospectively from the date of change, with no restatement of previously recognised gains, losses or interest. Financial assets which are classified as FVPL in order to remove or significantly reduce an accounting mismatch cannot be reclassified.

Impairment of financial assets

The Bank assesses impairment on financial assets which are classified as either FVOCI or amortised cost, and also for loan commitments. Impairment is assessed from the date of initial recognition using a three-stage model.

Stage 1 applies to financial assets on which there has not been a significant increase in credit risk since initial recognition. The ECL impairment provision is calculated on a 12-month forward-looking basis.

Stage 2 applies to financial assets on which there has been a significant increase in credit risk since initial recognition. The ECL impairment provision is calculated taking into account the full expected life of the financial asset.

Stage 3 applies to financial assets which are considered to be credit-impaired. The ECL impairment provision is calculated on a lifetime basis, but the effective interest rate on the financial asset is recalculated based on the amortised cost (including the ECL).

The key inputs into the measurement of the ECL impairment provision are:

- The probability of default (PD), which represents the estimated likelihood of a borrower defaulting on its financial obligation over a specific time period. PDs are regularly re-estimated using a combination of internal and external data, along with judgment.
- Loss-given-default (LGD) is the proportion of an exposure that is lost as a result of a counterparty default. LGD estimates are informed by observed external LGD data.
- Exposure at default (EAD) is the magnitude of the exposures in the event of a default and is determined based on the future expected cash flows discounted at the effective interest rate. The EAD reflects the offsetting effects of any collateral received.

The ECL impairment provision is presented in the balance sheet as follows:

- for financial assets measured at amortised cost: as a deduction from the gross carrying amount of the asset;
- for financial assets measured at FVOCI: within the "Securities revaluation account" in other equity accounts; and
- for loan commitments: as a provision within "Loans and advances".

5. Recognition, de-recognition, classification and measurement of financial liabilities

The Bank recognises financial liabilities on the trade date, being the date on which the Bank commits to issue the liabilities. Financial liabilities are de-recognised on the trade date of a repurchase (when the Bank commits to buy back the financial liability), or when the contractual cash flows from the financial liabilities have expired. On initial recognition, financial liabilities are classified as either:

- fair value through profit and loss; or
- amortised cost.

The classification determines the measurement of financial liabilities, and how this is reflected in the Bank's financial reporting. The classification depends on the characteristics of the liabilities, as described below.

Fair value through profit and loss (FVPL)

Financial liabilities are classified as FVPL if they are derivative financial liabilities, or are held for trading. In addition, the Bank chooses to classify financial liabilities as FVPL if the use of the classification removes or significantly reduces an accounting mismatch. Any such classification is made on the date of initial recognition, and is irrevocable.

FVPL financial liabilities are measured in the balance sheet at fair value. The accrual of interest and all realised and unrealised movements in fair value are included within "Net income on financial assets and liabilities at fair value through profit and loss".

Amortised cost

All other financial liabilities are classified as amortised cost.

Amortised cost financial liabilities are measured in the balance sheet using the effective interest rate method. Interest is included in the profit and loss account under "Interest expense" or "Interest income" (negative interest) on an accruals basis. Any gains or losses on redemption are recognised in the profit and loss account.

6. The application of the classification and measurement approach to the Bank's portfolios

All very short-dated financial assets (cash and cash equivalents) and liabilities (sight and notice deposit accounts) are classified as amortised cost. The classification of other financial assets and liabilities is determined by the Bank's asset and liability portfolio structure. The Bank's assets and liabilities are organised into four sets of portfolios.

A. Currency banking portfolios (borrowed funds)

The Bank operates a currency banking book (comprising currency deposit liabilities, and related assets and derivatives). The Bank acts as a market-maker in its currency deposit liabilities. As a result of this activity, the Bank incurs realised profits or losses when these liabilities are repurchased from customers. Under the Bank's accounting policies, some of these financial instruments would be classified as FVPL, while others would be classified as FVOCI or amortised cost. In accordance with the Bank's risk management policies, the market risk inherent in this activity is managed on an overall fair value basis. As such, the realised and unrealised profits or losses on currency deposit liabilities are largely offset by realised and unrealised losses or profits on the related assets and derivatives. To reduce the accounting inconsistency that would otherwise arise from recognising realised and unrealised profits and losses on different bases, the Bank chooses to classify all financial assets and liabilities (other than those which are very short-dated) in its currency banking portfolios as FVPL.

B. Gold banking portfolio (borrowed gold)

The Bank operates a gold banking book (comprising gold deposit liabilities and related gold loan assets). All gold loan and deposit financial assets and liabilities in this portfolio are classified as amortised cost. All derivatives are classified as FVPL.

C. Currency investment portfolios (own funds)

The Bank's investment portfolios comprise assets, liabilities and derivatives relating principally to the investment of the Bank's shareholders' equity.

The Bank invests most of its shareholders' equity in financial instruments. Most of the currency financial assets in investment portfolios (other than those which are very short-dated) are classified as FVOCI. Any related currency financial liabilities (including securities sold under repurchase agreements) are classified as amortised cost.

In addition, the Bank invests some of its shareholders' equity in portfolios that are managed with a mandate which permits active trading. The financial instruments in these portfolios (other than those which are very short-dated) are classified as FVPL currency assets and liabilities.

D. Gold investment portfolio (own gold)

The Bank invests some of its shareholders' equity in gold and gold loans. These assets are classified as amortised cost. The Bank's overall own gold position is treated as an FVOCI asset (as further described in accounting policy 10 below).

Accounting policies 7 to 14 below describe the application of these accounting policies to individual items in the balance sheet.

7. Cash and cash equivalents

Cash and cash equivalents consist of cash and sight and notice accounts with banks, which are very short-term financial assets that typically have notice periods of three days or less. Notice accounts include balances at futures clearing brokers. Cash and cash equivalents are classified as amortised cost.

8. Securities purchased under resale agreements

Securities purchased under resale agreements ("reverse repurchase agreements") are collateralised loan transactions through which the Bank lends cash and receives an irrevocable commitment from the counterparty to return the cash, plus interest, at a specified date in the future. As part of these agreements, the Bank receives collateral in the form of securities to which it has full legal title, but must return equivalent securities to the counterparty at the end of the agreement, subject to the counterparty's repayment of the cash. As the Bank does not acquire the risks or rewards associated with ownership of these collateral securities, they are not recognised as assets in the Bank's balance sheet. The collateralised loans relating to securities purchased under resale agreements are recognised as assets, and are classified as either FVPL (currency banking portfolios) or FVOCI (currency investment portfolios).

9. Loans and advances, and government and other securities

Loans and advances comprise fixed-term loans to commercial banks, and advances under committed and uncommitted standby facilities which the Bank provides for its customers. Government and other securities are debt securities issued by governments, international institutions, other public sector institutions, commercial banks and corporates. They include treasury bills, commercial paper, certificates of deposit, fixed and floating rate bonds, covered bonds and asset-backed securities.

These financial assets are classified as either FVPL (currency banking portfolios) or FVOCI (currency investment portfolios).

10. Gold and gold loans

Gold comprises gold bar assets held in custody at central banks and sight accounts denominated in gold. Gold loans comprise fixed-term gold loans. Gold and gold loans are classified as amortised cost, and are included in the balance sheet at their weight in gold (translated at the gold market price and USD exchange rate into SDR) plus accrued interest.

Gold loans are recognised on a trade date basis. Purchases and sales of gold bar assets are recognised on a settlement date basis, with forward purchases or sales treated as derivatives prior to settlement date.

The Bank trades most of its gold swaps under its derivative ISDA contracts, and accounts for them in a similar manner to currency swaps. As such, gold balances in the balance sheet include gold received (and exclude gold paid) in respect of gold swap contracts.

The treatment of realised gains or losses on gold transactions, and unrealised gains or losses on the retranslation of the net gold position, depends on the management objective for which the gold is held, as described below:

A. Gold banking portfolio (borrowed gold)

Gains or losses on the retranslation of the net position in gold in the banking portfolio are included under "Net foreign exchange income" as net translation gains or losses.

B. Gold investment portfolio (own gold)

The Bank's overall own gold position is treated as an FVOCI asset.

Unrealised gains or losses on the Bank's gold investment assets over their deemed cost are included in the gold revaluation account, which is reported under the balance sheet heading "Other equity accounts". The movement in fair value is included in the statement of comprehensive income under the heading "Gold at fair value through other comprehensive income – net change in fair value during the year".

All of the Bank's gold investment assets were held on 31 March 2003 (when the Bank changed its functional and presentation currency from the gold franc to the SDR). The deemed cost of these assets is approximately SDR 151 per ounce, based on the value of USD 208 per ounce that was applied from 1979 to 2003 following a decision by the Bank's Board of Directors, translated at the 31 March 2003 exchange rate.

Realised gains or losses on disposal of gold investment assets are included in the profit and loss account as "Net gain on sales of gold investment assets".

11. Derivative financial instruments

Derivatives are used either to manage the Bank's market risk or for trading purposes. The Bank trades most of its gold swaps under its derivative ISDA contracts, and accounts for them in a similar manner to currency swaps. Derivatives are classified as FVPL, and are included in the balance sheet as either assets or liabilities, depending on whether the contract has a positive or a negative fair value for the Bank.

12. Currency deposits

Currency deposits comprise sight and notice deposit accounts along with BIS deposit instruments.

Sight and notice deposit accounts are very short-term monetary liabilities that typically have notice periods of three days or less. They are classified as amortised cost.

BIS deposit instruments comprise currency deposit products offered by the Bank to its customers. They are classified as FVPL.

Some BIS deposit instruments contain embedded derivative financial instruments, such as currency or call options. These embedded derivatives are also classified as FVPL, and are included within the currency deposits balance sheet value.

13. Securities sold under repurchase agreements

Securities sold under repurchase agreements ("repurchase agreements") are collateralised deposit transactions through which the Bank receives cash and provides an irrevocable commitment to return the cash, plus interest, at a specified date in the future. As part of these agreements, the Bank transfers legal title of collateral securities to the counterparty. At the end of the contract, the counterparty must return equivalent securities to the Bank, subject to the Bank's repayment of the cash. As the Bank retains the risks and rewards associated with ownership of these securities, they continue to be recognised as assets in the Bank's balance sheet. The collateralised deposits are recognised as liabilities and are classified as either FVPL (currency banking portfolios) or amortised cost (currency investment portfolios).

14. Gold deposits

Gold deposits comprise unallocated sight and fixed-term deposits of gold from central banks.

Unallocated gold deposits provide customers with a general claim on the Bank for delivery of gold of the same weight and quality as that delivered by the customer to the Bank, but do not provide the right to specific gold bars. All unallocated gold deposits (whether sight or fixed-term) are classified as amortised cost. Unallocated gold sight account deposits are included in the balance sheet on a settlement date basis at their weight in gold (translated at the gold market price and the USD exchange rate to SDR). Unallocated fixed-term deposits of gold are included in the balance sheet on a trade date basis at their weight in gold (translated at the gold market price and the USD exchange rate to SDR) plus accrued interest.

Allocated (or “earmarked”) gold deposits provide depositors with a claim for delivery of the specific gold bars deposited by the customer with the Bank on a custody basis. Beneficial ownership and risk remain with the customer. As such, allocated gold deposit liabilities and the related gold bar assets are not included in the Bank’s balance sheet and are disclosed as off-balance sheet items.

15. Securities lending

The Bank participates in securities lending transactions in which it lends debt securities in exchange for a fee. The transactions are conducted under standard agreements employed by financial market participants. The securities which have been transferred are not de-recognised from the balance sheet since the risks and rewards of ownership are not transferred, even if the borrower has the right to sell or re-pledge the securities. Such Bank-owned securities transferred to a borrower are presented in the balance sheet as part of “Government and other securities”.

16. Determination of fair value of financial instruments

The majority of the Bank’s financial instruments are classified as either FVPL or FVOCI, and hence are included in the balance sheet at fair value. The fair value of a financial instrument is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date in the principal market (or, in its absence, the most advantageous market to which the Bank has access at that date).

The Bank considers published price quotations in active markets as the best evidence of fair value. Where no reliable price quotations exist, the Bank determines fair values using a valuation technique appropriate to the particular financial instrument. Such valuation techniques may involve using market prices of recent arm’s length market transactions in similar instruments or may make use of financial models such as discounted cash flow analyses and option pricing models. Where financial models are used, the Bank aims to make maximum use of observable market inputs as appropriate, and relies as little as possible on its own estimates. The Bank values its positions at their exit price, so that assets are valued at the bid price and liabilities at the offer price. Derivative financial instruments are valued on a bid-offer basis, with valuation reserves, where necessary, included in derivative financial assets and liabilities.

17. Interest income and expense

Interest income and interest expense relate to financial instruments which are classified as either FVOCI or amortised cost. Interest income includes negative interest on liabilities, while interest expense includes negative interest on assets and interest on lease liabilities.

Interest income and interest expense are recognised in the profit and loss account using the effective interest rate method. Interest income is calculated by applying the effective interest rate to the gross carrying amount of an asset, except for assets which are purchased (or subsequently become) credit-impaired (impairment stage 3). For financial assets purchased as credit-impaired, the original credit adjusted effective interest rate is applied to the amortised cost of the financial asset. For financial assets which subsequently become credit-impaired, interest income is calculated by applying the effective interest rate to the amortised cost value of the asset.

18. Accounts receivable and accounts payable

Accounts receivable and accounts payable are principally short-term amounts relating to the settlement of financial transactions. They are recognised on a trade date basis and subsequently accounted for at amortised cost until their settlement.

19. Land, buildings and equipment

Expenditure on land, buildings and equipment is recognised as an asset in the balance sheet where it is probable that the Bank will obtain future economic benefits. Buildings and equipment assets are depreciated on a straight line basis over the estimated useful lives of the assets concerned, as follows:

- buildings – 50 years;
- building installations and machinery – 15 years;
- information technology equipment – 4 years;
- other equipment – 4 to 10 years; and
- computer software intangible assets – 4 years.

The Bank's land is not depreciated. Right-of-use assets are depreciated on a straight line basis over the lease term. The Bank undertakes an annual review of impairment of land, buildings and equipment. Where the carrying amount of an asset is greater than its estimated recoverable amount, the asset is written down to the lower value.

20. Leases

In the course of its business, the Bank enters into lease contracts, and contracts that contain lease components. On initial recognition of such contracts, the Bank calculates a right-of-use asset and a lease liability, both of which are based on the present value of lease payments. The Bank's incremental borrowing rate (or, if applicable, the interest rate implicit in the lease) is used as the discount rate for determining the present value. The right-of-use asset is included under "Land, buildings and equipment", and is depreciated on a straight line basis over the term of the lease. It is reviewed for impairment annually. The lease liability is included under "Other liabilities", and is reduced when the Bank makes payments under the lease. Interest expense is calculated based on the outstanding lease liability and the discount rate.

The Bank leases certain premises under contracts that can contain non-lease components (such as maintenance). The Bank does not separate such components from the lease payments, and therefore the right-of-use asset and lease liability are based on the total lease payment.

21. Provisions

Provisions are recognised when the Bank has a present legal or constructive obligation as a result of events arising before the balance sheet date and it is probable that economic resources will be required to settle the obligation, provided that a reliable estimate can be made of the amount of the obligation. Best estimates and assumptions are used when determining the amount to be recognised as a provision.

22. Taxation

The Bank's special legal status in Switzerland is set out principally in its Headquarters Agreement with the Swiss Federal Council. Under the terms of this document, the Bank is exempted from virtually all direct and indirect taxes at both federal and local government level in Switzerland. Similar tax exemptions have been established by the government of the People's Republic of China with respect to Hong Kong SAR, and the governments of Mexico, Singapore, Sweden, France, Germany and the United Kingdom. Income and gains received by the Bank may be subject to tax imposed in other countries. Tax expense is recognised under "Net fee income".

23. Post-employment benefit obligations

The Bank operates three post-employment benefit arrangements, respectively, for staff pensions, Directors' pensions and staff medical benefits. An independent actuarial valuation is performed annually for each arrangement. The staff pension arrangement is funded (ie it has specifically allocated assets); the other two arrangements are unfunded.

A. Staff pensions

The liability in respect of the staff pension arrangement is based on the present value of the defined benefit obligation less the fair value of the pension fund assets, both at the balance sheet date. The defined benefit obligation is calculated using the projected unit credit method. The present value of the defined benefit obligation is determined from the estimated future cash outflows. The rate used to discount the cash flows is determined by the Bank based on the market yield of highly rated corporate debt securities in Swiss francs which have a duration approximating that of the related liability.

The amount charged to the profit and loss account represents the sum of the current service cost of the benefits accruing for the year under the scheme, and interest at the discount rate on the net of the defined benefit obligation less the fair value of the pension fund assets. Past service costs from plan amendments are immediately recognised through profit and loss. Gains and losses arising from re-measurement of the obligations, such as experience adjustments (where the actual outcome is different from the actuarial assumptions previously made) and changes in actuarial assumptions, are charged to other comprehensive income in the year in which the re-measurement is applied. They are not reclassified to profit and loss in subsequent years.

B. Directors' pensions and staff post-employment medical benefits

The liability, the defined benefit obligation, the amount charged to the profit and loss account, and the gains and losses arising from re-measurement in respect of the Bank's other post-employment benefit arrangements are calculated on a similar basis to that used for the staff pension arrangement.

24. Statement of cash flows

The Bank's statement of cash flows is prepared using an indirect method. It is based on the movements in the Bank's balance sheet, adjusted for changes in financial transactions awaiting settlement.

Notes to the financial statements

1. Cash and cash equivalents

Cash and cash equivalents comprise sight accounts at central and commercial banks, as well as notice accounts at commercial banks and international financial institutions. Included within the cash balances is cash collateral received from counterparties in relation to derivatives transactions. Cash balances are analysed in the table below:

As at 31 March

SDR millions	**2023**	2022
Balance at central banks	68,069.6	76,039.6
Balance at commercial banks	85.2	134.6
Total cash and sight accounts	**68,154.8**	76,174.2
Notice accounts	1,552.3	1,380.3
Total cash and cash equivalents	**69,707.1**	77,554.5

2. Currency assets

Currency assets comprise the following products:

Securities purchased under resale agreements are collateralised loan transactions. During the term of the agreement, the Bank monitors the fair value of the loan and related collateral securities, and may call for additional collateral (or be required to return collateral) based on movements in their market value.

Loans and advances comprise fixed-term loans to commercial banks and advances. Advances are drawings of committed and uncommitted standby facilities which the Bank provides for its customers.

Government and other securities are debt securities issued by governments, international institutions, other public sector institutions, commercial banks and corporates. They include treasury bills, commercial paper, certificates of deposit, fixed and floating rate bonds, covered bonds, inflation-linked securities and asset-backed securities.

The tables below analyse the Bank's holdings of currency assets in accordance with their classification.

As at 31 March 2023

SDR millions	FVPL	FVOCI	**Total**
Securities purchased under resale agreements	**64,120.9**	**–**	**64,120.9**
Loans and advances	**50,003.8**	**–**	**50,003.8**
Government and other securities			
Sovereigns and central banks	92,073.5	15,415.8	107,489.3
Other	23,779.3	1,937.8	25,717.1
Total government and other securities	**115,852.8**	**17,353.6**	**133,206.4**
Total currency assets	**229,977.5**	**17,353.6**	**247,331.1**

As at 31 March 2022

SDR millions	FVPL	FVOCI	**Total**
Securities purchased under resale agreements	43,934.7	–	43,934.7
Loans and advances	56,442.5	–	56,442.5
Government and other securities			
Sovereigns and central banks	75,929.3	14,589.5	90,518.8
Other	25,750.6	2,122.5	27,873.1
Total government and other securities	101,679.9	16,712.0	118,391.9
Total currency assets	202,057.1	16,712.0	218,769.1

Government and other securities classified as FVPL as at 31 March 2023 include SDR 552.4 million (2022: SDR 732.1 million) of securities that are part of the currency investment portfolios (own funds) that have been classified as FVPL because the portfolio mandate permits active trading.

The Bank lends some of its securities in exchange for a fee. The amount of government and other securities which were transferred in securities lending transactions (and were not subject to de-recognition from the balance sheet to the extent of the Bank's continuing involvement) was SDR 73.8 million as at 31 March 2023 (2022: SDR 112.7 million).

The Bank gives or pledges as collateral some of its debt securities in certain derivative and repurchase agreement transactions. For more detail, see the "Risk management" section, note 3C, "Credit risk mitigation".

3. Gold and gold loans

As at 31 March

SDR millions	**2023**	2022
Gold investment assets	4,839.5	4,622.3
Gold banking assets	22,841.5	35,033.9
Total gold and gold loan assets	**27,681.0**	39,656.2
Comprising:		
Gold bars	26,650.6	39,646.0
Sight accounts denominated in gold	14.9	10.2
Gold loans	1,015.5	–

The Bank's gold investment assets are included in the balance sheet at their weight in gold (translated at the gold market price and USD exchange rate into SDR) plus accrued interest on gold loans. The excess of this value over the deemed cost value is included in the gold revaluation account, which is reported under the balance sheet heading "Other equity accounts".

Included in "Gold banking assets" is SDR 3,646.4 million (77 tonnes) of gold (2022: SDR 16,173.9 million; 358 tonnes) that the Bank holds in connection with gold swap contracts.

4. Derivative financial instruments

The main types of derivative instruments used by the Bank are as follows:

Currency and gold options are contractual agreements under which the seller grants the purchaser the right, but not the obligation, to either buy (call option) or sell (put option), by or on a set date, a specific amount of a currency or gold at a predetermined price. In consideration, the seller receives a premium from the purchaser.

Currency and gold swaps, cross-currency swaps and interest rate swaps are contractual agreements to exchange cash flows related to currencies, gold or interest rates (for example, fixed rate for floating rate). Cross-currency interest rate swaps involve the exchange of cash flows related to a combination of interest rates and foreign exchange rates. Except for certain currency and gold swaps and cross-currency interest rate swaps, no exchange of principal takes place.

Currency and gold forwards are contractual agreements involving the exchange of foreign currencies or gold at a future date.

Futures contracts are primarily bond and interest rate futures, which represent contractual agreements to receive or pay a net amount based on changes in bond prices or interest rates at a future date. Also included under this line are two other types of contracts which are traded in smaller volumes by the BIS. First, equity futures, which are traded for the management of the staff pension fund only. These are contractual agreements to receive or pay a net amount based on changes in equity index levels at a future date. Second, options on futures, which are contractual agreements that confer the right, but not the obligation, to buy or sell a futures contract at a predetermined price during a specified period of time. All types of futures contracts are settled daily with the exchange. Associated margin payments are settled by cash or marketable securities.

TBAs ("to be announced") are forward contracts for investment in mortgage-backed securities, whereby the investor acquires a portion of a pool of as yet unspecified mortgages, which will be announced on a given delivery date. The Bank classifies these financial instruments as derivatives because it typically opens and closes the positions before the delivery date.

The Bank enters into derivatives transactions for its own benefit, and also on behalf of customers, investment entities operated by the Bank, and the staff pension fund. Over-the-counter (OTC) derivatives transactions are legally documented under the Bank's derivative master contracts, and are subject to its collateralisation processes (and netting rules in the event of default of one of the parties). The Bank recognises all derivatives transacted in its name. Where the economic benefit lies with a customer, an investment entity or the staff pension fund, the Bank recognises both the original derivative contract and an exactly offsetting derivative contract with the beneficial party.

As at 31 March

	2023			2022		
	Notional amounts	Fair values		Notional amounts	Fair values	
SDR millions		Assets	Liabilities		Assets	Liabilities
Cross-currency swaps	1,778.6	7.9	(46.1)	1,697.9	52.5	(9.4)
Currency and gold forwards	6,688.5	17.0	(37.0)	6,210.7	17.7	(33.7)
Currency and gold options	1,039.2	0.2	(0.2)	3,633.5	20.4	(23.8)
Currency and gold swaps	277,226.7	1,698.4	(3,155.0)	280,680.4	7,174.1	(2,026.8)
Futures contracts	1,368.5	0.7	(0.6)	2,179.9	1.6	(0.7)
Interest rate swaps	478,047.9	1,607.5	(1,683.1)	348,517.9	727.3	(1,148.9)
TBAs	85.6	0.5	(0.2)	235.6	0.5	(2.7)
Total derivative financial instruments	**766,235.0**	**3,332.2**	**(4,922.2)**	643,155.9	7,994.1	(3,246.0)

5. Accounts receivable and other assets

As at 31 March

SDR millions	**2023**	2022
Financial transactions awaiting settlement	2,028.0	3,416.4
Other assets	25.3	26.9
Total accounts receivable and other assets	**2,053.3**	3,443.3

"Financial transactions awaiting settlement" relate to short-term receivables, typically due in three business days or less, where transactions have been effected but cash has not yet been received.

6. Land, buildings and equipment, and depreciation and amortisation

For the financial year ended 31 March							**2023**	2022
SDR millions	Land	Buildings and installations	IT and other equipment	Computer software Intangible assets	Assets under construction	Right-of-use assets	Total	Total
Historical cost								
Balance at beginning of year	**46.4**	**305.0**	**23.7**	**74.6**	**32.3**	**14.0**	**496.0**	473.9
Capital expenditure	–	–	–	–	28.3	–	28.3	29.2
Transfers	–	7.2	2.5	27.3	(37.0)	–	–	–
Change in right-of-use assets	–	–	–	–	–	0.5	0.5	0.6
Disposals and retirements	–	(0.8)	(3.5)	(5.5)	–	(0.3)	(10.1)	(7.7)
Balance at end of year	**46.4**	**311.4**	**22.7**	**96.4**	**23.6**	**14.2**	**514.7**	496.0
Accumulated depreciation and amortisation								
Balance at beginning of year	**–**	**219.9**	**15.7**	**50.2**	**–**	**8.3**	**294.1**	275.5
Depreciation and amortisation	–	10.6	1.6	10.6	–	3.0	25.8	26.3
Disposals and retirements	–	(0.8)	(3.5)	(5.5)	–	(0.3)	(10.1)	(7.7)
Balance at end of year	**–**	**229.7**	**13.8**	**55.3**	**–**	**11.0**	**309.8**	294.1
Net book value at end of year	**46.4**	**81.7**	**8.9**	**41.1**	**23.6**	**3.2**	**204.9**	201.9

Changes in right-of-use assets includes new lease transactions along with amendments of existing leases. Assets under construction are not subject to depreciation until they are completed and put into service.

The Bank's practice is to retire assets from the fixed asset register at the latest when their age reaches twice their estimated useful life. Due to retirement of assets, SDR 9.8 million has been removed from the historical cost and from accumulated depreciation for the year ended 31 March 2023
(2022: SDR 7.7 million).

7. Currency deposits

Currency deposits comprise the following products:

Sight and notice deposit accounts are very short-term financial liabilities, typically having a notice period of three days or less.

Medium-Term Instruments (MTIs) are fixed rate investments at the Bank issued with initial maturities of between one and five years.

FIXBIS are fixed rate investments at the BIS for any maturities between one week and one year.

FRIBIS are floating rate investments at the BIS with maturities of one year or longer for which the interest rate is reset in line with prevailing market conditions.

Fixed-term deposits are fixed rate investments at the BIS, typically with an initial maturity of less than one year.

Dual-currency deposits (DCDs) are fixed-term deposits that are repayable on the maturity date either in the original currency or at a fixed amount in a different currency at the option of the Bank. The balance sheet total for DCDs includes the fair value of the embedded foreign exchange option. These deposits all mature during April 2023 (2022: between April and July 2022).

The Bank acts as the sole market-maker in certain of its currency deposit liabilities and has undertaken to repay some of these financial instruments at fair value, in whole or in part, at one to three business days' notice.

The amount the Bank is contractually obliged to pay at maturity in respect of its FVPL currency deposits that were outstanding at 31 March 2023 (including total future expected interest payments) is SDR 244,831.9 million (2022: SDR 258,271.6 million).

Sight and notice deposit accounts are classified as amortised cost, while all other deposits are classified as FVPL.

As at 31 March 2023

SDR millions	FVPL	Amortised cost	**Total**
Repayable at one to three days' notice			
Sight and notice deposit accounts	–	50,253.9	50,253.9
Medium-Term Instruments (MTIs)	46,778.9	–	46,778.9
Fixed Rate Investments at the BIS (FIXBIS)	119,738.6	–	119,738.6
	166,517.5	50,253.9	**216,771.4**
Other currency deposits			
Floating Rate Investments of the BIS (FRIBIS)	1,350.4	–	1,350.4
Fixed-term deposits	70,515.0	–	70,515.0
Dual-currency deposits (DCDs)	41.2	–	41.2
	71,906.6	–	**71,906.6**
Total currency deposits	238,424.1	50,253.9	**288,678.0**

As at 31 March 2022

SDR millions	FVPL	Amortised cost	**Total**
Repayable at one to three days' notice			
Sight and notice deposit accounts	–	32,733.1	32,733.1
Medium-Term Instruments (MTIs)	41,193.7	–	41,193.7
Fixed Rate Investments at the BIS (FIXBIS)	107,371.8	–	107,371.8
	148,565.5	32,733.1	**181,298.6**
Other currency deposits			
Floating Rate Investments of the BIS (FRIBIS)	1,191.1	–	1,191.1
Fixed-term deposits	108,654.8	–	108,654.8
Dual-currency deposits (DCDs)	1,033.9	–	1,033.9
	110,879.8	–	**110,879.8**
Total currency deposits	259,445.3	32,733.1	**292,178.4**

8. Gold deposits

Gold deposit liabilities placed with the Bank originate entirely from central banks.

9. Accounts payable

"Accounts payable" consists of financial transactions awaiting settlement, relating to short-term payables where transactions have been effected but cash has not yet been transferred.

10. Other liabilities

As at 31 March

SDR millions	**2023**	2022
Post-employment benefit obligations		
Staff pensions	257.6	208.2
Directors' pensions	11.7	10.9
Medical benefits	457.0	476.1
Lease liabilities	3.5	6.1
Other liabilities	57.8	52.4
Total other liabilities	**787.6**	753.7

11. Post-employment benefit obligations

The Bank operates three post-employment arrangements:

- A defined benefit pension arrangement for its staff in the event of retirement, disability or death. The arrangement also applies to the staff of the three independent associations hosted by the Bank (the FSB, the IADI and the IAIS). Under this arrangement, benefits accrue according to years of participation and pensionable remuneration. These benefits are paid out of a pension fund without separate legal personality. Contributions are made to this fund by the Bank and by staff. The fund is the beneficial owner of assets on which it receives a return. These assets are administered by the Bank for the sole benefit of the participants in the arrangement. Except as shown in this note, and as described in note 4, "Derivative financial instruments", these assets are not recognised as assets of the Bank. The Bank remains ultimately liable for all benefits due under the arrangement. The defined benefit obligation and the related expense for the staff pension plan includes amounts related to an unfunded legacy arrangement for cleaning staff. The disbursements for this arrangement are not paid out of the assets in the fund, as described above.
- An unfunded defined benefit arrangement for its Directors, whose entitlement is based on a minimum service period of 49 months.
- An unfunded post-employment medical benefit arrangement for its staff and their dependents. Employees who leave the Bank after becoming eligible for early retirement benefits from the pension arrangement are eligible for post-employment medical benefits. The arrangement also applies to the staff of the three independent associations hosted by the Bank (the FSB, the IADI and the IAIS).

All three arrangements operate in Swiss francs (CHF) and are valued annually by an independent actuary. During 2023/24, the Bank expects to make contributions of CHF 50.0 million (2022/23: CHF 48.8 million of actual contribution) to its post-employment benefit arrangements.

All matters of a general policy nature arising in connection with the management of the assets of the pension fund are dealt with by the Pension Fund Committee. The committee is chaired by the Deputy General Manager, and includes members of Senior Management, along with staff representatives and external pension experts. The Pension Fund Committee determines the investment policies of the fund, sets its risk tolerance, and establishes the long-term strategic allocation policy on the basis of regular asset and liability management studies. It also supervises the arrangements made by the Bank in this regard, including selecting external investment managers. The Pension Fund Committee assesses the funding position of the pension fund using a through-the-cycle discount rate and, if necessary, makes recommendations on changes to the contribution rate of the Bank to ensure the long-term actuarial equilibrium of the Pensions System, including a sufficient safety margin.

A. Amounts recognised in the balance sheet

As at 31 March	Staff pensions		Directors' pensions		Post-employment medical benefits	
SDR millions	**2023**	2022	**2023**	2022	**2023**	2022
Present value of obligations	(1,568.9)	(1,569.8)	(11.7)	(10.9)	(457.0)	(476.1)
Fair value of fund assets	1,311.3	1,361.6	–	–	–	–
Net liability at end of year	**(257.6)**	(208.2)	**(11.7)**	(10.9)	**(457.0)**	(476.1)

B. Present value of defined benefit obligations

The reconciliation of the opening and closing amounts of the present value of the benefit obligations is as follows:

As at 31 March	Staff pensions		Directors' pensions		Post-employment medical benefits	
SDR millions	**2023**	2022	**2023**	2022	**2023**	2022
Present value of obligations at beginning of year	(1,569.8)	(1,620.8)	(10.9)	(11.0)	(476.1)	(536.0)
Employee contributions	(11.0)	(9.9)	–	–	–	–
Benefit payments	63.6	67.7	0.5	0.5	4.5	4.4
Service cost, including past service cost	(54.2)	(58.6)	(0.5)	(0.5)	(17.2)	(21.9)
Interest cost	(18.7)	(3.3)	(0.1)	–	(6.0)	(1.1)
Actuarial gain / (loss) arising from experience adjustments	(36.9)	(0.2)	(1.1)	–	2.9	(0.7)
Actuarial gain / (loss) arising from changes in demographic assumptions	(15.2)	–	–	–	(2.2)	–
Actuarial gain / (loss) arising from changes in financial assumptions	133.8	131.1	0.9	0.7	55.8	104.6
Foreign exchange differences	(60.5)	(75.8)	(0.5)	(0.6)	(18.7)	(25.4)
Present value of obligations at end of year	**(1,568.9)**	(1,569.8)	**(11.7)**	(10.9)	**(457.0)**	(476.1)

The following table shows the weighted average duration of the defined benefit obligations for the Bank's three post-employment benefit arrangements:

As at 31 March	Staff pensions		Directors' pensions		Post-employment medical benefits	
Years	**2023**	2022	**2023**	2022	**2023**	2022
Weighted average duration	**15.7**	16.1	**12.7**	13.3	**22.9**	23.9

C. Amounts recognised in the profit and loss account

For the financial year ended 31 March	Staff pensions		Directors' pensions		Post-employment medical benefits	
SDR millions	**2023**	2022	**2023**	2022	**2023**	2022
Service cost	(54.2)	(58.6)	(0.5)	(0.5)	(17.2)	(21.9)
Interest cost on net liability	(2.3)	(0.7)	(0.1)	–	(6.0)	(1.1)
Amounts recognised in operating expense	**(56.5)**	(59.3)	**(0.6)**	(0.5)	**(23.2)**	(23.0)

D. Re-measurement of defined benefit obligations recognised in other comprehensive income

For the financial year ended 31 March	Staff pensions		Directors' pensions		Post-employment medical benefits	
SDR millions	**2023**	2022	**2023**	2022	**2023**	2022
Return on plan assets in excess of opening discount rate	(99.6)	37.9	–	–	–	–
Actuarial gain / (loss) loss arising from experience adjustments	(36.9)	(0.2)	(1.1)	–	2.9	(0.7)
Actuarial gain / (loss) arising from changes in demographic assumptions	(15.2)	–	–	–	(2.2)	–
Actuarial gain / (loss) arising from changes in financial assumptions	133.8	131.1	0.9	0.7	55.8	104.6
Foreign exchange gain / (loss) on items in other comprehensive income	10.4	4.6	(0.2)	(0.2)	3.5	(0.6)
Amounts recognised in other comprehensive income	**(7.5)**	173.4	**(0.4)**	0.5	**60.0**	103.3

E. Analysis of movement on fair value of fund assets for staff pensions

The reconciliation of the opening and closing amounts of the fair value of fund assets for the staff pension arrangement is as follows:

For the financial year ended 31 March

SDR millions	**2023**	2022
Fair value of fund assets at beginning of year	1,361.6	1,286.1
Employer contributions	33.6	33.2
Employee contributions	11.0	9.9
Benefit payments	(63.6)	(67.7)
Interest income on plan assets	16.4	2.6
Return on plan assets in excess of opening discount rate	(99.6)	37.9
Foreign exchange differences	51.9	59.6
Fair value of fund assets at end of year	**1,311.3**	1,361.6

F. Composition and fair value of assets for the pension fund

The table below analyses the assets of the pension fund and the extent to which the fair values of those assets have been calculated using quoted prices in active markets. The pension fund does not invest in financial instruments issued by the Bank.

As at 31 March	**2023**			2022		
SDR millions	Quoted in active market	Unquoted	Total	Quoted in active market	Unquoted	Total
Cash (including margin accounts)	39.4	–	39.4	58.8	–	58.8
Debt securities	348.5	–	348.5	337.3	–	337.3
Fixed income funds	190.4	–	190.4	202.7	–	202.7
Equity funds	397.7	–	397.7	437.0	–	437.0
Real estate funds	–	177.3	177.3	–	171.2	171.2
Infrastructure funds	–	89.5	89.5	–	31.3	31.3
Commodity investments	64.8	–	64.8	110.9	–	110.9
Derivative financial instruments	1.5	2.2	3.7	(1.7)	14.1	12.4
Total	**1,042.3**	**269.0**	**1,311.3**	1,145.0	216.6	1,361.6

G. Principal actuarial assumptions used in these financial statements

As at 31 March	2023	2022
Applicable to staff pension arrangement		
Discount rate	2.00%	1.20%
Assumed average salary increase rate	2.45%	2.20%
Applicable to post-employment medical benefit arrangement		
Discount rate	2.00%	1.25%
Long-term medical cost inflation assumption	3.45%	3.20%
Applicable to Directors' pension arrangement		
Discount rate	2.00%	1.20%
Assumed Directors' pensionable remuneration increase rate	1.25%	1.00%
Applicable to staff and Directors' pension arrangements		
Assumed increase in pensions payable	1.25%	1.00%
Mortality table applicable to all three arrangements	Swiss table BVG2020 with generational projection CMI 2019 and long-term improvement rate of 1.25%	Swiss table BVG2020 with generational projection CMI 2019 and long-term improvement rate of 1.25%

The assumed increases in staff salaries, Directors' pensionable remuneration and pensions payable incorporate an inflation assumption of 1.25% at 31 March 2023 (2022: 1.00%).

H. Life expectancies

The life expectancies, at age 65, used in the actuarial calculations for the staff pension arrangement are:

As at 31 March

Years	2023	2022
Current life expectancy of members aged 65		
Male	21.8	21.7
Female	23.5	23.5
Life expectancy of members aged 65 projected forward in 10 years' time		
Male	22.6	22.5
Female	24.3	24.3

I. Sensitivity analysis of significant actuarial assumptions

The Bank is exposed to risks from these obligations and arrangements, including investment risk, interest rate risk, foreign exchange risk, longevity risk and salary risk.

Investment risk is the risk that plan assets will not generate returns at the expected level.

Interest rate risk is the exposure of the post-employment benefit obligations to adverse movements in interest rates, including credit spreads. A decrease in interest rates will increase the present value of these obligations. However, in the case of the staff pension arrangement this may be offset, either fully or partly, by an increase in value of the interest-bearing securities held by the fund.

Foreign exchange risk is the exposure of the post-employment benefit obligations to adverse movements in exchange rates between the Swiss franc, which is the operating currency of the post-employment benefit arrangements, and the SDR, which is the functional currency of the Bank.

Longevity risk is the risk that actual outcomes differ from actuarial estimates of life expectancy.

Salary risk is the risk that higher than expected salary rises increase the cost of providing a salary-related pension.

The table below shows the estimated impact on the defined benefit obligations resulting from a change in key actuarial assumptions:

As at 31 March	**Staff pensions** Increase / (decrease) in defined benefit obligation	
SDR millions	**2023**	2022
Discount rate		
Increase by 0.5%	(114.5)	(119.3)
Decrease by 0.5%	130.2	135.0
Rate of salary increase		
Increase by 0.5%	29.8	33.0
Decrease by 0.5%	(28.2)	(31.4)
Rate of pension payable increase		
Increase by 0.5%	94.1	98.9
Decrease by 0.5%	(86.3)	(89.5)
Life expectancy		
Increase by 1 year	50.2	53.4
Decrease by 1 year	(50.2)	(53.4)

As at 31 March	Directors' pensions Increase / (decrease) in defined benefit obligation	
SDR millions	**2023**	2022
Discount rate		
Increase by 0.5%	(0.7)	(0.7)
Decrease by 0.5%	0.8	0.8
Rate of pension payable increase		
Increase by 0.5%	0.7	0.7
Decrease by 0.5%	(0.6)	(0.6)
Life expectancy		
Increase by 1 year	0.6	0.5
Decrease by 1 year	(0.6)	(0.5)

As at 31 March	Post-employment medical benefits Increase / (decrease) in defined benefit obligation	
SDR millions	**2023**	2022
Discount rate		
Increase by 0.5%	(48.4)	(52.9)
Decrease by 0.5%	56.7	62.4
Medical cost inflation rate		
Increase by 1.0%	95.5	104.2
Decrease by 1.0%	(71.8)	(77.7)
Life expectancy		
Increase by 1 year	38.8	42.4
Decrease by 1 year	(36.6)	(40.0)

The above estimates were arrived at by changing each assumption individually, holding other variables constant. They do not include any correlation effects that may exist between variables.

12. Share capital

The Bank's share capital consists of:

As at 31 March

SDR millions	**2023**	2022
Authorised capital: 600,000 shares, each of SDR 5,000 par value, of which SDR 1,250 is paid up	3,000.0	3,000.0
Issued capital: 568,125 shares	2,840.6	2,840.6
Paid-up capital (25%)	**710.2**	710.2

As at 31 March 2023 the number of member central banks was 63 (31 March 2022: 63).

The number of shares eligible for dividend is:

As at 31 March	**2023**	2022
Issued shares	568,125	568,125
Shares held in treasury	(1,000)	(1,000)
Outstanding shares eligible for dividend	**567,125**	567,125

Shares held in treasury consist of 1,000 shares of the Albanian issue which were suspended in 1977.

13. Statutory reserves

The Bank's Statutes provide for application of the Bank's annual net profit, by the Annual General Meeting at the proposal of the Board of Directors, to three specific reserve funds: the legal reserve fund, the general reserve fund and the special dividend reserve fund; the remainder of the net profit after payment of any dividend is generally allocated to the free reserve fund.

Legal reserve fund. This fund is currently fully funded at 10% of the Bank's paid-up capital.

General reserve fund. After payment of any dividend, 5% of the remainder of the Bank's annual net profit currently must be allocated to the general reserve fund.

Special dividend reserve fund. A portion of the remainder of the annual net profit may be allocated to the special dividend reserve fund, which shall be available, in case of need, for paying the whole or any part of a declared dividend. Dividends are normally paid out of the Bank's net profit.

Free reserve fund. After the above allocations have been made, any remaining unallocated net profit is generally transferred to the free reserve fund.

Receipts from the subscription of the Bank's shares are allocated to the legal reserve fund as necessary to keep it fully funded, with the remainder being credited to the general reserve fund.

The free reserve fund, general reserve fund and legal reserve fund are available, in that order, to meet any losses incurred by the Bank. In the event of liquidation of the Bank, the balances of the reserve funds (after the discharge of the liabilities of the Bank and the costs of liquidation) would be divided among the Bank's shareholders.

The table below analyses the movements in the Bank's statutory reserves over the last two years:

SDR millions	Legal reserve fund	General reserve fund	Special dividend reserve fund	Free reserve fund	Total statutory reserves
Balance at 31 March 2021	**71.0**	**4,057.2**	**184.0**	**12,829.6**	**17,141.8**
Allocation of 2020/21 profit	–	47.1	300.0	596.1	943.2
Balance at 31 March 2022	**71.0**	**4,104.3**	**484.0**	**13,425.7**	**18,085.0**
Allocation of 2021/22 profit	–	9.3	–	175.7	185.0
Balance at 31 March 2023	**71.0**	**4,113.6**	**484.0**	**13,601.4**	**18,270.0**

At 31 March 2023, statutory reserves included share premiums of SDR 1,385.1 million (2022: SDR 1,385.1 million).

In accordance with Article 51 of the Bank's Statutes, the following profit allocation will be proposed at the Bank's Annual General Meeting for the 2022/23 profit:

SDR millions	**2023**
Net profit	**678.7**
Proposed dividend:	
SDR 285 per share on 567,125 shares	(161.6)
Profit available for allocation	**517.1**
Proposed transfers to reserves:	
General reserve fund	(25.9)
Special dividend reserve fund	(34.9)
Free reserve fund	(456.3)
Balance after allocation to reserves	**–**

14. Other equity accounts

Other equity accounts comprise the revaluation accounts for FVOCI assets (gold and currency investment assets) as well as the re-measurement gains or losses on defined benefit obligations.

As at 31 March *SDR millions*	**2023**	2022
Securities revaluation account	(699.1)	(166.4)
Gold revaluation account	4,334.6	4,118.7
Re-measurement of defined benefit obligations	412.3	360.2
Total other equity accounts	**4,047.8**	4,312.5

A. Securities revaluation account

This account contains the difference between the fair value and the amortised cost of the Bank's currency investment assets classified as FVOCI.

SDR millions	**2023**	2022
Fair value of assets	17,353.6	16,712.0
Historical cost	18,056.2	16,881.5
Securities revaluation account (excluding ECL)	**(702.6)**	(169.5)
Of which:		
Gross gains	20.8	49.6
Gross losses	(723.4)	(219.1)
ECL impairment provision	**3.5**	3.1
Securities revaluation account	**(699.1)**	(166.4)

B. Gold revaluation account

This account contains the difference between the book value and the deemed cost of the Bank's gold investment assets. All of the Bank's gold investment assets were held on 31 March 2003 (when the Bank changed its functional and presentation currency from the gold franc to the SDR). The deemed cost of these assets is approximately SDR 151 per ounce, based on the value of USD 208 per ounce that was applied from 1979 to 2003 following a decision by the Bank's Board of Directors, translated at the 31 March 2003 exchange rate. The movement in the gold revaluation account was as follows:

For the financial year ended 31 March

SDR millions	**2023**	2022
Balance at beginning of year	4,118.7	3,436.2
Gold price movement	215.9	682.5
Balance at end of year	**4,334.6**	4,118.7

C. Re-measurement of defined benefit obligations

This account contains the gains and losses from re-measurement of the Bank's post-employment benefit obligations.

For the financial year ended 31 March

SDR millions	**2023**	2022
Balance at beginning of year	360.2	83.0
Staff pensions	(7.5)	173.4
Directors' pensions	(0.4)	0.5
Post-employment medical benefits	60.0	103.3
Net movement on the re-measurement of defined benefit obligations	**52.1**	277.2
Balance at end of year	**412.3**	360.2

15. Interest income

For the financial year ended 31 March

SDR millions	**2023**	2022
Assets classified as amortised cost		
Cash and cash equivalents	228.8	1.2
Gold loan and sight accounts denominated in gold	1.1	–
	229.9	1.2
Financial assets classified as FVOCI		
Government and other securities	268.0	172.6
	268.0	172.6
Interest income on liabilities classified as amortised cost	**15.9**	49.0
Total interest income	**513.8**	222.8

Interest expense includes negative interest income on assets of SDR148.5 million (2022: SDR 209.4 million).

16. Interest expense

For the financial year ended 31 March

SDR millions	**2023**	2022
Liabilities classified as amortised cost		
Currency deposits: sight and notice deposit accounts	(1,060.4)	(17.2)
Interest on lease liabilities	(0.1)	(0.1)
	(1,060.5)	(17.3)
Interest expense on assets classified as amortised cost or FVOCI	**(148.5)**	(209.4)
Total interest expense	**(1,209.0)**	(226.7)

Interest income includes negative interest expense on liabilities classified as amortised cost of SDR 15.9 million (2022: SDR 49.0 million).

17. Change in ECL impairment provision

The Bank assesses impairment of financial assets which are classified as either FVOCI or amortised cost, and also in relation to loan commitments. The Bank takes a prudent stance on investments and managing its credit exposures. It monitors its exposures on an ongoing basis. It uses its standard credit risk methodology for assessing ECL and related key inputs for its ECL calculation, including estimates for probability of default, loss given default and exposure at default for individual exposures. No significant changes in estimation techniques were made during the reporting period.

Estimating ECL involves judgement. While there were a limited number of internal rating downgrades over the last financial year, the overall credit quality of the portfolio has remained robust. The review of credit exposures in scope of the ECL calculation, notwithstanding these modest internal rating changes, concluded that all credit exposures were assessed to be in stage 1 during the financial year ended 31 March 2023, unchanged from 31 March 2022.

For the financial year ended 31 March

SDR millions	**2023**	2022
Financial assets classified as amortised cost	–	–
Financial assets classified as FVOCI	(0.4)	(1.2)
Loan commitments	–	–
Net change in ECL impairment provision	**(0.4)**	(1.2)

18. Net income on financial assets and liabilities at fair value through profit and loss

For the financial year ended 31 March

SDR millions	**2023**	2022
Financial assets		
Securities purchased under resale agreements	902.3	(95.5)
Loans and advances	1,128.5	(79.8)
Government and other securities	(23.3)	(618.3)
	2,007.5	(793.6)
Financial liabilities		
Currency deposits	(4,908.0)	493.5
	(4,908.0)	493.5
Derivative financial instruments	**4,575.3**	842.6
Net income on financial assets and liabilities at FVPL	**1,674.8**	542.5

The net income on financial assets and liabilities at fair value through profit and loss comprises the accrual of effective interest, along with realised and unrealised valuation movements, as further analysed in the following table:

For the financial year ended 31 March

SDR millions	**2023**	2022
Financial assets		
Interest	2,748.9	185.9
Realised and unrealised valuation movements	(741.4)	(979.5)
	2,007.5	(793.6)
Financial liabilities		
Interest	(5,230.3)	(747.6)
Realised and unrealised valuation movements	322.3	1,241.1
	(4,908.0)	493.5
Derivative financial instruments		
Interest	4,117.2	1,217.1
Realised and unrealised valuation movements	458.1	(374.5)
	4,575.3	842.6
Net income on financial assets and liabilities at FVPL	**1,674.8**	542.5

19. Net gain / (loss) on sales of currency assets at FVOCI

For the financial year ended 31 March

SDR millions	**2023**	2022
Disposal proceeds	3,381.7	4,682.1
Amortised cost	(3,408.5)	(4,580.1)
Net gain / (loss) on sales of currency assets at FVOCI	**(26.8)**	102.0
Of which:		
Gross realised gains	14.2	106.8
Gross realised losses	(41.0)	(4.8)

20. Net fee income

For the financial year ended 31 March

SDR millions	**2023**	2022
Third-party asset management net fee income	18.3	17.9
Contributions received under cost sharing arrangements	3.2	–
Other income	3.4	2.7
Withholding taxes	(2.7)	(5.1)
Other fees and expenses	(7.5)	(9.6)
Net fee income	**14.7**	5.9

Cost-sharing arrangements have been established with the BIS Innovation Hub host central banks and in connection with certain BIS Innovation Hub projects. The contributions received under cost sharing arrangements are included in “Net fee income” on an accruals basis. In the financial year ended 31 March 2022 the equivalent contributions of SDR 1.0 million were reported as a deduction from “Operating expense”.

21. Net foreign exchange income

For the financial year ended 31 March

SDR millions	**2023**	2022
Net gain on foreign exchange transactions	71.4	17.4
Net foreign exchange translation gain / (loss)	(23.1)	(6.1)
Net foreign exchange income	**48.3**	11.3

22. Administrative expense

The following table analyses the Bank's administrative expense in Swiss francs (CHF), the currency in which most expenditure is incurred:

For the financial year ended 31 March

CHF millions	**2023**	2022
Board of Directors		
Directors' fees	2.1	2.1
Pensions to former Directors	0.8	0.7
Travel and other costs	1.4	0.1
	4.3	2.9
Management and staff		
Remuneration	147.4	143.1
Pensions	68.7	74.2
Other personnel-related expense	53.9	53.9
	270.0	271.2
Office and other expense	**104.9**	87.0
BIS administrative expense	**379.2**	361.1
Direct contributions to hosted international organisations	15.0	15.5
Total administrative expense in CHF millions	**394.2**	376.6
Total administrative expense in SDR millions	**310.9**	289.3

The average number of full-time equivalent senior officials and officials employed on behalf of the Bank during the financial year ended 31 March 2023 was 616 (2022: 613). In addition to the above regular BIS staff, the Bank accommodates up to 12 graduates a year and supports secondments from other organisations. The Bank also employs a small number of cleaners (currently three). The cost of all employees employed on behalf of the Bank is included within management and staff expense.

The Bank hosts the secretariats of three independent associations – the FSB, the IADI and the IAIS. The Bank makes a financial contribution to support these international associations including paying some salaries and other post-employment costs. These amounts are shown under "Direct contributions to hosted organisations". The staff employed on behalf of the independent associations are not included within the average number of employees quoted above. The Bank also provides indirect support for these organisations, in the form of logistical, administrative and staffing-related support. The cost of this support is included within the Bank's regular administrative expense categories.

23. Dividend per share

For the financial year ended 31 March	2023	2022
Net profit for the financial year (SDR millions)	678.7	341.0
Weighted average number of shares eligible for dividend	567,125.0	567,125.0
Proposed dividend per share (SDR per share)	285.0	275.0
Total proposed dividend (SDR millions)	**161.6**	156.0

The Bank's dividend policy requires that the dividend be set at a sustainable level which should vary over time in a predictable fashion. The policy also requires that the dividend reflects the Bank's capital needs and its prevailing financial circumstances, with a pay-out ratio of between 20% and 50% in most years. The Special Dividend Reserve Fund could also be drawn on to help smooth the flow of dividends to shareholders if the pay-out ratio were to be above 50%.

In line with the Bank's dividend policy, it is proposed to declare a normal dividend for 2022/23 of SDR 285 per share, SDR 10 per share higher than the normal dividend for the previous year. The proposed dividend for 2023 represents a pay-out ratio of 24% of net profit (2022: 46%).

24. Exchange rates

The following table shows the principal exchange rates and prices used to translate balances in foreign currency and gold into SDR:

	Spot rate as at 31 March		Average rate for the financial year	
	2023	2022	**2023**	2022
USD	0.743	0.724	0.755	0.707
EUR	0.809	0.802	0.786	0.822
JPY	0.0056	0.0059	0.0056	0.0063
GBP	0.919	0.950	0.910	0.966
RMB	0.108	0.114	0.110	0.110
CHF	0.814	0.784	0.791	0.770
Gold (per ounce)	1,470.1	1,404.4	1,362.3	1,286.7

25. Off-balance sheet items

The following items are not included in the Bank's balance sheet:

As at 31 March

SDR millions	**2023**	2022
Gold bars held under earmark arrangements	17,934.8	17,079.7
Nominal value of securities:		
Securities held under safe custody arrangements	2,899.0	2,443.6
Net asset value of portfolio management mandates:		
BISIPs	20,838.5	21,362.4
Dedicated mandates	3,469.4	4,023.0

Gold bars held under earmark arrangements comprise specific gold bars which have been deposited with the Bank on a custody basis. They are included at their weight in gold (translated at the gold market price and the USD exchange rate into SDR). As at 31 March 2023, gold bars held under earmark amounted to 379 tonnes of gold (2022: 378 tonnes).

Portfolio management mandates include BISIPs and dedicated mandates.

BISIPs are a range of open-ended investment funds created by the Bank. BISIPs do not have a separate legal personality from the Bank, but are a series of separate reporting entities, each with its own financial statements. The Bank has an agency relationship with BISIPs. Transactions are conducted in the name of the BIS, and investments are held by a custodian appointed by the BIS, but all of the economic benefit lies with the BISIP customers. The Bank does not invest for its own account in BISIPs. Because the Bank does not participate in the risks or rewards of BISIPs, the financial instruments transacted on behalf of BISIPs are excluded from the BIS balance sheet, and are reported as off-balance sheet items.

Dedicated mandates are portfolios which are managed by the Bank in accordance with investment guidelines set by the customer. Transactions are conducted in the name of the customer, investments are held by a custodian appointed by the customer, and all of the economic benefit lies with the customer. Because the Bank does not participate in the risks or rewards of dedicated mandates, the financial instruments transacted on behalf of dedicated mandates are excluded from the BIS balance sheet, and are reported as off-balance sheet items.

The Bank transacts derivative financial instruments on behalf of BISIPs and dedicated mandates. Such derivatives are governed by the Bank's ISDA contracts, and are subject to the netting and offsetting arrangements specified in those contracts. In certain circumstances, derivatives transacted on behalf of BISIPs and dedicated mandates could be offset against other derivatives transacted by the BIS on behalf of the Bank, the staff pension fund, other BISIPs or other dedicated mandates. For this reason, all derivatives transacted by the Bank are included in the Bank's balance sheet. Such derivatives transacted on behalf of BISIPs and dedicated mandates are represented in the BIS balance sheet along with an equal and offsetting transaction between the Bank and BISIP or dedicated mandate.

For both BISIPs and dedicated mandates, the Bank is remunerated by a management fee which is included under "Net fee income" in the profit and loss account.

26. Commitments

The Bank provides a number of committed standby facilities for its customers on a collateralised or uncollateralised basis. As at 31 March 2023, there were no outstanding commitments that were collateralised (2022: nil), and SDR 222.9 million of uncollateralised commitments (2022: SDR 217.1 million).

The BIS is committed to supporting the operations of the three independent associations – the FSB, the IADI and the IAIS. In each case, the Bank has a separate agreement specifying the terms of support and the length of the commitment. In accordance with these agreements, the Bank was the legal employer of 81 staff members (2022: 80) working in the secretariats of the hosted international organisations.

27. Fair value hierarchy

The Bank categorises its financial instrument fair value measurements using a hierarchy that reflects the observability of inputs used in measuring that value. A valuation level is assigned according to the least observable input that is significant to the fair value measurement in its entirety. An input is determined to be significant if its contribution to the value of the financial instrument is greater than 5%. Market liquidity is a consideration in determining whether an input is observable, and hence its fair value hierarchy level. The fair value hierarchy used by the Bank comprises the following levels:

Level 1 – Instruments valued using unadjusted quoted prices in active markets for identical financial instruments.

Level 2 – Instruments valued with valuation techniques using inputs which are observable for the financial instrument either directly (ie as a price) or indirectly (ie derived from prices for similar financial instruments). This includes observable interest and foreign exchange rates, spreads and volatilities. It also includes instruments valued using unadjusted quoted prices in less active markets.

Level 3 – Instruments valued using valuation techniques where the significant inputs are not observable in financial markets. This includes illiquid prices and spreads derived from illiquid prices. It also includes instruments valued using unadjusted quoted prices in illiquid markets.

As at 31 March 2023

SDR millions	Level 1	Level 2	Level 3	**Total**
Financial assets classified as FVPL				
Securities purchased under resale agreements	–	64,120.9	–	64,120.9
Loans and advances	–	50,003.8	–	50,003.8
Government and other securities	66,669.1	46,967.7	2,216.0	115,852.8
Derivative financial instruments	2.2	3,330.0	–	3,332.2
Financial assets classified as FVOCI				
Government and other securities	16,283.3	977.2	93.1	17,353.6
Total financial assets accounted for at fair value	**82,954.6**	**165,399.6**	**2,309.1**	**250,663.3**
Financial liabilities classified as FVPL				
Currency deposits	–	(238,424.1)	–	(238,424.1)
Derivative financial instruments	(1.5)	(4,920.7)	–	(4,922.2)
Total financial liabilities accounted for at fair value	**(1.5)**	**(243,344.8)**	**–**	**(243,346.3)**

As at 31 March 2022

SDR millions	Level 1	Level 2	Level 3	Total
Financial assets classified as FVPL				
Securities purchased under resale agreements	–	43,934.7	–	43,934.7
Loans and advances	–	56,442.5	–	56,442.5
Government and other securities	71,619.8	24,946.7	5,113.4	101,679.9
Derivative financial instruments	3.0	7,991.1	–	7,994.1
Financial assets classified as FVOCI				
Government and other securities	15,622.6	909.7	179.7	16,712.0
Total financial assets accounted for at fair value	87,245.4	134,224.7	5,293.1	226,763.2
Financial liabilities classified as FVPL				
Currency deposits	–	(259,445.3)	–	(259,445.3)
Derivative financial instruments	(4.3)	(3,241.7)	–	(3,246.0)
Total financial liabilities accounted for at fair value	(4.3)	(262,687.0)	–	(262,691.3)

A. Transfers between levels in the fair value hierarchy

Of the debt securities categorised as level 1 as at 31 March 2023, SDR 454.4 million related to assets that were categorised as level 2 as at 31 March 2022. Of the debt securities categorised as level 2 as at 31 March 2023, SDR 2,169.3 million related to assets that were categorised as level 1 and SDR 45.2 million related to assets that were categorised as level 3 as at 31 March 2022. Of the debt securities categorised as level 3 as at 31 March 2023, SDR 32.0 million related to assets that were categorised as level 2 as at 31 March 2022.

The transfer of financial assets between levels 1, 2 and 3 reflected specific market conditions existing at the reporting dates that affected the observability of the inputs as defined above. No financial liabilities or other types of financial asset were transferred between the fair value hierarchy levels.

B. Assets and liabilities categorised at fair value level 3

The accuracy of the Bank's valuations is ensured through an independent price verification exercise performed by the valuation control function within the Finance unit.

As at 31 March 2023, a small percentage of the Bank's financial instrument valuations were produced using valuation techniques that utilised significant unobservable inputs. These financial instruments are categorised as level 3. For these instruments, the determination of fair value requires subjective assessment and judgment depending on liquidity, pricing assumptions, the current economic and competitive environment and the risks affecting the specific instrument. In such circumstances, valuation is determined based on Management's own judgments about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk). Both observable and unobservable inputs may be used to determine the fair value of positions that have been classified within level 3. As a result, the unrealised gains and losses for assets and liabilities within level 3 presented in the tables below may include changes in fair value that were attributable to both observable and unobservable inputs.

The financial instruments categorised as level 3 comprise illiquid bonds. As at 31 March 2023, the Bank categorised SDR 2,309.1 million of securities as level 3 in the fair value hierarchy. Of these securities, SDR 1,666.0 million were valued using prices, and SDR 643.1 million were valued by a discounted cash flow model based on spreads to a yield curve.

As at 31 March 2023

SDR millions	FVPL	FVOCI	**Total**
Balance at the beginning of the year	**5,113.4**	**179.7**	**5,293.1**
Purchases	2,003.2	61.1	2,064.3
Maturities and sales	(4,852.4)	(175.1)	(5,027.5)
Transfers in	–	32.0	32.0
Transfers out	(40.6)	(4.6)	(45.2)
Valuation impact recognised in net profit	(7.6)	–	(7.6)
Valuation impact recognised in other comprehensive income	–	–	–
Balance at end of the year	**2,216.0**	**93.1**	**2,309.1**
Unrealised gains / (losses) relating to assets still held as at the reporting date	(20.1)	0.1	(20.0)

As at 31 March 2022

SDR millions	FVPL	FVOCI	Total
Balance at the beginning of the year	549.8	144.1	693.9
Purchases	5,073.2	37.1	5,110.3
Maturities and sales	(508.0)	(85.4)	(593.4)
Transfers in	–	80.2	80.2
Transfers out	–	–	–
Valuation impact recognised in net profit	(1.6)	–	(1.6)
Valuation impact recognised in other comprehensive income	–	3.7	3.7
Balance at end of the year	5,113.4	179.7	5,293.1
Unrealised gains / (losses) relating to assets still held as at the reporting date	(12.9)	1.9	(11.0)

C. Quantitative disclosures of valuation techniques

The following tables provide the representative range of minimum and maximum values and the associated weighted averages of each significant unobservable input for level 3 assets by the related valuation technique most significant to the related financial instrument.

As at 31 March 2023

	Fair value *SDR millions*	Valuation technique	Unobservable input	Minimum value of input	Maximum value of input	Weighted average of input	Unit	Relationship of unobservable input to fair value
Debt securities	1,666.0	Price	Bond prices	99.5	100.8	100.0	Points	A change in the prices of 1 point would increase / decrease the fair value by SDR 16.4 million
Debt securities	643.1	Discounted cash flow based on spread to yield curve	Bond spreads	2.4	70.0	28.9	Basis-points	A change in the spreads of 100 basis-points would increase / decrease the fair value by SDR 10.0 million
Total level 3 assets at fair value	**2,309.1**							

As at 31 March 2022

	Fair value *SDR millions*	Valuation technique	Unobservable input	Minimum value of input	Maximum value of input	Weighted average of input	Unit	Relationship of unobservable input to fair value
Debt securities	4,689.2	Price	Bond prices	98.4	101.8	99.9	Points	A change in the prices of 1 point would increase / decrease the fair value by SDR 46.9 million
Debt securities	603.9	Discounted cash flow based on spread to yield curve	Bond spreads	(20.5)	50.0	4.2	Basis-points	A change in the spreads of 100 basis-points would increase / decrease the fair value by SDR 8.9 million
Total level 3 assets at fair value	5,293.1							

D. Financial instruments not measured at fair value

In accordance with its accounting policies, the Bank accounts for certain financial instruments at amortised cost. Using the same valuation techniques as used for fair valued financial instruments, Management estimates that the fair values of these financial instruments would be materially the same as the carrying values shown in these financial statements for both 31 March 2023 and 31 March 2022. If the valuation of these instruments were categorised using the fair value hierarchy, the valuation of "gold loans" would be considered level 2. All other amortised cost financial instruments would be considered level 1.

E. Impact of changes in the Bank's creditworthiness

The fair value of the Bank's liabilities may be affected by any change in its creditworthiness. If the Bank's creditworthiness deteriorated, the value of its liabilities would decrease, and the change in value would be reflected as a movement in other comprehensive income. The Bank regularly assesses its creditworthiness as part of its risk management processes. The Bank's assessment of its creditworthiness did not indicate a change which could have had an impact on the fair value of the Bank's liabilities during the period under review.

F. Valuation of financial assets and liabilities

The Bank is the sole market-maker in certain of its currency deposit products, while in other currency deposit products there is no active market. As such, judgment is involved in determining the appropriate assumptions to derive the fair value of currency deposits. The Bank uses valuation techniques to estimate the fair value of its currency deposits. These valuation techniques comprise discounted cash flow models and option pricing models. The discounted cash flow models value the expected cash flows of financial instruments using discount factors that are partly derived from quoted interest rates (eg rates on derivatives) and partly based on assumptions about spreads at which each product would be repurchased from customers. For short-term products, repurchase spreads are based on recent market transactions. For MTIs, repurchase spreads are based on those used when the deposit was sold to the customer. If a deposit was sold with an enhanced rate, the enhancement is reflected in the valuation spread as it would be applied if the Bank were to buy back the deposit from the customer. The option pricing models include assumptions about volatilities that are derived from market quotes. The valuation of OTC derivatives is also subject to judgment.

Stressed market conditions can increase the degree of judgment involved in the valuation of the Bank's financial assets and liabilities. In such circumstances, the Bank reconsiders some of its valuation processes, and applies judgment in determining the appropriate valuation methods and inputs for each financial instrument. Level 1 observable prices may not always be available for some financial assets, and these may instead be valued using a discounted cash flow model based on a spread to a standard market yield curve. Such valuations are level 2 or level 3, and require estimation of appropriate valuation parameters. Changes in estimates of these parameters could significantly affect the reported fair values. The valuation impact of a 1 basis point parallel upward change in the underlying yield curve assumptions of key financial instruments is shown in the table below:

For the financial year ended 31 March

SDR millions	**2023**	2022
Securities purchased under resale agreements	(0.4)	(0.2)
Loans and advances	(1.4)	(1.5)
Government and other securities	(12.7)	(12.5)
Currency deposits	11.8	12.1
Derivative financial instruments	(1.7)	(2.3)

28. Interest rate benchmark reform

A fundamental global reform of major interest rate benchmarks is underway, including the discontinuation of London Interbank Offered Rates (Libor). The non-US dollar Libor fixings and the one-week and two-month US dollar Libor fixings ceased to be published at the end of 2021. The remaining US dollar Libor fixings will cease to be provided or no longer be representative at the end of June 2023.

Starting in 2019, the Bank began implementing changes to its IT systems, front and back office processes, risk management processes and valuation models. It also began to develop new customer products, and to deal with the legal aspects of the Libor reform. This included the introduction of derivative products and customer products linked to the risk-free rates that replace Libor as market benchmarks. Libor-referencing legacy derivatives and MTIs that were affected by the index cessations were either terminated or updated to reference the new risk-free rates ahead of the discontinuation.

As a result of these efforts, as at 31 March 2023, the Bank has no significant exposure to the Libor benchmark beyond June 2023. The interest rate benchmark reform had no material impact on these financial statements.

29. Geographical analysis

A. Total liabilities

As at 31 March

SDR millions	**2023**	2022
Africa and Europe	105,652.0	76,406.4
Asia-Pacific	172,395.7	212,702.7
Americas	38,652.0	29,611.3
International organisations	9,904.9	5,451.7
Balance at end of year	**326,604.6**	324,172.1

B. Off-balance sheet items

As at 31 March

SDR millions	**2023**			2022		
	Gold bars held under earmark	Nominal value of securities	Net asset value of portfolio management mandates	Gold bars held under earmark	Nominal value of securities	Net asset value of portfolio management mandates
Africa and Europe	7,429.9	–	4,328.5	7,043.9	–	4,654.0
Asia-Pacific	5,056.7	2,899.0	10,984.4	4,831.0	2,443.6	11,825.4
Americas	5,448.2	–	8,995.0	5,204.8	–	8,906.0
Total	**17,934.8**	**2,899.0**	**24,307.9**	17,079.7	2,443.6	25,385.4

The geographical distribution in the above table reflects the geographical origin of the underlying investors in the above off-balance sheet items, and not the geographical location of the investment assets.

C. Credit commitments

As at 31 March

SDR millions	**2023**	2022
Asia-Pacific	222.9	217.1
Total	**222.9**	217.1

30. Related parties

The Bank considers the following to be its related parties:

- the members of the Board of Directors;
- the senior officials of the Bank;
- close family members of the above individuals;
- the Bank's post-employment benefit arrangements; and
- central banks whose Governor is a member of the Board of Directors and institutions that are connected with these central banks.

A listing of the members of the Board of Directors and senior officials is shown in the sections of the Annual Report entitled "Board of Directors" and "BIS Management". The Bank provides services to the pension fund on a free-of-charge basis, including investment management, accounting, reporting, valuation and monitoring. Note 11 provides further details of the Bank's post-employment benefit arrangements.

A. Related party individuals

Note 22 provides details of the total compensation of the Board of Directors.

The total compensation of the senior officials recognised in the profit and loss account amounted to:

For the financial year ended 31 March

CHF millions	**2023**	2022
Salaries, allowances and medical cover	10.4	8.9
Post-employment benefits	2.8	2.8
Total compensation	**13.2**	11.7
SDR equivalent in millions	10.4	9.0

The Bank offers personal deposit accounts for staff members and Directors. The accounts bear (or charge) interest at a rate equivalent to the rate applied by the Swiss National Bank on its sight deposits. The movements and total balance on personal deposit accounts relating to members of the Board of Directors and the senior officials of the Bank were as follows:

For the financial year ended 31 March

CHF millions	**2023**	2022
Balance at beginning of year	5.1	12.2
Deposits taken and other inflows	0.7	0.7
Withdrawals and other outflows	–	(7.8)
Balance at end of year	**5.8**	5.1
SDR equivalent in millions	4.7	4.0
Interest expense on deposits in CHF millions	**–**	–

Balances related to individuals who are appointed as members of the Board of Directors or as senior officials of the Bank during the financial year are included in the table above as other inflows. Balances related to individuals who ceased to be members of the Board of Directors or senior officials of the Bank during the financial year are included in the table above as other outflows.

In addition, the Bank operates a blocked personal deposit account for certain staff members who were previously members of the Bank's savings fund, which closed on 1 April 2003. The terms of these blocked accounts are such that staff members cannot make further deposits or withdrawals and the balances are paid out when they leave the Bank. The accounts bear (or charge) interest at a rate equivalent to the rate applied by the Swiss National Bank on its sight deposits plus 1%. The total balance of blocked accounts at 31 March 2023 was SDR 4.4 million (2022: SDR 4.5 million). They are reported under the balance sheet heading "Currency deposits".

B. Related party institutions

The Bank pays a dividend to its shareholders, as described in note 23. The dividends paid to related party shareholders in the financial year ended 31 March 2023 (for the financial year 2021/22) was SDR 96.0 million. In the previous financial year, the Bank paid a dividend of SDR 181.6 million to related party shareholders.

The BIS provides banking services to its customers, which are predominantly central banks, monetary authorities and international financial institutions. In fulfilling this role, the Bank, in the normal course of business, enters into transactions with customers that are related parties (as defined above). These transactions include making advances, and taking currency and gold deposits. It is the Bank's policy to enter into transactions with related party customers on similar terms and conditions to transactions with other, non-related party customers. The following tables show balances relating to these transactions, which the Bank believes are representative of the general level of business undertaken with related party customers during the year.

Balances with related party customers

As at 31 March	**2023**			2022		
	Balance sheet total	Balance with related parties		Balance sheet total	Balance with related parties	
	SDR millions	*SDR millions*	*%*	*SDR millions*	*SDR millions*	*%*
Assets						
Cash and cash equivalents	69,707.1	**68,065.0**	97.6	77,554.5	71,910.3	92.7
Securities purchased under resale agreements	64,120.9	**13,484.4**	21.0	43,934.7	3,425.2	7.8
Loans and advances	50,003.8	**–**	–	56,442.5	6,176.3	10.9
Government and other securities	133,206.4	**33,945.9**	25.5	118,391.9	4,308.8	3.6
Gold and gold loans	27,681.0	**27,666.0**	99.9	39,656.2	39,646.0	100.0
Derivative financial instruments	3,332.2	**0.6**	–	7,994.1	41.8	0.5
Other assets	25.3	**1.4**	5.5	26.9	1.4	5.2
Liabilities						
Currency deposits	(288,678.0)	**(111,712.8)**	38.7	(292,178.4)	(140,078.0)	47.9
Gold deposits	(19,194.1)	**(14,184.9)**	73.9	(18,858.8)	(13,472.2)	71.4
Derivative financial instruments	(4,922.2)	**(50.3)**	1.0	(3,246.0)	(246.1)	7.6

Main profit and loss items arising from transactions with related party customers

For the financial year ended 31 March	2023			2022		
	Profit and loss total	Balance with related parties		Profit and loss total	Balance with related parties	
	SDR millions	*SDR millions*	*%*	*SDR millions*	*SDR millions*	*%*
Interest income	513.8	**201.7**	39.3	222.8	41.8	18.8
Interest expense	(1,209.0)	**(850.1)**	70.3	(226.7)	(202.2)	89.2
Net change in ECL impairment provision	(0.4)	**–**	–	(1.2)	–	–
Net income on financial assets and liabilities at FVPL						
Financial assets	2,007.5	**816.4**	40.7	(793.6)	41.0	–
Financial liabilities	(4,908.0)	**(1,731.6)**	35.3	493.5	477.9	96.8
Derivative financial instruments	4,575.3	**35.9**	0.8	842.6	45.2	5.4

31. Contingent liabilities

In the opinion of its Management, the Bank had no significant contingent liabilities at 31 March 2023 (2022: nil).

Capital adequacy

1. Capital adequacy framework

As an international financial institution that is overseen by a Board composed of Governors of major central banks and that has no national supervisor, the Bank is committed to maintaining its superior credit quality and financial strength, in particular in situations of financial stress.

The Bank assesses its capital adequacy on a continuous basis. Its capital planning process focuses on two elements: an economic capital framework and a financial leverage framework. The disclosures in this section relating to credit, market, operational and liquidity risk are based on the Bank's own assessment of capital adequacy derived in accordance with these two BIS frameworks.

Regulatory capital ratios are not used as indicators of BIS capital adequacy because key aspects of the business model for the BIS banking activities are not adequately captured. In the main, these relate to the high level of solvency targeted by the Bank as well as the way regulatory capital ratios reflect portfolio concentrations and interest rate risk in the banking book.

To facilitate comparability, the Bank has implemented a framework that is consistent with guidance issued by the Basel Committee on Banking Supervision (BCBS). Following this, the Bank discloses a Common Equity Tier 1 capital ratio (Pillar 1), risk-weighted assets and more detailed related information. In addition, the Bank calculates for reference a Liquidity Coverage Ratio.

The Bank maintains a capital position substantially in excess of the regulatory minimum requirement in order to ensure its superior credit quality.

2. Economic capital

The Bank's economic capital methodology relates its risk-bearing capacity to the amount of economic capital needed to absorb potential losses arising from its exposures. Consistent with guidance from the BCBS, the risk-bearing capacity is defined as Common Equity Tier 1 capital which is based on components of the Bank's shareholders' equity (as reduced by prudential adjustments) as set out in the following table.

Common Equity Tier 1 capital includes the profit and loss account. It is adjusted by the Bank's current estimate of the amount of the profit and loss account that will be paid as a dividend (the "dividend adjustment"), to ensure that Common Equity Tier 1 capital includes only the component of the profit and loss account that is expected to be allocated to statutory reserves.

As at 31 March

SDR millions	**2023**	2022
Share capital	710.2	710.2
Statutory reserves per balance sheet	18,270.0	18,085.0
Less: shares held in treasury	(1.7)	(1.7)
Share capital and reserves	**18,978.5**	18,793.5
Securities revaluation account	(699.1)	(166.4)
Gold revaluation account	4,334.6	4,118.7
Re-measurement of defined benefit obligations	412.3	360.2
Other equity accounts	**4,047.8**	4,312.5
Expected loss	(58.4)	(66.8)
Intangible assets	(57.4)	(34.7)
Prudential adjustments	**(115.8)**	(101.5)
Profit and loss account	**678.7**	341.0
Proposed dividend adjustment	**(161.6)**	(156.0)
Common Equity Tier 1 capital	**23,427.6**	23,189.5

As part of the capital planning process, Management allocates economic capital to risk categories within its risk-bearing capacity. Allocations are made to each category of financial risk (ie credit and market risk) as well as operational risk. Capital is also assigned to a minimum cushion of capital that is not utilised by risk categories ("minimum capital cushion") providing an additional margin of safety. The difference between its risk-bearing capacity and the total economic capital utilisation, the "available economic capital", is available for further risk-taking.

Reflecting the high level of solvency targeted by the Bank, the economic capital framework measures economic capital to a 99.99% confidence level assuming a one-year horizon. The Bank's economic capital framework is subject to regular review and calibration.

The following table summarises the Bank's economic capital allocation and utilisation as well as the resulting available economic capital:

As at 31 March	**2023**		2022	
SDR millions	Allocation	Utilisation	Allocation	Utilisation
Credit risk[1]	8,900.0	7,372.8	8,900.0	6,645.7
Market risk	5,300.0	4,733.3	5,300.0	4,485.4
Operational risk	850.0	850.0	850.0	850.0
Minimum capital cushion	3,514.1	3,514.1	3,478.4	3,478.4
Total economic capital (A)	**18,564.1**	**16,470.2**	18,528.4	15,459.6
Common Equity Tier 1 capital (B)		**23,427.6**		23,189.5
Available economic capital (B) – (A)		**6,957.4**		7,729.9

[1] Since 1 April 2022, the credit risk economic capital model covers FX settlement risk in addition to default and country transfer risk. Figures for March 2022 have been restated to aggregate the previously separated capital allocations for credit risk - insolvency & transfer risk and credit risk - FX settlement risk.

3. Financial leverage

The Bank complements its capital adequacy assessment with a financial leverage framework using a ratio that compares the Bank's Common Equity Tier 1 capital with its total exposure. The exposure measure also includes the fair value of assets of the pension fund, as well as regulatory exposure adjustments relating to committed and uncommitted facilities, repurchase agreements and derivatives.

The following table shows the calculation of the Bank's financial leverage ratio:

As at 31 March

SDR millions	**2023**	2022
Common Equity Tier 1 capital (A)	**23,427.6**	23,189.5
Total balance sheet assets	**350,309.6**	347,619.1
Derivatives	2,146.1	5,760.7
Securities purchased under resale agreements	–	10.3
Committed and uncommitted facilities	4,214.4	4,626.8
Pension fund assets	1,311.3	1,361.6
Exposure adjustments	**7,671.8**	11,759.4
Total BIS exposure (B)	**357,981.4**	359,378.5
BIS leverage ratio (A) / (B)	**6.5%**	6.5%

4. Common Equity Tier 1 capital ratio

The economic capital framework and the financial leverage framework described above are the main tools used for assessing the Bank's capital adequacy. Risk-weighted assets, minimum capital requirements and the Common Equity Tier 1 capital ratio are disclosed to facilitate comparability. Guidance issued by the BCBS includes several approaches for calculating risk-weighted assets and the corresponding minimum capital requirements. In principle, the minimum capital requirements are determined by taking 8% of the risk-weighted assets.

For credit risk, the Bank has adopted the advanced internal ratings-based approach for the majority of its exposures. Under this approach, the risk weighting for a transaction is determined by the relevant Basel risk weight function using the Bank's own estimates for key inputs. Expected loss is calculated for credit risk exposures subject to the advanced internal ratings-based approach and is calculated at the balance sheet date. In accordance with the requirements of the Basel Framework, the expected loss is compared with write-offs, if applicable, and any shortfall is deducted from the Bank's Common Equity Tier 1 capital. For securitisation exposures and relevant other assets, the Bank has adopted the standardised approach. Under this approach, risk weightings are mapped to exposure types.

Risk-weighted assets for market risk are derived following an internal models approach based on a value-at-risk (VaR) methodology calibrated to stressed and non-stressed market conditions. For operational risk, the advanced measurement approach is used. This approach also relies on VaR.

More details on the assumptions underlying the calculations are provided in the sections on credit risk, market risk and operational risk.

The following table provides information on risk-weighted assets and related minimum capital requirements:

As at 31 March		2023			2022		
SDR millions	Approach used	Amount of exposure	Risk-weighted assets (A)	Minimum capital requirement (B)	Amount of exposure	Risk-weighted assets (A)	Minimum capital requirement (B)
Credit risk							
Exposure to sovereigns, banks and corporates	Advanced internal ratings-based approach, where (B) is derived as (A) x 8%	264,467.3	30,362.0	2,429.0	254,771.4	32,756.6	2,620.5
Securitisation exposures and other assets	Standardised approach, where (B) is derived as (A) x 8%	284.4	472.2	37.8	268.9	706.9	56.6
Market risk							
Exposure to foreign exchange risk and gold price risk	Internal models approach, where (A) is derived as (B) / 8%	–	35,622.5	2,849.8	–	34,167.7	2,733.4
Operational risk							
	Advanced measurement approach, where (A) is derived as (B) / 8%	–	7,281.6	582.5	–	7,288.4	583.1
Total			**73,738.3**	5,899.1		74,919.5	5,993.6

The Common Equity Tier 1 capital ratio is set out in the following table:

As at 31 March

SDR millions	**2023**	2022
Total Common Equity Tier 1 capital (A)	**23,427.6**	23,189.5
Total risk-weighted assets (B)	**73,738.3**	74,919.5
Common Equity Tier 1 capital ratio (A) / (B)	**31.8%**	31.0%

Risk management

1. Risks faced by the Bank

The Bank supports its customers, predominantly central banks, monetary authorities and international financial institutions, in the management of their reserves and related financial activities.

Banking activities form an essential element of meeting the Bank's objectives and ensure its financial strength and independence. The BIS engages in banking activities that are customer-related as well as activities that are related to the investment of its shareholders' equity, each of which may give rise to financial risk comprising credit risk, market risk and liquidity risk. The Bank is also exposed to operational risk.

Within the risk frameworks defined by the Board of Directors, the Management of the Bank has established risk management policies designed to ensure that risks are identified, appropriately measured and controlled as well as monitored and reported.

2. Risk management approach and organisation

The Bank maintains superior credit quality and adopts a prudent approach to financial risk-taking, by:

- maintaining an exceptionally strong capital position;
- investing its assets predominantly in high credit quality financial instruments;
- seeking to diversify its assets across a range of sectors;
- adopting a conservative approach to its tactical market risk-taking and carefully managing market risk associated with the Bank's strategic positions, which include its gold holdings; and
- maintaining a high level of liquidity.

A. Organisation

Under Article 39 of the Bank's Statutes, the General Manager is responsible to the Board for the management of the Bank, and is assisted by the Deputy General Manager. The Deputy General Manager is responsible for the Bank's independent risk management function. The General Manager and the Deputy General Manager are supported by senior management advisory committees.

The key advisory committees are the Executive Committee and the Finance Committee. Both committees are chaired by the General Manager, and include other senior members of the Bank's Management. The Executive Committee advises the General Manager primarily on the Bank's strategic planning and the allocation of resources, as well as on decisions related to the broad financial objectives for the banking activities and strategic operational risk management issues. The Finance Committee advises the General Manager on the financial management and policy issues related to the banking business, including the allocation of economic capital to risk categories.

The independent risk management function for financial risks is performed by the Risk Management unit. The Head of Risk Management reports to the Deputy General Manager. The independent risk management function for operational risk is performed by the Operational Transformation and Resiliency unit. The Head of Operational Transformation and Resiliency reports to the Deputy Secretary General.

The Finance unit and the Legal Service complement the Bank's risk management. The Finance unit operates a valuation control function, produces the Bank's financial statements and controls the Bank's expenditure by setting and monitoring the annual budget. The objective of the valuation control function is to ensure that the Bank's valuations comply with its valuation policy and procedures. The Finance unit reports to the Deputy General Manager and the Secretary General.

The Legal Service provides legal advice and support covering a wide range of issues relating to the Bank's activities. The Legal Service reports to the General Manager. The Risk Management function, jointly with the Legal Service, provides guidance on and monitors compliance risk related to the BIS banking services.

The Ethics and Conduct unit educates staff on conduct risk matters, investigates breaches and assists Management in ensuring that all activities of the BIS and its staff are conducted in conformity with ethics and conduct rules. The Chief Ethics and Conduct Officer reports to the General Manager and the Deputy General Manager, and also has a right of direct access to the Audit Committee, which is an advisory committee to the Board of Directors.

The Internal Audit function evaluates and improves the effectiveness of risk management, control, and governance systems and processes. Internal Audit provides an independent, objective assurance function, and advises on best practice. To ensure independence, the Head of Internal Audit reports functionally to the Chair of the Audit Committee of the Board and administratively to the General Manager.

B. Risk monitoring and reporting

The Bank's financial and operational risk profile, position and performance are monitored on an ongoing basis by the relevant units. Financial risk, operational risk and compliance reports aimed at various management levels are provided regularly to enable Management to adequately assess the Bank's risk profile and financial condition.

Management reports financial and risk information to the Board of Directors on a monthly and a quarterly basis. Furthermore, the Audit Committee receives regular reports from Internal Audit, Ethics and Conduct, Finance, and Operational Transformation and Resiliency units. The Banking and Risk Management Committee, another advisory committee to the Board, receives regular reports from the Risk Management unit. The preparation of reports is subject to comprehensive policies and procedures, thus ensuring strong controls.

C. Risk methodologies

The Bank revalues almost all of its financial instruments to fair value on a daily basis and reviews its valuations monthly, taking into account necessary adjustments for impairment. It uses a comprehensive range of quantitative methodologies for valuing financial instruments and for measuring risk to its net profit and equity. The Bank reassesses its quantitative methodologies in the light of its changing risk environment and evolving best practice.

The Bank's model validation policy defines the roles and responsibilities and processes related to the implementation of new or materially changed risk and valuation models.

A key methodology used by the Bank to measure and manage risk is the calculation of economic capital based on value-at-risk (VaR) techniques. VaR expresses the statistical estimate of the maximum potential loss on the current positions of the Bank measured to a specified level of confidence and a specified time horizon. VaR models depend on statistical assumptions and the quality of available market data and, while forward-looking, they extrapolate from past events. VaR models may underestimate potential losses if changes in risk factors fail to align with the distribution assumptions. VaR figures do not provide any information on losses that may occur beyond the assumed confidence level.

The Bank's economic capital framework covers credit risk, market risk and operational risk. As part of the capital planning process, the Bank allocates economic capital to the above risk categories commensurate with principles set by the Board and taking account of the business strategy. Reflecting the high level of solvency targeted by the Bank, the economic capital framework measures economic capital to a 99.99% confidence level assuming a one-year time horizon. Moreover, capital is set aside for a "minimum capital cushion" which provides an additional margin of safety.

The management of the Bank's capital adequacy is complemented by a comprehensive stress testing framework, and a financial leverage framework. The stress testing framework supplements the Bank's risk assessment, including its VaR and economic capital calculations for financial risk. The Bank's key market risk factors and credit exposures are stress-tested. The stress testing includes the analysis of severe historical and adverse hypothetical macroeconomic scenarios, as well as sensitivity tests of extreme but still plausible movements of the key risk factors identified. The Bank also performs stress tests related to liquidity risk. The financial leverage framework focuses on a ratio that sets the Common Equity Tier 1 capital in relation to its total balance sheet exposure.

3. Credit risk

Credit risk arises because a counterparty may fail to meet its obligations in accordance with the agreed contractual terms and conditions. A financial asset is considered past due when a counterparty fails to make a payment on the contractual due date.

The Bank manages credit risk within a framework and policies set by the Board of Directors and Management. These are complemented by more detailed guidelines and procedures at the level of the independent risk management function.

A. Credit risk assessment

Credit risk is continuously controlled at both a counterparty and an aggregated level. The independent risk management function performs credit assessments for material counterparties following a well-defined internal rating process. As part of this process, counterparty financial statements and market information are analysed. The main assessment criterion in these reviews is the ability of the counterparties to meet interest and principal repayment obligations in a timely manner. The rating methodologies depend on the nature of the counterparty. Based on the internal rating and specific counterparty features, the Bank sets a series of credit limits covering individual counterparties and countries. Internal ratings are assigned to all counterparties. On a general basis, ratings and related limits are reviewed at least annually for material counterparties with internal ratings (expressed as equivalent external ratings) of BBB+ or below. Certain non-material counterparties with small individual limits have internal ratings set equal to the lowest equivalent external rating and are monitored systematically on the basis of market information. Ratings for these counterparties are updated daily and limits are updated at least semi-annually.

Credit risk limits at the counterparty level are approved by the Bank's Management and fit within a framework set by the Board of Directors.

On an aggregated level, credit risk, including default, country transfer risk and FX settlement risk, is measured, monitored and controlled based on the Bank's economic capital calculation for credit risk. To calculate economic capital for credit risk, the Bank uses a portfolio VaR model. Management limits the Bank's overall exposure to credit risk by allocating an amount of economic capital to credit risk.

B. Default risk

The tables in this section show the exposure of the Bank to default risk, without taking into account any impairment allowance, collateral held or other credit enhancements available to the Bank. Credit risk is mitigated through the use of collateral and legally enforceable netting or setoff agreements. The corresponding assets and liabilities are not offset on the balance sheet.

The exposures set out in the tables below are based on the gross carrying value of the assets in the balance sheet as categorised by sector, geographical region and credit quality. The gross carrying value is the fair value of the financial instruments, except in the case of very short-term financial instruments (sight and notice accounts) and gold. Provisions for estimated credit losses on instruments valued at amortised cost are not included in the exposure amounts. Commitments are reported at their notional amounts. Gold and gold loans exclude gold bar assets held in custody at central banks, and accounts receivable and other assets do not include unsettled liabilities issued because these items do not represent credit exposures of the Bank.

The substantial majority of the Bank's assets are placed in local currency central bank cash, or in securities issued by governments and financial institutions rated A– or above by at least one of the major external credit rating agencies. Limitations on the number of high-quality counterparties in these sectors mean that the Bank is exposed to single-name concentration risk. As at 31 March 2023, excluding local currency cash at central banks, there were four counterparties (three advanced economy sovereigns and one clearing house) comprising more than 5% each of the total on-balance sheet exposure reported in the tables below. Two of these exposures were between 10% and 20% (31 March 2022: one exposure between 10 and 15%).

Default risk by asset class and issuer type

The following tables show the exposure of the Bank to default risk by asset class and issuer type, without taking into account any impairment loss allowance, collateral held or other credit enhancements available to the Bank. "Public sector" includes international and other public sector institutions.

As at 31 March 2023

SDR millions	Sovereign and central banks	Public sector	Banks	Corporate	Securitisation	Total
On-balance sheet exposure						
Cash and cash equivalents	68,071.3	1,537.6	98.2	–	–	69,707.1
Gold and gold loans	1,015.5	–	14.9	–	–	1,030.4
Securities purchased under resale agreements	16,880.3	–	33,000.4	14,240.2	–	64,120.9
Loans and advances	3,745.0	57.0	46,201.8	–	–	50,003.8
Government and other securities	107,489.3	9,917.2	8,333.4	7,450.2	16.3	133,206.4
Derivative financial instruments	155.6	27.9	3,148.7	–	–	3,332.2
Accounts receivable and other assets	73.4	8.9	39.5	11.3	–	133.1
Total on-balance sheet exposure	**197,430.4**	**11,548.6**	**90,836.9**	**21,701.7**	**16.3**	**321,533.9**
Commitments						
Undrawn unsecured facilities	222.9	–	–	–	–	222.9
Total commitments	**222.9**	**–**	**–**	**–**	**–**	**222.9**
Total exposure	**197,653.3**	**11,548.6**	**90,836.9**	**21,701.7**	**16.3**	**321,756.8**

As at 31 March 2022

SDR millions	Sovereign and central banks	Public sector	Banks	Corporate	Securitisation	Total
On-balance sheet exposure						
Cash and cash equivalents	76,039.6	1,366.2	148.7	–	–	77,554.5
Gold and gold loans	–	–	10.2	–	–	10.2
Securities purchased under resale agreements	9,199.5	–	25,882.4	8,852.8	–	43,934.7
Loans and advances	9,067.3	76.1	47,299.1	–	–	56,442.5
Government and other securities	90,518.8	11,243.3	8,330.7	8,261.0	38.1	118,391.9
Derivative financial instruments	248.7	28.4	7,716.7	0.3	–	7,994.1
Accounts receivable and other assets	7.1	5.0	181.7	8.7	–	202.5
Total on-balance sheet exposure	185,081.0	12,719.0	89,569.5	17,122.8	38.1	304,530.4
Commitments						
Undrawn unsecured facilities	217.1	–	–	–	–	217.1
Total commitments	217.1	–	–	–	–	217.1
Total exposure	185,298.1	12,719.0	89,569.5	17,122.8	38.1	304,747.5

Default risk by geographical region

The following tables represent the exposure of the Bank to default risk by asset class and geographical region, without taking into account any impairment loss allowance, collateral held or other credit enhancements available to the Bank. Exposures are allocated to regions based on the country of incorporation of each legal entity.

As at 31 March 2023

SDR millions	Africa and Europe	Asia-Pacific	Americas	International institutions	Total
On-balance sheet exposure					
Cash and cash equivalents	46,631.9	21,524.5	13.1	1,537.6	69,707.1
Gold and gold loans	1,030.4	–	–	–	1,030.4
Securities purchased under resale agreements	47,276.4	3,360.1	13,484.4	–	64,120.9
Loans and advances	34,855.0	10,779.8	4,312.0	57.0	50,003.8
Government and other securities	57,678.8	55,270.1	17,784.0	2,473.5	133,206.4
Derivative financial instruments	2,383.5	304.9	634.7	9.1	3,332.2
Accounts receivable and other assets	55.2	68.9	8.8	0.2	133.1
Total on-balance sheet exposure	**189,911.2**	**91,308.3**	**36,237.0**	**4,077.4**	**321,533.9**
Commitments					
Undrawn unsecured facilities	–	222.9	–	–	222.9
Total commitments	**–**	**222.9**	**–**	**–**	**222.9**
Total exposure	**189,911.2**	**91,531.2**	**36,237.0**	**4,077.4**	**321,756.8**

As at 31 March 2022

SDR millions	Africa and Europe	Asia-Pacific	Americas	International institutions	Total
On-balance sheet exposure					
Cash and cash equivalents	54,435.4	21,733.7	19.2	1,366.2	77,554.5
Gold and gold loans	10.2	–	–	–	10.2
Securities purchased under resale agreements	29,658.8	10,850.7	3,425.2	–	43,934.7
Loans and advances	42,634.7	9,642.1	4,129.5	36.2	56,442.5
Government and other securities	31,146.1	59,404.1	25,610.6	2,231.1	118,391.9
Derivative financial instruments	5,712.6	833.1	1,434.0	14.4	7,994.1
Accounts receivable and other assets	188.9	3.9	9.6	0.1	202.5
Total on-balance sheet exposure	163,786.7	102,467.6	34,628.1	3,648.0	304,530.4
Commitments					
Undrawn unsecured facilities	–	217.1	–	–	217.1
Total commitments	–	217.1	–	–	217.1
Total exposure	163,786.7	102,684.7	34,628.1	3,648.0	304,747.5

Default risk by counterparty / issuer rating

The following tables show the exposure of the Bank to default risk by class of financial asset and counterparty/issuer rating, without taking into account any impairment allowance, collateral held or other credit enhancements available to the Bank. The ratings shown reflect the Bank's internal ratings expressed as equivalent external ratings.

As at 31 March 2023

SDR millions	AAA	AA	A	BBB	BB and below	Unrated	Total
On-balance sheet exposure							
Cash and cash equivalents	32,635.2	15,355.7	21,548.8	166.0	1.4	–	69,707.1
Gold and gold loans	–	1,015.5	14.9	–	–	–	1,030.4
Securities purchased under resale agreements	–	27,724.6	25,055.6	11,340.7	–	–	64,120.9
Loans and advances	1,300.5	2,514.5	43,034.6	709.8	2,444.4	–	50,003.8
Government and other securities	37,501.7	32,090.0	58,818.0	4,767.6	29.1	–	133,206.4
Derivative financial instruments	0.8	129.0	3,010.0	142.0	25.7	24.7	3,332.2
Accounts receivable and other assets	0.8	7.9	103.6	1.6	3.3	15.9	133.1
Total on-balance sheet exposure	**71,439.0**	**78,837.2**	**151,585.5**	**17,127.7**	**2,503.9**	**40.6**	**321,533.9**
Commitments							
Undrawn unsecured facilities	–	–	–	222.9	–	–	222.9
Total commitments	**–**	**–**	**–**	**222.9**	**–**	**–**	**222.9**
Total exposure	**71,439.0**	**78,837.2**	**151,585.5**	**17,350.6**	**2,503.9**	**40.6**	**321,756.8**

As at 31 March 2022

SDR millions	AAA	AA	A	BBB	BB and below	Unrated	Total
On-balance sheet exposure							
Cash and cash equivalents	49,478.3	10,322.1	17,627.3	123.5	3.3	–	77,554.5
Gold and gold loans	–	–	10.2	–	–	–	10.2
Securities purchased under resale agreements	–	12,277.9	12,834.1	18,822.7	–	–	43,934.7
Loans and advances	–	8,458.5	44,687.8	405.2	2,891.0	–	56,442.5
Government and other securities	3,042.3	41,256.9	62,922.0	11,148.7	22.0	–	118,391.9
Derivative financial instruments	0.1	793.9	6,678.4	469.3	40.1	12.3	7,994.1
Accounts receivable and other assets	–	1.9	179.5	4.4	1.6	15.1	202.5
Total on-balance sheet exposure	52,520.7	73,111.2	144,939.3	30,973.8	2,958.0	27.4	304,530.4
Commitments							
Undrawn unsecured facilities	–	–	–	217.1	–	–	217.1
Total commitments	–	–	–	217.1	–	–	217.1
Total exposure	52,520.7	73,111.2	144,939.3	31,190.9	2,958.0	27.4	304,747.5

C. Credit risk mitigation

Netting

Netting agreements give the Bank a legally enforceable right to net transactions with counterparties under potential future conditions, notably an event of default. Such master netting or similar agreements apply to counterparties with which the Bank conducts most of its derivatives transactions, as well as to counterparties used for repurchase and reverse repurchase agreement transactions. Where required, netting is applied when determining the amount of collateral to be requested or provided, but the Bank does not typically settle assets and liabilities on a net basis during the normal course of business. As such, the amounts shown in the Bank's balance sheet are the gross amounts.

Collateral

The Bank mitigates credit risk by requiring counterparties to provide collateral. The Bank receives collateral in respect of most derivative contracts and reverse repurchase agreements and for advances made under collateralised facility agreements. During the term of these transactions, further collateral may be called or collateral may be released based on the movements in value of both the underlying instrument and the collateral that has been received. The Bank is required to provide collateral in respect of repurchase agreements and some derivative contracts.

For derivative contracts and reverse repurchase agreements, the Bank accepts as collateral high-quality sovereign, state agency and supranational securities and, in a limited number of cases, cash. For advances made under collateralised facility agreements, collateral accepted includes currency deposits with the Bank, units in the BIS Investment Pools and gold.

Under the terms of its collateral arrangements, the Bank is permitted to sell or use collateral received on derivative contracts and reverse repurchase agreements, but upon expiry of the transaction must return equivalent financial instruments to the counterparty. At 31 March 2023, the Bank had not sold or used any of the collateral it held (31 March 2022: SDR 1.9 million).

The fair value of collateral held which the Bank had the right to sell or use was:

As at 31 March

SDR millions	**2023**	2022
Collateral held in respect of:		
Derivatives	155.3	6,536.8
Securities purchased under resale agreements	54,031.8	34,255.0
Total	**54,187.1**	40,791.8

Financial assets and liabilities subject to netting or collateralisation

The tables below show the categories of assets and liabilities which are either subject to collateralisation, or for which netting agreements would apply under potential future conditions such as the event of default of a counterparty.

The amount of collateral required is usually based on valuations performed on the previous business day, whereas the Bank's balance sheet reflects the valuations of the reporting date. Due to this timing difference, the valuation of collateral can be higher than the valuation of the underlying contract in the Bank's balance sheet. The amount of the collateral obtained is also impacted by thresholds, minimum transfer amounts and valuation adjustments ("haircuts") specified in the contracts. In these tables, the mitigating effect of collateral has been limited to the balance sheet value of the underlying net asset.

Some of the securities purchased under resale agreements presented in the table below relate to the utilisation of uncommitted credit lines by the Bank's central bank customers.

The Bank also receives collateral in respect of advances under certain committed and uncommitted facilities. Such collateral can be in the form of currency deposits with the BIS or units in BISIPs.

In certain derivatives transactions, the Bank has provided or received collateral in the form of cash and cash equivalents, with the corresponding balance recorded as part of other assets or other liabilities, respectively, in the balance sheet. For some dedicated mandates the Bank receives collateral from the mandate customer in respect of derivative financial instruments transacted on their behalf. This collateral is in the form of currency deposits with the BIS, and is recorded as such in the balance sheet.

As at 31 March 2023		Effect of risk mitigation				Analysed as:	
SDR millions	Gross carrying amount as per balance sheet	Adjustments for settlement date effects	Enforceable netting agreements	Collateral (received) / provided (limited to balance sheet value)	Exposure after risk mitigation	Amounts subject to risk mitigation agreements	Amounts not subject to risk mitigation agreements
Financial assets							
Securities purchased under resale agreements	64,120.9	(4,066.3)	–	(60,054.6)	–	–	–
Advances	2,444.4	–	–	(2,444.4)	–	–	–
Derivative financial instruments	3,332.2	–	(2,943.8)	(155.0)	233.4	133.3	100.1
Financial liabilities							
Derivative financial instruments	(4,922.2)	–	2,943.8	633.8	–	–	–

As at 31 March 2022		Effect of risk mitigation				Analysed as:	
SDR millions	Gross carrying amount as per balance sheet	Adjustments for settlement date effects	Enforceable netting agreements	Collateral (received) / provided (limited to balance sheet value)	Exposure after risk mitigation	Amounts subject to risk mitigation agreements	Amounts not subject to risk mitigation agreements
Financial assets							
Securities purchased under resale agreements	43,934.7	(6,701.2)	–	(37,223.2)	10.3	10.3	–
Advances	2,891.0	–	–	(2,891.0)	–	–	–
Derivative financial instruments	7,994.1	–	(2,173.0)	(5,507.3)	313.8	125.8	188.0
Financial liabilities							
Derivative financial instruments	(3,246.0)	–	2,173.0	6.8	–	–	–

As at 31 March 2023, the Bank pledged SDR 671.6 million of its debt securities as collateral under its obligations related to derivative financial instrument contracts (31 March 2022: nil). The counterparties have an obligation to return the securities that the Bank has pledged as collateral.

D. Economic capital for credit risk

The Bank determines economic capital for credit risk using a VaR methodology on the basis of a portfolio VaR model, assuming a one-year time horizon and a 99.99% confidence level.

For the financial year	2023				2022			
SDR millions	Average	High	Low	At 31 March	Average	High	Low	At 31 March
Economic capital utilisation for credit risk[1]	6,756.4	7,518.7	5,999.7	**7,372.8**	7,008.5	7,569.3	6,396.9	6,645.7

[1] Since 1 April 2022, the credit risk economic capital model covers FX settlement risk in addition to default and country transfer risk. Figures for March 2022 have been restated to aggregate the previously separated capital allocations for credit risk - insolvency & transfer risk and credit risk - FX settlement risk.

E. Minimum capital requirements for credit risk

Exposure to sovereigns, banks and corporates

For the calculation of risk-weighted assets for exposures to sovereigns, banks and corporates, the Bank has adopted an approach that is consistent with the advanced internal ratings-based approach.

As a general rule, under this approach risk-weighted assets are determined by multiplying the credit risk exposures with risk weights derived from the relevant BCBS regulatory risk weight function using the Bank's own estimates for key inputs. These estimates for key inputs are also relevant to the Bank's economic capital calculation for credit risk.

The credit risk exposure for a transaction or position is referred to as the exposure at default (EAD). The Bank determines the EAD as the notional amount of on- and off-balance sheet credit exposures, except for securities and derivative contracts. The EAD for securities is based on market value, the EAD for derivatives is calculated using an approach consistent with the internal models method. In line with the EAD methodology for derivatives, the Bank calculates effective expected positive exposures that are then multiplied by a factor alpha as set out in the framework.

Key inputs to the risk weight function are a counterparty's estimated one-year probability of default (PD) as well as the estimated loss-given-default (LGD) and maturity for each transaction.

Due to the high credit quality of the Bank's investments and the conservative credit risk management process at the BIS, the Bank is not in a position to estimate PDs and LGDs based on its own default experience. The Bank calibrates each counterparty PD estimate through a mapping of internal rating grades to external credit assessments taking external default data into account. Similarly, LGD estimates are derived from external data. Where appropriate, these estimates are adjusted to reflect the risk-reducing effects of collateral obtained giving consideration to market price volatility, re-margining and revaluation frequency. The recognition of the risk-reducing effects of collateral obtained for derivative contracts, reverse repurchase agreements and collateralised advances is accounted for in calculating the EAD.

The table below details the calculation of risk-weighted assets. The exposures are measured taking netting and collateral benefits into account. The total amount of exposures reported in the table as at 31 March 2023 includes SDR 184.4 million for interest rate contracts (2022: SDR 66.4 million) and SDR 332.7 million for FX and gold contracts (2022: SDR 893.1 million). In line with the Basel Framework, the minimum capital requirement is determined as 8% of risk-weighted assets.

As at 31 March 2023

Internal rating grades expressed as equivalent external rating grades *SDR millions / percentages*	Amount of exposure *SDR millions*	Exposure-weighted PD *%*	Exposure-weighted average LGD *%*	Exposure-weighted average risk weight *%*	Risk-weighted assets *SDR millions*
AAA	69,949.4	0.01	20.6	0.9	656.5
AA	64,195.0	0.02	27.5	10.7	6,886.5
A	124,268.1	0.06	46.0	15.7	19,466.5
BBB	5,991.2	0.25	57.2	51.8	3,105.9
BB and below	63.7	12.20	59.5	129.9	82.7
Total	**264,467.3**				**30,198.1**

As at 31 March 2022

Internal rating grades expressed as equivalent external rating grades *SDR millions / percentages*	Amount of exposure *SDR millions*	Exposure-weighted PD *%*	Exposure-weighted average LGD *%*	Exposure-weighted average risk weight *%*	Risk-weighted assets *SDR millions*
AAA	52,221.7	0.01	2.9	0.6	301.0
AA	63,980.8	0.02	37.3	10.6	6,795.2
A	126,252.4	0.06	47.9	16.1	20,378.1
BBB	12,279.9	0.23	55.9	41.4	5,085.9
BB and below	36.6	20.68	56.1	136.9	50.1
Total	254,771.4				32,610.4

At 31 March 2023, the minimum capital requirement for credit risk related to exposures to sovereigns, banks and corporates was SDR 2,415.8 million (2022: SDR 2,608.8 million).

The following table summarises the impact of collateral arrangements on the amount of credit exposure after taking netting into account:

SDR millions	Amount of exposure after taking netting into account	Benefits from collateral arrangements	Amount of exposure after taking into account netting and collateral arrangements
As at 31 March 2023	316,935.5	52,468.3	**264,467.3**
As at 31 March 2022	305,031.0	50,259.6	254,771.4

Securitisation exposures

The Bank invests in securitisation exposures based on traditional, ie non-synthetic, securitisation structures. Given the scope of the Bank's securitisation activities, risk-weighted assets are determined according to the standardised approach. Under this approach, external credit assessments of the securities are used to determine the relevant risk weights. External credit assessment institutions used for this purpose are Moody's Investors Service, Standard & Poor's and Fitch Ratings. Risk-weighted assets are then derived as the product of the market values of the exposures and the associated risk weights. In line with the Basel Framework, the minimum capital requirement is determined as 8% of risk-weighted assets.

The following table shows the Bank's investments in securitisation analysed by type of securitised assets:

As at 31 March 2023

SDR millions	Amount of exposures	Risk weight	Risk-weighted assets
Securities backed by mortgages	16.3	1250%	204.2
Total	**16.3**		**204.2**

As at 31 March 2022

SDR millions	External rating	Amount of exposures	Risk weight	Risk-weighted assets
Securities backed by mortgages		38.1	1250%	476.1
Total		38.1		476.1

At 31 March 2023, the minimum capital requirement for securitisation exposures was SDR 16.3 million (2022: SDR 38.1 million).

4. Market risk

The Bank is exposed to market risk through adverse movements in market prices. The main components of the Bank's market risk are gold price risk, interest rate risk and foreign exchange risk. The Bank measures market risk and calculates economic capital based on a VaR methodology using a Monte Carlo simulation technique. Risk factor volatilities and correlations are estimated, subject to an exponential weighting scheme, over a six-year observation period. Furthermore, the Bank computes sensitivities to certain market risk factors.

In line with the Bank's objective of maintaining its superior credit quality, economic capital is measured at the 99.99% confidence level assuming a one-year holding period. The Bank calculates the economic capital utilisation for market risk on the basis of a stressed market data set. The Bank's Management manages market risk economic capital usage within a framework set by the Board of Directors. VaR limits are supplemented by operating limits.

To ensure that models provide a reliable measure of potential losses over the one-year time horizon, the Bank has established a comprehensive regular backtesting framework, comparing daily performance with corresponding VaR estimates. The results are analysed and reported to Management.

The Bank also supplements its market risk measurement based on VaR modelling and related economic capital calculations with a series of stress tests. These include severe historical scenarios, adverse hypothetical macroeconomic scenarios and sensitivity tests of gold price, interest rate and foreign exchange rate movements.

A. Gold price risk

Gold price risk is the exposure of the Bank's financial condition to adverse movements in the price of gold.

The Bank is exposed to gold price risk principally through its holdings of gold investment assets. These gold investment assets are held in custody or placed on deposit with commercial banks. At 31 March 2023, the Bank's net gold investment assets were 102 tonnes with a value of SDR 4,839.5 million, approximately 20% of shareholders' equity (31 March 2022: 102 tonnes, SDR 4,622.3 million, representing 20% of shareholders' equity). The Bank sometimes also has small exposures to gold price risk arising from its banking activities with central and commercial banks. Gold price risk is measured within the Bank's VaR methodology, including its economic capital framework and stress tests.

B. Interest rate risk

Interest rate risk is the exposure of the Bank's financial condition to adverse movements in interest rates, including credit spreads. The Bank is exposed to interest rate risk through the interest-bearing assets relating to the management of its equity held in its investment portfolios and investments relating to its banking portfolios. The investment portfolios are managed by reference to benchmarks comprised of fixed-income securities.

The Bank measures and monitors interest rate risk using a VaR methodology and sensitivity analyses taking into account movements in relevant money market rates, government bond yields, swap rates and credit spreads.

The following tables show the impact on the Bank's equity of a 1% upward shift in the relevant yield curve per time band:

As at 31 March 2023

SDR millions	Up to 6 months	6 to 12 months	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	Over 5 years	Total
Euro	8.3	(11.1)	(21.2)	(30.3)	(38.2)	(23.8)	(43.8)	(160.2)
Japanese yen	31.1	0.2	(0.1)	0.3	(0.2)	–	–	31.3
Pound sterling	(1.9)	(3.4)	(8.0)	(5.5)	(5.0)	(4.7)	(2.5)	(31.0)
Renminbi	(1.9)	(3.2)	(7.3)	(7.2)	(10.9)	(10.5)	(27.1)	(68.1)
Swiss franc	(2.6)	–	–	(0.7)	(0.8)	(0.4)	(1.0)	(5.5)
US dollar	(4.3)	(12.4)	(25.4)	(30.5)	(32.3)	(32.8)	(132.5)	(270.1)
Other currencies	(2.1)	(0.4)	(0.3)	(0.3)	(0.7)	(1.8)	(0.9)	(6.5)
Total	**26.5**	**(30.3)**	**(62.3)**	**(74.2)**	**(87.9)**	**(74.0)**	**(207.8)**	**(510.0)**

As at 31 March 2022

SDR millions	Up to 6 months	6 to 12 months	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	Over 5 years	Total
Euro	2.9	(15.6)	(32.6)	(28.1)	(29.2)	(59.8)	(3.4)	(165.9)
Japanese yen	14.3	0.6	–	(0.1)	0.4	(0.2)	–	14.8
Pound sterling	(2.6)	(2.6)	(8.4)	(7.2)	(6.7)	(2.1)	(3.4)	(33.0)
Renminbi	(0.1)	(4.5)	(7.4)	(8.9)	(13.9)	(7.5)	(23.8)	(66.2)
Swiss franc	10.4	(0.1)	(0.1)	(0.1)	(0.9)	(1.2)	(1.0)	7.0
US dollar	1.7	(13.1)	(25.5)	(29.8)	(34.5)	(31.7)	(133.7)	(266.7)
Other currencies	1.0	0.1	(1.0)	(0.5)	(0.4)	(1.4)	(0.7)	(2.9)
Total	27.6	(35.3)	(75.1)	(74.7)	(85.2)	(104.1)	(166.0)	(512.8)

C. Foreign exchange risk

The Bank's functional currency, the SDR, is a composite currency comprising fixed amounts of USD, EUR, JPY, GBP and RMB. Currency risk is the exposure of the Bank's financial condition to adverse movements in exchange rates. The Bank is exposed to foreign exchange risk primarily through the assets relating to the management of its shareholders' equity. The Bank is also exposed to foreign exchange risk through managing its customer deposits and through acting as an intermediary in foreign exchange transactions. The Bank reduces its foreign exchange exposures by matching the relevant assets to the constituent currencies of the SDR on a regular basis, and by limiting currency exposures arising from customer deposits and foreign exchange transaction intermediation.

The following tables show the Bank's assets and liabilities by currency and gold exposure. The net foreign exchange and gold position in these tables therefore includes the Bank's gold investments. To determine the Bank's net foreign exchange exposure, the gold amounts need to be removed. The SDR-neutral position is then deducted from the net foreign exchange position excluding gold to arrive at the net currency exposure of the Bank on an SDR-neutral basis.

As at 31 March 2023

SDR millions	SDR	USD	EUR	GBP	JPY	RMB	CHF	Gold	Other currencies	Total
Assets										
Cash and cash equivalents	1,537.6	75.6	40,611.8	6.0	21,525.0	0.9	5,934.8	–	15.4	69,707.1
Securities purchased under resale agreements	–	14,792.0	31,787.2	6,283.2	11,258.5	–	–	–	–	64,120.9
Loans and advances	–	35,029.0	10,624.4	–	–	–	2,489.5	–	1,860.9	50,003.8
Government and other securities	–	22,440.7	21,498.5	3,742.4	42,434.3	4,088.7	33,792.1	–	5,209.7	133,206.4
Gold and gold loans	–	1.1	–	–	–	–	–	27,679.9	–	27,681.0
Derivative financial instruments	1,194.0	50,551.8	(6,313.2)	3,565.4	(50,812.9)	4,392.1	(603.6)	1,183.3	175.3	3,332.2
Accounts receivable and other assets	–	1,205.8	26.4	0.8	–	750.9	12.5	–	56.9	2,053.3
Land, buildings and equipment	200.9	0.3	0.6	0.1	–	–	3.0	–	–	204.9
Total assets	**2,932.5**	**124,096.3**	**98,235.7**	**13,597.9**	**24,404.9**	**9,232.6**	**41,628.3**	**28,863.2**	**7,318.2**	**350,309.6**
Liabilities										
Currency deposits	(6,154.5)	(231,581.5)	(19,466.9)	(10,251.8)	(35.6)	(11,191.5)	(1,927.3)	–	(8,068.9)	(288,678.0)
Gold deposits	–	–	–	–	–	–	–	(19,194.1)	–	(19,194.1)
Derivative financial instruments	3,688.0	119,309.6	(69,823.9)	(1,089.2)	(22,492.1)	4,229.3	(34,899.6)	(4,829.9)	985.6	(4,922.2)
Accounts payable	–	(3,872.0)	(3,427.9)	(898.3)	(558.3)	(74.0)	(4,107.6)	–	(84.6)	(13,022.7)
Other liabilities	–	(3.8)	(2.7)	(0.4)	–	–	(776.8)	–	(3.9)	(787.6)
Total liabilities	**(2,466.5)**	**(116,147.7)**	**(92,721.4)**	**(12,239.7)**	**(23,086.0)**	**(7,036.2)**	**(41,711.3)**	**(24,024.0)**	**(7,171.8)**	**(326,604.6)**
Net currency and gold position	**466.0**	**7,948.6**	**5,514.3**	**1,358.2**	**1,318.9**	**2,196.4**	**(83.0)**	**4,839.2**	**146.4**	**23,705.0**
Adjustment for gold	–	–	–	–	–	–	–	(4,839.2)	–	(4,839.2)
Net currency position	**466.0**	**7,948.6**	**5,514.3**	**1,358.2**	**1,318.9**	**2,196.4**	**(83.0)**	**–**	**146.4**	**18,865.8**
SDR-neutral position	(466.0)	(7,902.1)	(5,560.7)	(1,368.0)	(1,381.8)	(2,187.2)	–	–	–	(18,865.8)
Net currency exposure on SDR-neutral basis	**–**	**46.5**	**(46.4)**	**(9.8)**	**(62.9)**	**9.2**	**(83.0)**	**–**	**146.4**	**–**

As at 31 March 2022

SDR millions	SDR	USD	EUR	GBP	JPY	RMB	CHF	Gold	Other currencies	Total
Assets										
Cash and cash equivalents	1,366.2	42.1	33,941.3	10.7	17,520.9	0.9	20,442.7	–	4,229.7	77,554.5
Securities purchased under resale agreements	–	3,425.2	20,250.0	9,408.8	10,850.7	–	–	–	–	43,934.7
Loans and advances	–	29,707.8	14,968.3	7,245.6	–	–	2,616.2	–	1,904.6	56,442.5
Government and other securities	–	26,736.8	31,863.8	3,454.1	43,828.4	2,001.4	218.3	–	10,289.1	118,391.9
Gold and gold loans	–	–	–	–	–	–	–	39,656.2	–	39,656.2
Derivative financial instruments	3,417.1	133,366.5	(44,360.1)	(5,591.8)	(73,964.9)	16,002.8	(15,546.5)	(2,979.8)	(2,349.2)	7,994.1
Accounts receivable and other assets	–	2,360.8	851.2	0.5	–	219.7	10.2	–	0.9	3,443.3
Land, buildings and equipment	180.8	7.2	0.4	0.4	–	–	13.1	–	–	201.9
Total assets	4,964.1	195,646.4	57,514.9	14,528.3	(1,764.9)	18,224.8	7,754.0	36,676.4	14,075.1	347,619.1
Liabilities										
Currency deposits	(2,749.7)	(237,281.8)	(19,955.8)	(12,612.4)	(119.7)	(14,431.8)	(140.0)	–	(4,887.2)	(292,178.4)
Gold deposits	–	–	–	–	–	–	–	(18,858.8)	–	(18,858.8)
Derivative financial instruments	903.1	48,636.6	(25,640.8)	98.8	2,915.9	(1,937.3)	(6,762.8)	(13,195.8)	(8,263.7)	(3,246.0)
Accounts payable	–	(434.9)	(7,129.8)	(741.4)	–	(43.1)	–	–	(786.0)	(9,135.2)
Other liabilities	–	(3.5)	(1.6)	(0.7)	–	–	(742.3)	–	(5.6)	(753.7)
Total liabilities	(1,846.6)	(189,083.6)	(52,728.0)	(13,255.7)	2,796.2	(16,412.2)	(7,645.1)	(32,054.6)	(13,942.5)	(324,172.1)
Net currency and gold position	3,117.5	6,562.8	4,786.9	1,272.6	1,031.3	1,812.6	108.9	4,621.8	132.6	23,447.0
Adjustment for gold	–	–	–	–	–	–	–	(4,621.8)	–	(4,621.8)
Net currency position	3,117.5	6,562.8	4,786.9	1,272.6	1,031.3	1,812.6	108.9	–	132.6	18,825.2
SDR-neutral position	(3,117.5)	(6,621.3)	(4,871.2)	(1,282.6)	(1,111.5)	(1,821.1)	–	–	–	(18,825.2)
Net currency exposure on SDR-neutral basis	–	(58.5)	(84.3)	(10.0)	(80.2)	(8.5)	108.9	–	132.6	–

D. Economic capital for market risk

The Bank measures market risk based on a VaR methodology using a Monte Carlo simulation technique taking correlations between risk factors into account. Economic capital for market risk is also calculated following this methodology measured to the 99.99% confidence level and assuming a one-year holding period. The Bank calculates the economic capital utilisation for market risk on the basis of a stressed market data set. The stressed data set is subject to regular review and calibrated to take account of the Bank's key market risk exposures and market risk drivers.

The Bank measures its gold price risk relative to changes in the USD value of gold. The foreign exchange risk component, resulting from changes in the USD exchange rate versus the SDR, is included in the measurement of foreign exchange risk. The following table shows the key figures of the Bank's exposure to market risk in terms of economic capital utilisation over the past two financial years:

For the financial year	**2023**				2022			
SDR millions	Average	High	Low	At 31 March	Average	High	Low	At 31 March
Economic capital utilisation for market risk	4,459.4	4,788.2	4,226.6	**4,733.3**	4,312.9	4,718.1	3,978.8	4,485.4

The following table provides a further analysis of the Bank's economic capital utilisation for market risk by category of risk:

For the financial year	**2023**				2022			
SDR millions	Average	High	Low	At 31 March	Average	High	Low	At 31 March
Gold price risk	3,244.1	3,540.4	3,031.5	**3,479.3**	3,068.3	3,541.0	2,898.4	3,333.9
Interest rate risk	2,549.4	2,771.0	2,381.3	**2,770.6**	2,404.8	2,663.1	2,148.5	2,444.8
Foreign exchange risk	937.4	1,128.2	861.3	**1,039.9**	886.1	994.9	834.8	932.1
Diversification effects	(2,271.4)	(2,636.3)	(2,128.8)	**(2,556.5)**	(2,046.3)	(2,290.1)	(1,902.7)	(2,225.4)
Total				**4,733.3**				4,485.4

E. Minimum capital requirements for market risk

For the calculation of minimum capital requirements for market risk under the Basel Framework, the Bank has adopted a banking book approach consistent with the scope and nature of its business activities. Consequently, market risk-weighted assets are determined for gold price risk and foreign exchange risk, but not for interest rate risk. The related minimum capital requirement is derived using the VaR-based internal models method. Under this method, VaR calculations are performed using the Bank's VaR methodology, assuming a 99% confidence level and a 10-day holding period for both a stressed and non-stressed market data sets.

The actual minimum capital requirement is derived as the sum of the minimum capital requirements based on the VaR calculated for both the stressed and non-stressed market data sets. For each data set, the higher of the VaR on the calculation date and the average of the daily VaR measures on each of the preceding 60 business days (including the calculation date) is used subject to a multiplication factor of three plus a potential add-on depending on backtesting results. For the period under consideration, the number of backtesting outliers observed remained within the range where no add-on is required. The following table summarises the market risk development relevant to the calculation of minimum capital requirements and the related risk-weighted assets over the reporting period:

As at 31 March	2023			2022		
SDR millions	VaR	Risk-weighted assets (A)	Minimum capital requirement (B)	VaR	Risk-weighted assets (A)	Minimum capital requirement (B)
Market risk, where (A) is derived as (B) / 8%	610.3	35,622.5	**2,849.8**	584.7	34,167.7	2,733.4

5. Operational risk

Operational risk is defined by the Bank as the risk of financial loss, or damage to the Bank's reputation, or both, resulting from one or more risk causes, as outlined below:

- Human factors: insufficient personnel, lack of requisite knowledge, skills or experience, inadequate training and development, inadequate supervision, loss of key personnel, inadequate succession planning, or lack of integrity or ethical standards.
- Failed or inadequate processes: a process is poorly designed or unsuitable, or is not properly documented, understood, implemented, followed or enforced.
- Failed or inadequate systems: a system is poorly designed, unsuitable or unavailable, or does not operate as intended.
- External events: the occurrence of an event having an adverse impact on the Bank but outside its control.

Operational risk includes legal risk, but excludes strategic risk.

The Bank's operational risk management framework, policies and procedures comprise the management and measurement of operational risk, including the determination of the relevant key parameters and inputs, business continuity planning and the monitoring of key risk indicators.

The Bank has established a procedure of immediate reporting for operational risk-related incidents. The Operational Transformation and Resiliency unit develops action plans with the respective units and follows up on their implementation on a regular basis.

For the measurement of operational risk economic capital and operational risk-weighted assets, the Bank has adopted a VaR approach using a VaR-based Monte Carlo simulation technique that is consistent with the advanced measurement approach. Consistent with the BCBS recommendations, the quantification of operational risk does not take into account reputational risk. Internal and external loss data as well as scenario estimates are key inputs in the calculations.

A. Economic capital for operational risk

Consistent with the parameters used in the calculation of economic capital for financial risk, the Bank measures economic capital for operational risk to the 99.99% confidence level assuming a one-year holding period. The following table shows the key figures of the Bank's exposure to operational risk in terms of economic capital utilisation over the past two financial years:

For the financial year	2023				2022			
SDR millions	Average	High	Low	At 31 March	Average	High	Low	At 31 March
Economic capital utilisation for operational risk	850.0	850.0	850.0	**850.0**	974.5	1,100.0	850.0	850.0

B. Minimum capital requirements for operational risk

The calculation of the minimum capital requirement for operational risk is determined assuming a 99.9% confidence level and a one-year time horizon. The following table shows the minimum capital requirements for operational risk, and the related risk-weighted assets:

As at 31 March	**2023**			2022		
SDR millions	VaR	Risk-weighted assets (A)	Minimum capital requirement (B)	VaR	Risk-weighted assets (A)	Minimum capital requirement (B)
Operational risk, where (A) is derived as (B) / 8%	582.5	7,281.6	**582.5**	583.1	7,288.4	583.1

6. Liquidity risk

Liquidity risk arises when the Bank may not be able to meet expected or unexpected current or future cash flows and collateral needs without affecting its daily operations or its financial condition.

The Bank's currency and gold deposits, principally from central banks and international institutions, comprise 94% (2022: 96%) of its total liabilities. At 31 March 2023, currency and gold deposits originated from 154 depositors (2022: 178 depositors). Within these deposits, there are significant individual customer concentrations, with two customers each contributing in excess of 5% of the total on a settlement date basis (2022: five customers).

Outstanding balances in the currency and gold deposits from central banks, international organisations and other public institutions are the key drivers of the size of the Bank's balance sheet. The Bank is exposed to funding liquidity risk mainly because of the short-term nature of its deposits and because it undertakes to repurchase at fair value certain of its currency deposit instruments at one or two business days' notice. In line with the Bank's objective to maintain a high level of liquidity, it has developed a liquidity management framework, including a ratio, based on conservative assumptions for estimating the liquidity available and the liquidity required.

A. Maturity profile of cash flows

The following tables show the maturity profile of cash flows for assets and liabilities. The amounts disclosed are the undiscounted cash flows to which the Bank is committed. Options are included in the table at fair value and are shown in the "Up to 1 month" category.

As at 31 March 2023

SDR millions	Up to 1 month	1 to 3 months	3 to 6 months	6 to 12 months	1 to 2 years	2 to 5 years	5 to 10 years	Over 10 years	Total
Assets									
Cash and cash equivalents	69,707.1	–	–	–	–	–	–	–	69,707.1
Securities purchased under resale agreements	47,108.5	12,208.6	814.8	–	–	–	–	–	60,131.9
Loans and advances	13,191.2	15,891.7	9,598.3	10,082.9	901.2	–	–	–	49,665.3
Government and other securities	27,538.8	44,161.3	12,209.3	9,962.3	9,804.8	24,066.6	5,189.1	966.0	133,898.2
Gold and gold loans	26,812.7	515.3	353.4	–	–	–	–	–	27,681.4
Total assets	**184,358.3**	**72,776.9**	**22,975.8**	**20,045.2**	**10,706.0**	**24,066.6**	**5,189.1**	**966.0**	**341,083.9**
Liabilities									
Currency deposits									
Deposit instruments repayable at 1–3 days' notice	(78,579.0)	(43,193.8)	(42,424.4)	(32,157.5)	(13,982.1)	(13,541.6)	–	–	(223,878.4)
Other currency deposits	(33,418.4)	(18,571.3)	(7,079.0)	(12,138.6)	–	–	–	–	(71,207.3)
Gold deposits	(19,194.1)	–	–	–	–	–	–	–	(19,194.1)
Total liabilities	**(131,191.5)**	**(61,765.1)**	**(49,503.4)**	**(44,296.1)**	**(13,982.1)**	**(13,541.6)**	**–**	**–**	**(314,279.8)**
Derivatives									
Net settled cash flows									
Options and interest rate contracts	(12.8)	(261.1)	(84.9)	59.3	33.0	199.0	43.1	–	(24.4)
Gross settled cash flows									
Interest rate contracts									
Inflows	40.0	151.1	213.0	409.2	449.0	557.0	–	–	1,819.3
Outflows	(43.7)	(153.2)	(223.8)	(439.0)	(461.7)	(563.9)	–	–	(1,885.3)
Subtotal	(3.7)	(2.1)	(10.8)	(29.8)	(12.7)	(6.9)	–	–	(66.0)
Currency and gold contracts									
Inflows	146,486.4	94,325.2	24,858.6	19,051.3	119.4	–	–	–	284,840.9
Outflows	(147,623.0)	(93,873.6)	(24,844.5)	(18,905.3)	(117.5)	–	–	–	(285,363.9)
Subtotal	(1,136.6)	451.6	14.1	146.0	1.9	–	–	–	(523.0)
Total derivatives	**(1,153.1)**	**188.4**	**(81.6)**	**175.5**	**22.2**	**192.1**	**43.1**	**–**	**(613.4)**
Total future undiscounted cash flows	**52,013.7**	**11,200.2**	**(26,609.2)**	**(24,075.4)**	**(3,253.9)**	**10,717.1**	**5,232.2**	**966.0**	**26,190.7**

As at 31 March 2022

SDR millions	Up to 1 month	1 to 3 months	3 to 6 months	6 to 12 months	1 to 2 years	2 to 5 years	5 to 10 years	Over 10 years	Total
Assets									
Cash and cash equivalents	77,554.5	–	–	–	–	–	–	–	77,554.5
Securities purchased under resale agreements	29,857.0	7,279.9	95.5	–	–	–	–	–	37,232.4
Loans and advances	15,034.4	21,800.7	10,816.7	8,871.9	–	–	–	–	56,523.7
Government and other securities	11,718.7	29,058.9	21,360.1	23,145.6	10,888.2	16,999.1	4,590.6	924.7	118,685.9
Gold and gold loans	39,656.2	–	–	–	–	–	–	–	39,656.2
Total assets	173,820.8	58,139.5	32,272.3	32,017.5	10,888.2	16,999.1	4,590.6	924.7	329,652.7
Liabilities									
Currency deposits									
Deposit instruments repayable at 1–3 days' notice	(43,557.4)	(36,242.4)	(33,974.4)	(42,273.6)	(15,684.3)	(9,797.8)	–	–	(181,529.9)
Other currency deposits	(51,413.7)	(24,356.9)	(20,903.8)	(12,800.4)	–	–	–	–	(109,474.8)
Gold deposits	(18,858.8)	–	–	–	–	–	–	–	(18,858.8)
Total liabilities	(113,829.9)	(60,599.3)	(54,878.2)	(55,074.0)	(15,684.3)	(9,797.8)	–	–	(309,863.5)
Derivatives									
Net settled cash flows									
Options and interest rate contracts	(25.1)	(59.4)	(109.5)	(144.4)	(160.7)	73.1	30.7	–	(395.3)
Gross settled cash flows									
Interest rate contracts									
Inflows	29.6	43.5	118.3	392.1	989.2	181.9	–	–	1,754.6
Outflows	(32.2)	(37.6)	(109.8)	(379.1)	(957.1)	(182.2)	–	–	(1,698.0)
Subtotal	(2.6)	5.9	8.5	13.0	32.1	(0.3)	–	–	56.6
Currency and gold contracts									
Inflows	140,252.1	80,604.9	38,682.2	28,771.7	–	–	–	–	288,310.9
Outflows	(138,841.5)	(78,543.0)	(37,462.9)	(27,808.6)	–	–	–	–	(282,656.0)
Subtotal	1,410.6	2,061.9	1,219.3	963.1	–	–	–	–	5,654.9
Total derivatives	1,382.9	2,008.4	1,118.3	831.7	(128.6)	72.8	30.7	–	5,316.2
Total future undiscounted cash flows	61,373.8	(451.4)	(21,487.6)	(22,224.8)	(4,924.7)	7,274.1	4,621.3	924.7	25,105.4

The following table shows the contractual expiry date of the credit commitments as at the balance sheet date:

Contractual expiry date

SDR millions	Up to 1 month	1 to 3 months	3 to 6 months	6 to 12 months	1 to 2 years	2 to 5 years	5 to 10 years	Maturity undefined	Total
As at 31 March 2023	–	–	–	222.9	–	–	–	–	**222.9**
As at 31 March 2022	–	–	–	217.1	–	–	–	–	217.1

The following table shows the contractual undiscounted cash flows under lease contracts at the balance sheet date:

Contractual expiry date

SDR millions	Up to 1 month	1 to 3 months	3 to 6 months	6 to 12 months	1 to 2 years	2 to 5 years	5 to 10 years	Maturity undefined	Total
As at 31 March 2023	(0.4)	(0.8)	(0.4)	(0.8)	(0.4)	(0.8)	(0.3)	–	**(3.9)**
As at 31 March 2022	(0.4)	(0.8)	(0.3)	(1.6)	(2.0)	(0.6)	(0.5)	–	(6.2)

B. Liquidity ratio

The Bank has adopted a liquidity risk framework taking into account regulatory guidance issued by the BCBS related to the Liquidity Coverage Ratio (LCR). The framework is based on a liquidity ratio that compares the Bank's available liquidity with a liquidity requirement over a one-month time horizon assuming a stress scenario. In line with the BCBS liquidity risk framework, the underlying stress scenario combines an idiosyncratic and a market crisis. However, the liquidity ratio differs in construction from the LCR to reflect the nature and scope of the BIS banking activities – in particular, the short-term nature of the Bank's assets and liabilities. Within the Bank's liquidity framework, the Board of Directors has set a limit for the Bank's liquidity ratio which requires the liquidity available to be at least 100% of the potential liquidity requirement.

The following table provides information on the development of the Bank's liquidity ratio for the last two years:

For the financial year	**2023**				2022			
Percentages	Average	High	Low	At 31 March	Average	High	Low	At 31 March
Liquidity ratio	137.3%	152.5%	119.5%	**134.7%**	139.9%	170.8%	121.5%	147.3%

The liquidity available is determined as the cash inflow from financial instruments over a one-month horizon, along with potential additional liquidity which could be generated from the disposal of highly liquid securities, or by entering into sale and repurchase agreements for a part of the Bank's remaining unencumbered high-quality liquid securities. In calculating the amount of potential additional liquidity, an assessment is performed to identify securities which are of high credit quality and highly liquid. This is followed by a projection of the amounts that could reasonably be generated through selling these securities or entering into repurchase transactions.

The Bank determines the liquidity required as the sum of the cash outflow from financial instruments over a one-month horizon, the estimated early withdrawal of currency deposits, and the estimated drawings of undrawn facilities. With regard to currency deposits, it is assumed that all deposits that mature within the time horizon are not rolled over and that a proportion of non-maturing currency deposits is withdrawn from the Bank prior to contractual maturity. At 31 March 2023, the estimated outflow of currency deposits in response to the stress scenario amounted to 48.0% (2022: 44.2%) of the total stock of currency deposits. Moreover, it is assumed that undrawn facilities committed by the Bank would be fully drawn by customers, along with a proportion of undrawn uncommitted facilities.

The following table shows the Bank's estimated liquidity available, the liquidity required and the resulting liquidity ratio:

As at 31 March

SDR billions	**2023**	2022
Liquidity available		
Estimated cash inflows	155.0	138.3
Estimated liquidity from sales of highly liquid securities	32.3	41.6
Estimated sale and repurchase agreements	6.6	11.8
Total liquidity available (A)	**194.0**	191.7
Liquidity required		
Estimated withdrawal of currency deposits	138.1	126.6
Estimated drawings of facilities	2.3	2.6
Estimated other outflows	3.6	0.9
Total liquidity required (B)	**144.1**	130.1
Liquidity ratio (A) / (B)	**134.7%**	147.3%

For reference, the Bank also calculates an LCR following the principles set out in the guidance issued by the BCBS. At 31 March 2023, the Bank's LCR stood at 186.9% (2022: 210.0%).

Independent auditor's report

To the Board of Directors and to the General Meeting of the Bank for International Settlements, Basel

Report on the audit of the financial statements

Opinion

We have audited the financial statements of the Bank for International Settlements, which comprise the balance sheet as at 31 March 2023, the profit and loss account, the statement of comprehensive income, the statement of cash flows, movements in shareholders' equity and notes, as well as capital adequacy and risk management disclosures for the year then ended, including a summary of significant accounting policies.

In our opinion, the financial statements as at 31 March 2023 give a true and fair view of the financial position of the Bank for International Settlements and of its financial performance and its cash flows for the year then ended in accordance with the accounting policies described in the financial statements and the Statutes of the Bank.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those provisions and standards are further described in the "Auditor's responsibilities for the audit of the financial statements" section of our report.

We are independent of the Bank for International Settlements in accordance with the International Code of Ethics for Professional Accountants (including International Independence Standards) of the International Ethics Standards Board for Accountants (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other information

Management is responsible for the other information in the annual report. The other information comprises all information included in the annual report, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information in the annual report and we do not express any form of assurance conclusion thereon.

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

Responsibilities of Management and the Board of Directors for the financial statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with the accounting policies described in the financial statements and the Statutes of the Bank, and for such internal control as Management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, Management is responsible for assessing the Bank for International Settlement's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless Management either intends to liquidate the Bank for International Settlements or to cease operations, or has no realistic alternative but to do so.

The Board of Directors is responsible for overseeing the Bank for International Settlement's financial reporting process.

Auditor's responsibilities for the audit of the financial statements

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

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Bank for International Settlement's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by Management.
- Conclude on the appropriateness of the Managements' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Bank for International Settlement's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Bank for International Settlements to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the Audit Committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

PricewaterhouseCoopers SA

Christophe Kratzer	Natalia Dmitrieva
Audit expert	Audit expert

Geneva, 16 May 2023

Promoting global monetary and financial stability

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