CLEARSTREAM BANKING S.A.

Annual Accounts
as at 31 December 2023

(with Audit report thereon)

CLEARSTREAM BANKING S.A.
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CLEARSTREAM BANKING S.A.
Management report for the year ended 31 December 2023

1. Report on Operating Activities

1.1. Operating Activities and Key Indicators

In 2023, one of the main factors driving the business activities of Clearstream Banking S.A. (the "Bank", "CBL", "Clearstream") was an increase in custody volumes of international securities. In the international custody business (CBL and CBFi[1]), the overall average value of securities deposited increased by 7 percent to a new record level of EUR 9.8 trillion (2022: EUR 9.2 trillion) (out of which CBFi* 2023: EUR 1.2 trillion, 2022: EUR 1.2 trillion).

The international settlement business grew in 2023. The number of international settlement transactions increased by 8 percent in financial year 2023 to 106.1 million (2022: 98.7 million) (out of which CBFi 2023: 36.4 million, 2022: 35.9 million).

Investment Funds Services (thereafter "IFS") continued to grow. In 2023, out of the 106.1 million international transactions, 30.4 million transactions were processed for funds, an increase of 11 percent over the previous year (2022: 27.3 million). In 2023, at the end of the year, circa 190,000 mutual funds and 55,000 hedge funds were available from 55 jurisdictions for order routing through Clearstream Funds Services' Vestima funds platform. The assets held under custody at Investment Fund Services form part of Clearstream's total custody volume; they amounted to EUR 1.5 trillion on average in 2023, up by 7 percent year-on-year (2022: EUR 1.4 trillion). While the economic benefit of the IFS business segment has been transferred to Clearstream Fund Centre S.A. (CFCL), volumes remained in CBL as at 31 December 2023.

In the Global Securities Financing (GSF) business, the average outstanding volume increased by 80 percent to EUR 549.3 billion (2022: EUR 305.6 billion). GSF products offered at Clearstream Banking S.A. cover mainly collateralisation for interbank financing transactions such as triparty repurchase agreements, secured loans and securities lending.

Average customer cash deposits decreased by 6% year-on-year, to EUR 16.4 billion (2022: EUR 17.5 billion) (out of which CBFi 2023: EUR 1.5 billion, 2022: EUR 1.6 billion). The average customer cash deposits in USD remains stable representing 52% of the total average customer cash deposits.

[1] CBFi stands for the international business of Clearstream Banking AG.

Clearstream Banking S.A. (incl. CBFi): Key Indicators	2023	2022	Change 2023 vs 2022
	Eur bil	Eur bil	%
Custody			
Value of securities deposited[2] (average value during the year)	9,763	9,201	6%
Settlement	mil	mil	%
Securities transactions	106.1	98.7	8%
Global Securities Financing	Eur bil	Eur bil	%
(average outstanding during the year)	549.3	305.6	80%
Average customer cash deposits	Eur mil	Eur mil	%
Total	16,403	17,516	-6%
Euro	4,943	5,403	-9%
US Dollar	8,450	9,061	-7%
Other currencies	3,010	3,052	-1%

As at 31 December 2023 and 31 December 2022, the Bank was directly fully owned by Clearstream Holding AG.

IFS Carve-Out

Fiscal year 2023 was the first full year during which the overall consolidation in the fund processing and distribution business materialised for a whole annual financial period (January 1 to December 31, 2023).

CBL compensated the business transfer very well and, focused as planned in 2023, on the transfer of direct customer relationships for funds and continuous operational readiness for the existing funds business.

Global geo-political environment in 2023

2023 was still dominated by geo-political challenges world-wide, of which Russia's ongoing war in the Ukraine and the conflict in the middle east gained special management attention. The Bank's response to these tensions can be summarised as following.

Ukrainian-Russian Crisis

During 2023, the Clearstream subgroup continued to be affected by Russia's full-scale invasion of Ukraine requiring a significant level of management attention. In late 2021, the executive Risk

[2] The valuation method depends on the type of security, i.e. fixed income securities are valued at nominal value, equities/funds at market value.

Committee of Clearstream Holding AG, the CRC, organised a Ukraine Crisis Response Team (UCRT). The UCRT continued to meet on a twice-weekly cadence throughout 2023 to manage the various impacts arising from the Russia-Ukraine war. The primary focus of the UCRT has been on adjusting its procedures and controls to adapt to the countermeasures deployed by Russia in response to Western sanctions.

At the time of the full-scale invasion, Russia legislated to restrict securities deposits of foreign depositories, including Clearstream Banking S.A. Russian legislation additionally blocked corporate action proceeds due on securities held by foreign depositories. The corporate action payments have not been credited to accounts opened or controlled by CBL. Accordingly, these balances have not been recognised in its accounts and have been reported to the entitled customers as memorandum, contingent claims. At the time of the full-scale invasion, CBL has also switched its RUB cash processing to the NSD in response to the designation and disconnection from the Swift network of its RUB cash correspondent, Sberbank. On 25 March 2022, CBL determined that its cash account with NSD had been blocked by the NSD pending guidance from its regulator. Following force majeure, CBL advised affected customers that it will recredit the corresponding RUB amounts due to customers contingent on its regaining access to the funds. As of 31 December 2023, the RUB-denominated balance of the affected account stood at the equivalent of EUR 105 million, this amount has been fully written off as Expected Credit Loss.

The sanctions actions taken in response to Russia's full-scale invasion of Ukraine involve a scale and a complexity that is novel, increasing the risks of control failures and of violating or facilitating the violation of an applicable law or regulation. The Group assesses that its sanctions controls have operated effectively. As a consequence of reducing customer relations with Russian state actors, Clearstream holds only a negligible cash balance on behalf of Russian sovereigns.

Clearstream Banking S.A. operates the only direct international settlement link to Ukraine, offering a critical channel for foreign inward investment in Ukrainian, local currency sovereign debt. In order to continue to support Ukraine and accommodate the capital controls introduced by Ukraine following the invasion, CBL maintains a cash account with the NBU to minimise counterparty exposure, becoming the only foreign bank to participate in the domestic payment system.

Middle East Crisis

Clearstream has not been affected by the crisis in the Middle East that has developed since the Hamas attack of 7 October 2023. Clearstream Banking S.A. operates a settlement link to Israel which has operated normally since the attack. The Group's security teams monitor developments in the region continuously.

1.2. Key Performance Indicators

To sum up, key performance indicators have developed as follows:

- Net interest income increased by 122 percent to EUR 555.2 million
- Net commission income increased by 14 percent to EUR 721.4 million
- General administrative expenses increased by 2 percent to EUR 384.9 million
- Profit on ordinary activities before tax increased by 46 percent to EUR 815.3 million
- Net profit for the financial year increased by 41 percent to EUR 610.5 million
- Average value of securities deposited increased by 6 percent to EUR 9.8 trillion

2. Research and Development Activities and Expected Developments

As a service provider, Clearstream Banking S.A. does not engage in research and development activities comparable with those of manufacturing companies. This section of the report has therefore been omitted.

The securities and funds servicing industry are driven by fundamental capital market trends, among others, technological disruption and innovation. Dematerialisation of securities and digitisation of issuance processes are at the forefront of the digital transformation of the securities services industry. New technologies like Distributed-Ledger (DLT) and Cloud will drive the digitisation of financial products, allowing to broaden asset class and enabling the next level of process efficiencies across markets. To address these fundamental changes, Clearstream is step-by-step developing its infrastructure towards a digital ecosystem.

Clearstream is building the leading securities and funds servicing digital ecosystem together with its clients and partners (e.g. HQLAx, FundsDLT, Origin). With D7, Deutsche Börse Group/Clearstream is creating a regulatory compliant, fully digital post-trade platform called D7, anchored in the recently introduced German digital securities law framework. To accelerate its innovation agenda, Deutsche Börse Group has entered into a long-term strategic partnership with Google. Under the terms of the agreement, Deutsche Börse and its subsidiaries will leverage Google Cloud to migrate applications into a cloud environment, deploy a data mesh for data distribution and analysis and jointly build a new digital securities platform.

D7 is a cloud-backed DLT-ready infrastructure for financial institutions that issue, hold and trade financial instruments with each other. The platform leverages the newly created Digital Instruments, a digital description of securities, and will therefore provide a fully digital alternative to conventional physical issuance and processing of securities. It paves the way for same-day-issuance and paperless, automated straight-through processing for the entire value chain of issuance, custody, settlement, payment and asset servicing for digital securities. D7 is being jointly developed with Google, leveraging their extensive know-how in multiple areas of technology, such as hyper-scalable infrastructure, data and analytics. The partnership replaced Microsoft as the main cloud supplier for D7.

The industry is focusing on revisions to the operating model, organizational agility, and digital transformation. As the new hybrid work model implemented as part of the Trust@Work becomes more ingrained into the day-to-day work life, the focus has shifted to deployment of new productivity tools and update of the corporate culture to take full advantage of the new models. It is expected that the sector will be further be impacted by potential changes in business activity, restructurings, Mergers and Acquisitions (M&As), as well as possible regulatory changes.

3. Regulatory Environment

In 2024, it will be a year where half of the world population is going to the polls – among others in the US, the European Parliament elections in June followed by the installation of a new European Commission, UK as well as India and Taiwan. Elections can significantly impact regulation and policy by determining the composition of governing bodies, influencing decision-makers and shaping priorities that guide legislative and regulatory agendas.

The European Commission agenda from 2019 to 2024 impacts financial services in three main areas: completing the Capital Markets Union (CMU), rolling out ESG aspects of the EU Green deal into finance, and adapting financial markets to the new financial technology challenges, as described hereunder. All these aspects will heavily influence the regulatory landscape applicable to financial institutions and entities such as CBL.

Recent challenges such as the realities of open conflicts (Ukraine, Middle East), rising tensions (US-China) and sobering growth expectations (recession or stand-still tendencies, as well as continued dependencies (energy, sanctions, commodities) will dominate daily politics. All regulatory files however are monitored thoroughly, including possible UK regulatory divergence.

Until spring, the co-legislators will try to push most of the open files over the finishing line (e.g. EMIR 3.0. Listing Act, ESG Ratings), among others CSDR REFIT has been published in December 2023 in the Official Journal, the debate around T+1 started with an ESMA consultation and the negotiations on several regulatory files (e.g. Shareholder Rights Directive) are ongoing.

The new European Commission and European Parliament will be expected to be fully operative in Q4/2024 with first proposals and then have to step up their efforts, namely proceed with core pillars around a revamped CMU to reach the financial volume, needed for the twin transition. With reports in the making by Mario Draghi and Enrico Letta on EU' competitiveness and the future of the EU Single Market respectively, expectations are high to proceed on this path towards EU strategic autonomy and competitiveness.

Therefore, efforts to push the capital markets union by means of strengthening the attractiveness of EU markets, speed up retail investment participation, make more use of private funds due to tense public budgets and reconsider the EU supervisory set-up can be expected early in the legislative period. Attempts will also continue towards a twin transition as well as the ESG and digital agenda (e.g. digital Euro, AI), with a possible slow-down on Level 1 and more efforts to shape global standards.

3.1. Capital Markets Union (CMU)

Together with the economic, the monetary and the banking union, the CMU shall lead towards an integrated European financial market. The main objectives are to promote growth and job creation on a sustainable basis, and to develop a diversified financial system, which compliments bank-based financing with highly developed capital markets. However, despite the building blocks set in 2015, the role of capital markets in the EU-27 is still underdeveloped compared to its importance to the real economy.

President Ursula von der Leyen has the continued aim to complete the CMU, setting the focus on small and medium-sized enterprises (SMEs) and their access to capital. In 2020, the European Commission had established an expert group, the CMU High-Level Forum (HLF), to develop concrete recommendations on how to progress the CMU that the Commission would use as the basis for its CMU Action Plan. Deutsche Börse Group was represented by Board Member Dr. Stephan Leithner in the HLF. Based on the recommendations in the HLF's final report, the Commission published a new CMU Action Plan in September 2020 that focuses on three dimensions: (1) access to finance (especially

SMEs); (2) participation in investment and (3) cross-border integration and contains 16 legislative and non-legislative actions broadly embedded in the Commission's strategy for managing the green and digital transformations. Further impetus was provided by the COVID-19 crisis, which shook the world and prompted the EU to revise its Working Programme and make progress on CMU even more urgently, in particular by means of re-equitization.

The EC has already initiated a number of measures in 2021, including reforming the European Markets Infrastructure as well as the Markets in Financial Instruments Regulations, publishing the Listing Act, a proposal for a European Single Access Point, as well as for insolvency, securitization, and withholding tax. These files are currently being discussed and adapted by the European Parliament and the Member States represented in the Council of the European Union.

Clearstream and Deutsche Börse Group ("DBG") actively support the project and assume an active role in the political debate. We believe the following basic principles to be material to a successful implementation: restoration of confidence in the financial markets, improved and expanded alternative instruments for non-bank-based corporate financing, financial stability, transparency, harmonised regulatory standards and a supportive regulatory framework.

While recent challenges have delayed progress on the CMU, they simultaneously showed the importance of a closer cooperation. The need to finance the sustainable transition increases the importance of a functioning CMU to keep the EU both competitive and initiative and make use of capital markets to the fullest.

3.2. Central Securities Depository Regulation and Settlement Finality Directive

CSDs have been regulated by a uniform European framework – the CSDR. This regulation includes a general review clause 5 years after entry into force, this review which was initiated by the European Commission through the launch of a public consultation on 8 December 2020 with concrete reflections for amendments to bring efficiency to the markets. Areas retained in the so-called CSDR REFIT for review include: CSD authorisation and their review and evaluation processes, cross-border provision of services in the EU, internalised settlement, CSDR and technological innovation, provision of CSD banking-type ancillary services, scope and settlement discipline regime, framework for third country CSDs, among other areas to be considered for review in the CSDR by the European Commission.

A legislative proposal was issued in the Q2 2022 with negotiations in Brussels during last year. The CSDR REFIT text was published in the EU's Official Journal on 27th December 2023 with entering into force on the twentieth day following the date of its publication – hence Mid-January 2024. We expect further consultations by ESMA on regulatory technical standards in 2024 (e.g. providing details on banking-type of ancillary services as well as on supervisory structures).

CSDR is heavily linked with the reviews of Alternative Investment Fund Managers Directive (AIFMD), the Financial Collateral Directive (FCD), and the Settlement Finality Directive (SFD), which are ongoing.

3.3. Shortening the Settlement cycle towards T+1

Discussion on the CSDR REFIT were also influenced by the debate around shortening the settlement cycle ("T+1"), following the "T+1/0" discussion and switch in U.S. in May 2024.

The topic "shortening the settlement cycle" has been integrated into the CSDR REFIT text, by mandating ESMA to provide a cost-/benefit analysis of T+1 and /or T+0 for the EU. The US, alongside Canada and Mexico, have decided to shorten the settlement cycle from T+2 to T+1 from May 2024 onwards. Considering the size and importance of the US market, the decision has immediately triggered discussions on the other side of the Atlantic on the feasibility of submitting the European market to the same settlement period of its North American counterparts.

This initiative has gained momentum by ESMA's published Call for Evidence in September 2023 to get input from the markets on opportunities/costs/risks of moving also in the EU to "T+1". The political fact-finding exercise is continued to be supported by further ESMA's work. The topic "shortening the settlement cycle" has been integrated into the CSDR Refit provisional agreement, by mandating ESMA to provide a cost-/benefit analysis of T+1 and /or T+0 for the EU.

Financial infrastructure could support any "T+N" (N>0), but strongly depend on the readiness of the clients, whereas a "T+0" scenario seems unrealistic at this point of time, requiring a complete overhaul of the markets structure. The view of the financial industry is still spitted with both opponents and supporters. Regulators recently already indicated that it is not a matter of "if" but of "how" and "when".

The political intention is to achieve harmonized settlement cycles with U.S., and eventually with the UK.

3.4. Alternative Investment Fund Managers Directive (AIFMD)

Co-legislators (Council and European Parliament) worked on the AIFMD file over the year 2022. In July 2023, a provisional agreement was reached between the European Parliament and Council on the AIFMD. The plenary vote in the European Parliament is expected to take place in Q1 2024 and entry into force of the legislation is foreseen by May 2024. Transposition to national legislation is to happen within two years of this date (possibly April/May 2026).

The European Commission's review proposal foresaw that investor CSDs are included in the custody chain when they provide custody services to AIFs and UCITS in order to ensure that, in all cases, there is a stable information flow between the custodian of an AIF's asset and the depositary. However, depositaries do not have to perform ex-ante due diligence where they intend to delegate custody to CSDs. GRS advocated to exclude both, investor and issuer CSDs from this provision. Ultimately provisional the trialogue agreement reached in 2023, foresees that only investor CSDs (issuer CSDs are exempted) are included in the custody chain when they provide custody services to AIFs and UCITS. The trialogue agreement stresses the importance of consistent harmonisation in liquidity risk management. It underlines the need to improve the availability of liquidity management tools, with new requirements on managers to provide for the activation of these instruments. This will help ensure that fund managers are well equipped to deal with significant outflows in times of financial turbulence. The trialogue agreement supports the creation, as proposed by the European Commission, of an EU framework for loan-originating funds. The trialogue agreement further clarifies the rules for outsourcing and the delegation of certain functions by fund managers to third parties and increases the supervisory cooperation in this area. It also introduces new reporting requirements on delegation arrangements for the purpose of an improved monitoring and supervision of the application of the EU regulatory framework. Precise reporting obligations on outsourcing will reduce the possibilities for creating letterbox companies.

3.5. Digital Finance Package

The European Commission is putting effort into making Europe fit for the digital age and develop a Digital Single Market. The regulatory initiatives outlined in the "Digital Finance Package", published in September 2020, are of most importance to Clearstream. This includes legislative proposals on crypto-assets and IT-Security/Operational Resilience:

- Markets in Crypto-Assets Regulation (MiCA)

  MiCA was published in the EU Official Journal in May 2023. Currently, ESMA/EBA are in the process of consulting on the Level 2 regulatory technical standards with two out of four consultation packages conducted. Given the dynamic in the markets, new services with regard to MiCA instruments seem possible.

The regime creates a regulatory framework for those crypto-assets that are not financial instruments, for example, asset-reference tokens, e-money tokens, and utility tokens, including crypto-currencies. It provides rules for crypto-asset service providers dealing with such assets, including actors who want to emit such assets and investor protection.

- Digital Operational Resilience Act (DORA)

  DORA has been published on 27 December 2022 and entered into force 20 days later and will apply 24 months after it entered into force from January 2025. The regulation will be a key for the financial services industry, and focuses on IT security and operational resilience, covering areas such as the governance of ICT risk management, ICT-related incident reporting, testing and oversight, outsourcing as well as rules for ICT-third party service providers. While this will lead to administrative burden and costs to comply with the provisions around IT security of systems, the importance of stability and portability through our products can be showcased. Currently, ESMA/EBA are in the process of consulting on the Level 2 regulatory technical standards with two out of four consultation packages currently being conducted.

- Digital Euro

  The European Commission launched a political process on the future design of the retail Digital Euro by publishing two legislative proposals termed the “Single Currency Package”. Meanwhile, ECB established a working group to develop a wholesale Digital Euro (Eurex and Clearstream represented in group) by discussing three alternative models that need to be tested with use cases: 1. Bundesbank Trigger solution 2. Italian TIPS solution 3. French Banque de France DLT solution. The Eurosystem is currently looking into how wholesale financial transactions recorded on DLT platforms could be settled in central bank money. The purpose of this initiative is to (i) consolidate and further develop the ongoing work of Eurosystem central banks in this area, and (ii) gain insight into how different solutions could facilitate interaction between TARGET services and DLT platforms. In this context, the Eurosystem invites financial market stakeholders to express their formal interest by 31 January 2024 in taking part in the planned exploration of new technologies for wholesale central bank money settlement.

  The Eurosystem invites the financial market stakeholders to take part in trials with central bank money settlement and in experiments with mock settlement in a test environment. Financial market stakeholder participating in the trials and/or experiments have time to explore the respective different solutions between May 2024 and November 2024. Clearstream intends to take part with all three of its CSDs and is currently preparing its application for all of it three CSDs.

3.6. Banking Regulations Basel IV Finalisation: CRR III/ CRD VI

Following the regulatory shortcomings revealed during the 2007-2008 financial crisis and based on G20 decisions, the Basel Committee on Banking Supervision (BCBS) substantially amended and updated the banking framework, known as Basel II. In December 2017, the framework was finalised with complementary revisions of the credit risk framework (standardised and model-based approaches), the operational risk framework and new limits on the capital benefit of using internal rating-based models. To provide banks with greater operational capacities to react to the ongoing Covid-19 crisis, BCBS deferred the implementation of the 2017 reforms, initially foreseen for 1 January 2022, by one year to 1

January 2023. With publication of three legislative proposals in October 2021, the EU initiated the finalisation of the implementation of Basel III (commonly also referred to as Basel IV).

Basel IV (finalization of Basel III) introduces a set of new standards for the computation of capital requirements in the banking sector. Key provisions include:

- Enhanced sensitivity to risk in standard approaches, particularly pertaining to credit risks.
- Implementation of a standardized floor for risk-weighted assets (RWA), ensuring that the capital requirement is consistently at least 72.5 % of the standard approach requirement (output floor).
- Removal of the option to utilize internal models for the capitalization of operational risks.
- Introduction of more detailed disclosure requirements for reserves and other financial statistics.

In December 2023, the European Council and European Parliament have endorsed the banking package transposing the BCBS requirements on the finalization of the implementation of Basel III within the EU through legislative acts amending Regulation (EU) No 575/2013 (CRR III), Directive 2013/36/EU (CRD VI) and Directive 2014/59/EU ("daisy chain"). To account for the particularities of the European banking landscape, Member States agreed on specific deviations from the Basel III framework, in the field of risk treatment for unrated corporates, mortgages, intra-group equity exposures, credit valuation adjustment for derivatives, prudential treatment for securitisations and the output floor. In addition to Basel IV, the changes endorsed by the EU include, among others, prudential requirements on environmental, social and governance (ESG) risks in the framework.

While changes to CRR shall apply as of 1 January 2025 (with exemptions to apply to operational risk and the output floor), changes resulting from CRD VI shall apply 18 months following the date of entry into force, i.e., potentially as of June 2025.

The developments will be closely monitored to ensure timely and appropriate implementation.

4. Corporate Governance Structure

Clearstream Banking S.A. is a public limited liability company ("société anonyme") organised and existing under the laws of Luxembourg.

Clearstream Banking S.A. adopted in 2016 the two-tier governance structure. Accordingly, the Executive Board is the managing and ultimate decision-making body and is authorised to carry out all actions that are considered necessary or useful to achieve the Bank's purpose, except for those reserved to the Supervisory Board or the shareholders' meeting by law or by the articles of association. The Executive Board fulfils its management duties under the supervision of the Supervisory Board.

The Supervisory Board advises, monitors and supervises the Executive Board. To assist the Supervisory Board with the fulfilment of its supervisory mission, the Supervisory Board has established an Audit Committee, a Risk Committee, a Remuneration Committee and a Nomination Committee. These committees have a supervisory and advisory role and report directly to the Supervisory Board. In addition, Clearstream Banking S.A. has set up a User Committee, consisting of representatives of issuers and customers. The User Committee submits non-binding opinions to the management body and shall advise the Executive Board on key arrangements that may affect its members, including the criteria for accepting issuers or customers in their respective securities settlement systems and at the service level and the pricing structure.

Furthermore, Clearstream Banking S.A. has established four internal control functions, namely the compliance function, the risk management function, the internal audit function, and the information security function. Each internal control function has been established independently from any business unit, central function or other control function within the organization. Each internal control function is under the responsibility of a head of function – the Chief Compliance Officer, the Chief Risk Officer (Executive Board member), the Chief Internal Auditor or the Chief Information Security Officer. The internal control functions report to the Executive Board and the Supervisory Board and, if applicable, to its committees on a regular basis.

5. Current and Future Trends

Clearstream Banking S.A.'s core business is the settlement and custody of international bonds. Both the trading and the post-trading market environment have become more complex in recent years, and Clearstream Banking S.A.'s goal continues to be to streamline the post-trade services industry in the interest of its customers.

Clearstream Banking S.A.'s business model has been essentially revolving around the automation and standardisation of business that was previously conducted by agent banks on a more bespoke basis. Due to the historical geopolitical circumstances in Europe, market infrastructure has developed in a haphazard manner and is to this day still broadly constrained along national lines. With the implementation of CSDR, roles of CSDs have become more formalised and defined. Clearstream expects this to lead to more intra-CSD competition and lower levels of competition between different classes of entities (i.e., Global Custodians and Agent Banks).

A major force reshaping the industry is represented by technology. DLT, AI and data-rich services are expected to significantly impact service production and consumption and potentially alter entire segments of the securities processing value chain. While major infrastructure providers have been running pilot projects for digital issuance and custody for a number of years, so far, no solution has achieved widespread market adoption. However, as technology matures, we expect, in the medium to long-term, to see a bigger push for commercial scale with subsequent exit of solutions failing to achieve traction and consolidation around a small number of platforms. In parallel demand for data to feed automation/AI services has pushed market players to develop stand-alone data products. This trend is slowly chipping away at the strict hierarchy of the security custody chain and might upend long-established competitive dynamics, for example by opening up market infrastructure services to new client categories. Overall, regulations and technology are considered the major factors influencing the evolution of post-trade infrastructure.

The severity of the impact of other environmental factors currently remains unclear. Public trust in financial services remains low in comparison to other industry sectors, which may again manifest in an unfavourable political environment for services offered by the Clearstream entities. These factors need to be monitored closely on an ongoing basis so that responses can be put in place in a rapid manner as further developments materialise. Many of these factors are outside the entity's control. Should one of the risks or uncertainties arise or one of the assumptions made turn out to be incorrect, the actual development of Clearstream Banking S.A. could deviate in either a positive or a negative way from the forward-looking statements and information in this report.

6. Brexit

The following preparations have been made in relation to the Brexit impact on Clearstream Banking S.A. and other Clearstream companies. The transitional provisions outlined under the United Kingdom's CSDR Transitional Regime (TR) for CSD Services came into operation at 23:00 on 31 December 2020 and this enabled non-UK CSDs to continue to provide CSD services in the UK ahead of a decision with respect to their steady-state recognition under the UK CSDR. Clearstream Banking S.A. had already notified the Bank of England that it intended to use the transitional provisions and had accordingly been included in the interim list of third country (non-UK) CSDs that will provide CSD services in the UK under the transitional regime. All non-UK CSDs had to apply for steady-state recognition no later than six months after the end of the transition period (30 June 2021). Both Clearstream Banking S.A. and Clearstream Banking AG applied for this recognition ahead of 30 June 2021 and their applications are under review by the Bank of England as at 31 December 2023.

Similarly, in relation to UK settlement finality protection, the UK's Temporary Designation Regime (TDR) came into operation at 23:00 on 31 December 2020 as part of the Financial Markets and Insolvency (Amendment and Transitional Provision) (EU Brexit) Regulations 2019. Clearstream Banking S.A. had also already notified the Bank of England of its intention to use these transitional provisions accordingly. The conditions of the TDR require that any system must apply for steady state designation no later than six months after the end of the transition period (30 June 2021). Both Clearstream Banking S.A. and Clearstream Banking AG who applied for this recognition ahead of 30 June 2021 have been officially notified by the Bank of England, on 14 December 2023, of their applications.

Furthermore, Clearstream Banking S.A. ("CBL") submitted a compliant application to the Financial Conduct Authority (FCA) in relation to the temporary recognition regime for non-UK EEA banking branches before the original 25 March 2019 deadline as follows:

- This allowed to continue providing services from the London Branch to its UK and international clients until the landing slot process for permanent authorisation had been published. To this end, Clearstream London Limited ("CLL"), a new fully owned subsidiary of CBL was incorporated on 27 December 2018 and duly authorized as an Article 3 MiFID exempt firm by the FCA on 31 January 2020, albeit with dormant permissions at that time until its later activation.

- Following agreement with the FCA, CLL was activated on 1 July 2023; and prior to the end of the landing slots processes (which were planned to be completed by 31 December 2023). CLL filed in October 2022 a Variation of Permission (VOP) to request the FCA to review CLL's activation plan which was subsequently approved by the FCA. CBL subsequently injected significant new capital into CLL so that CLL was able to activate with adequate regulatory capital under the rules of the FCA.

- As agreed with the FCA, the majority of the CBL London Branch's business activities, staff and assets were transferred to CLL on 1 July 2023 and otherwise only the London office leases, related fixed assets and staff were transferred to another group company. The UK regulators subsequently approved the cancellation of the London Branch's regulatory authorisations and it is planned to complete the Branch's closure in 2024.

7. Risk Report

Effective and efficient risk management safeguards Clearstream Banking S.A.'s continued existence and enables it to achieve its corporate goals in the long term. To this end, Clearstream Banking S.A. has established a risk strategy and a risk management framework, which defines roles, processes and responsibilities and is binding for all staff.

7.1 Risk Strategy

Clearstream Banking S.A.'s risk strategy (as covered by the Clearstream Holding AG risk strategy) is based on its business strategy and sets limits specifying the maximum risk permitted for operational risks, financial risks, pension risks and business risks. This is done by laying down respective requirements for risk management, risk control and risk limitation. Clearstream Banking S.A. ensures that appropriate measures are taken to avoid, reduce, transfer, or intentionally accept, risk.

The risk strategy enables risks to be identified and controlled in a timely and adequate manner. Information is captured and assessed based on the structured and consistent procedures in place. The results of the assessments are collected in the reporting system, which is used to systematically analyse and control the risks. Risk reports are prepared on a regular and ad-hoc basis and cover existing as well as potential risks identified.

Clearstream Banking S.A. follows a number of different principles in its risk management:

- Each member of the Executive Board bears the ultimate responsibility for risk management of Clearstream Banking S.A.
- All responsible management levels must always be informed about the relevant risks of Clearstream Banking S.A. in an open, timely and complete manner.
- The awareness of risk and the associated risk culture is ensured by clear organisational structure, defined responsibilities and roles, viable processes and continuous knowledge transfer to employees.
- Effective and efficient risk management supports Clearstream Banking S.A. in achieving its corporate goals and safeguards Clearstream Banking S.A.'s continued existence. The risk management framework is designed to provide complete, timely and consistent risk-related information in order to ensure the identification, notification, assessment, treatment, monitoring and reporting of risks.

7.2 Risk Management Framework

Clearstream Banking S.A.'s risk management framework ensures that all management committees within Clearstream Banking S.A. are able to control the risk profile of the entire Bank, as well as specific material risks, in a timely manner. The aim is to identify developments that could threaten Clearstream Banking S.A.'s interests and to take appropriate countermeasures promptly.

7.2.1 Governance

Through the governance structure of its risk management framework, Clearstream Banking S.A. ensures a strong awareness of risk throughout Clearstream Banking S.A. and the effectiveness and efficiency of the risk management framework.

The Executive Board of Clearstream Banking S.A. is responsible for Clearstream Banking S.A. risk management. The Executive Board monitors the effectiveness of the risk management framework. In addition, Clearstream Banking S.A. Risk Committee (RC) reviews and acknowledges the risk strategy and the quarterly Risk Reports.

Clearstream Banking S.A. appointed a Chief Risk Officer (CRO) who is responsible for the risk management and reports to all concerned committees of Clearstream Banking S.A. The quarterly Risk Reports issued by the CRO contain assessments of existing and new risks that are identified from ongoing interaction between Business and Risk Management. The Executive Board of Clearstream Banking S.A. is informed and approves the contents of these reports.

The business areas ultimately identify risks and report them in the required timeframe to risk management. In addition, the business areas also perform risk control, inform their respective management about developments in risk indicators and continuously improve the quality of the risk management processes.

Risk management ensures that the comprehensive risk management framework is applied and that it complies with the same minimum standards in all companies belonging to Clearstream Banking S.A.

In addition, within Clearstream Banking S.A., other areas such as Group Credit and Treasury perform relevant risk management tasks. Furthermore, Financial Accounting & Controlling reports to the supervisory authorities in compliance with regulatory guidelines. It is also responsible for the budget controlling. Independent audits by the Internal Auditing function ensure that the risk control and risk management are adequately organised and that they perform their duties effectively.

7.2.2 Risk Management Process

The risk management framework is used to implement the risk strategy for which the Executive Board is responsible. For example, all potential losses must be identified in adequate time, captured centrally, assessed (e.g., quantified in financial terms as far as possible), reported to the Executive Board together with recommendations, and controlled. Therefore, Clearstream Banking S.A. risk management process comprises five different stages.

Step 1: Risk identification

In this initial step, threats and causes of losses or malfunctions are identified. Risks can arise from either internal activities or external factors. All matters that could have a material impact on Clearstream Banking S.A. business or that might change the risk profile of Clearstream Banking S.A. must be recognised as early as possible. It is the responsibility of all business areas and their employees to identify these potential risks.

Step 2: Risk notification

All business areas must inform the Risk Management function regularly and, in urgent cases, on an ad-hoc basis of any potential risks they have identified and quantified. This procedure guarantees that all potential risks and threats are captured centrally.

Step 3: Risk assessment

The Risk Management function assesses the potential risk in a quantitative and qualitative manner based on the information available. The Value at Risk (VaR) method is used for the quantitative assessment of a potential risk (see the section on “Risk management methods” of this management report). Clearstream Banking S.A. uses a risk matrix for the qualitative assessment of specific risks, in particular regulatory requirements. This matrix allows risks to be observed over a period exceeding the usual observation period of twelve months. This helps to ensure that the risk profile of Clearstream Banking S.A. is observed in a comprehensive manner over several years.

Step 4: Risk treatment

All business areas and their employees are responsible for the risk control and for taking measures to limit potential losses. There are four possible risk responses: risk mitigation, risk avoidance, external risk transfer, or deliberate risk acceptance. Each business area within Clearstream Banking S.A. decides and implements the most appropriate alternative in each case.

Step 5: Risk reporting

The Executive Board and committees are informed of any material risks, their assessment and possible immediate countermeasures. If appropriate, the Executive Board receives further recommendations so that they can trigger suitable measures.

In addition, an “Internal Capital Adequacy Assessment Process” (ICAAP) report is provided to the Executive Board of Clearstream Banking S.A. once a year, thus fulfilling the provisions of the second pillar of the Basel II regulatory framework. In this report, the current risk situation is reported, and the capital resources of Clearstream Banking S.A. are assessed. In accordance with the third pillar of Basel II, Clearstream Banking S.A. also meets a broad obligation to publish its business activities in its capacity as a financial institution. In particular, Clearstream Banking S.A. regularly reports to the supervisory authorities on the methods of its risk management and the assessment of capital resources.

Furthermore, in-line with the best market practice and the ECB guide on the Internal Liquidity Adequacy Assessment (ILAAP), Clearstream Banking S.A. report on an annual basis an ILAAP Report. This assessment is to ensure that Clearstream Banking S.A. manages its liquidity position properly within a holistic management framework and is able to meet all payments obligations at any time.

In relation to "Pillar III" information and disclosures to be published by credit institutions in accordance with Part Eight of the EU Regulation N°575/2013 of the European Parliament and of the Council of 26 June 2013 (hereafter "CRR") and N°876/2019 (hereafter "CRR II") Clearstream Banking S.A. is included in a comparable consolidated publication ("Pillar III Disclosure Report of Clearstream Group") at the level of Clearstream Holding AG, a financial holding company, that includes its subordinated companies. In accordance with Article 131(3) of Directive 2013/36/EU (CRD IV), Clearstream Banking S.A. was classified as Other Systemically Important Institution (O-SII) and therefore also publishes its own Pillar III report since 2019. These reports are available on the Clearstream Group website (http://www.clearstream.com).

7.2.3 Risk *Management Methods*

Clearstream Banking S.A. uses various quantitative and qualitative risk management methods to monitor and control the risk profile. The combination of different methods is intended to provide a comprehensive picture of the current risk situation as accurate as possible. This allows Clearstream Banking S.A. to take appropriate measures to safeguard Clearstream Banking S.A.'s continued existence. The following section illustrates the central risk management instruments used by Clearstream Banking S.A.

Value at risk
Clearstream Banking S.A. uses a best practice-approach – Value at Risk (VaR) – for measuring and reporting all risks. VaR is a comprehensive way of presenting and controlling the general risk profile. It quantifies risks and lays down, for a specified confidence level, the maximum cumulative loss Clearstream Banking S.A. could face if certain loss events materialised over a specific period. Likewise, potential concentration risks can also be identified by way of VaR analyses.

Required economic capital
Clearstream Banking S.A.'s required Economic Capital (EC) can be determined using the VaR. EC measures the amount of capital that is required in order to be able to cover extreme events over a period of twelve months. EC is calculated at a confidence level of 99.90 percent. This means that losses within the next twelve months will not exceed the calculated EC with a probability of 99.90 percent.

Stress tests
Clearstream Banking S.A. also carries out stress test calculations for operational, business, pension as well as financial risks. These stress tests simulate the occurrence of extreme losses or an accumulation of major losses in one year. Since Clearstream Banking S.A., with the exception of the OFAC settlement, has not incurred any major losses to date, potential risk scenarios are defined for this purpose. These risk scenarios describe possible loss events and their probability as well as the potential amount of a loss, which is estimated. The values determined in the stress tests are compared with the limits defined as part of the risk-bearing capacities. Both historical as well as hypothetical scenarios are considered and calculated.

Reverse stress tests
Reverse stress tests are also performed. This instrument is used to determine loss scenarios that would have to occur exceeding the risk-bearing capacities.

7.2.4 R*egulatory requirements*

Having received regulatory approval from the Luxembourg supervisory authority CSSF (Commission de Surveillance du Secteur Financier), Clearstream Banking S.A. has applied the Advanced Measurement Approach (AMA) since 1 January 2008 to calculate its capital requirements for operational risk under Luxembourg solvency regulations based on the Basel II regulatory framework. For credit and market risks, Clearstream Banking S.A. uses the standardised approach.

7.3 Risk-Bearing Capacity Concept

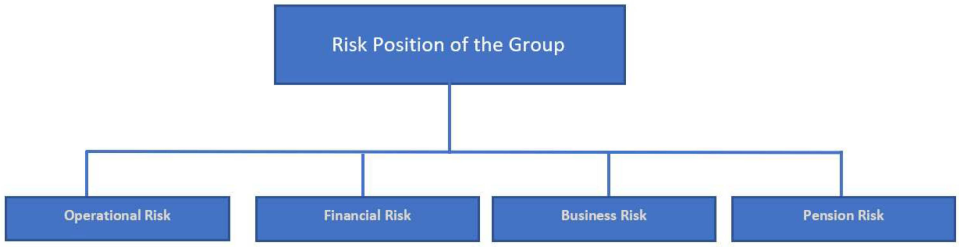
Clearstream Banking S.A. calculates the Required Economic Capital ("REC") to determine the utilisation of the available risk-bearing capacity. The most conservative approach is pursued for the REC with the objective to show the dependencies. A value of 1 is assumed for both the correlation of inter-risk and inter-company effects. Clearstream Banking S.A. uses its regulatory own funds (eligible regulatory capital) [minus adjustments for unrealized losses driven mainly by ongoing litigations, for non-consolidated entities as well as for potential further reasons] as the available risk-bearing capacity for its REC. REC is compared with the available risk-bearing capacity enabling to gauge the appropriate level of Clearstream Banking S.A.'s available risk-bearing capacity. Clearstream Banking S.A. also calculates REC at the level of individual risks. These are compared against limits representing a percentage of the available risk-bearing capacity defined for each individual risk.

Clearstream Risk Management reports to the Risk Committee (RC) and to the Executive Board, on a quarterly basis, regarding the results of the utilisation of the available risk-bearing capacity. This procedure ensures that the risk limits laid down by the Executive Board in its risk strategy are monitored and complied with on a sustainable basis.

7.4 Risk Description and Assessment

7.4.1 Risk Structure

Clearstream Banking S.A. distinguishes between Operational, Financial, Business, and Pension Risk. These individual risks constitute substantial risks for Clearstream Banking S.A.



Operational Risk

Operational risk is the risk of losses resulting from inadequate or failed internal processes, people and systems or from external events. Clearstream has adopted a definition that is in line with Basel definitions of operational risk which is the risk that deficiencies in information systems or internal processes, human errors, management failures, or disruptions from external events will result in the reduction, deterioration, or breakdown of services provided by Clearstream. Operational Risk contains sixteen Risk Clusters: Compliance Risk, Contagion Risk, Corporate Tax Risk, Custody Risk, Information Security Risk, Information Technology Risk, Legal Risk, Model Risk, Operational Project

Risk, People Risk, Physical Security Risk, Processing and Execution Risk, Product Tax Risk, Risk Management Risk, Secondary Reputational Risk, and Third-Party Risk.

In operational risk a distinction is made between the sixteen risk clusters that constitutes of a substantial operational risk for Clearstream Banking S.A.:

- Compliance Risk is the risk of losses arising from non-compliance with e.g. existing or new laws, rules, regulations, agreements or prescribed practices (incl. conduct risk) and risks related to sanctions, fraud or financial crimes (ML/ terrorist financing).
- Contagion Risk is the risk of losses due to an operational risk event impacting one entity/ segment spreading to further entities/ segments. Contagion Risk includes the consequences for other legal entities or segments from previous operational risk events.
- Corporate Tax Risk is the risk of losses, fines and damage to the brand and reputation due to a failure to act in accordance with tax laws and regulations, internal tax policies or prescribed best practices incl. tax evasion (facilitation) as well as risks resulting from inadequate or failed internal processes, people and systems or from external events with reference to corporate taxes.
- Custody Risk is the risk of losses due to loss or destruction of assets held in custody for customers, incl. sub-custodians and damage anywhere along the custody chain. Custody Risk covers all assets held in custody by the Group/ entity or sub-custodians. Clearstream is exposed to custody risk by e.g., possible insolvency, negligence, poor administration or inadequate recordkeeping or other human errors.
- Information Security Risk is the risk of losses resulting from the processing of information having a direct impact on compliance with the protection goals of information security (confidentiality, integrity, availability, and authenticity of information).
- Information Technology Risk is the risk of losses resulting from the procurement, use and development of information technology (IT) that has no direct impact on compliance with the protection goals of information security.
- Legal Risk is the risk of losses arising from legal issues. Legal risk covers the risks from current or future litigation, legal claims, and failures to take appropriate steps to defend, prosecute and/or resolve actual or threatened legal claims. Clearstream Banking S.A. is also exposed to legal risks, in particular legal disputes that are ongoing. In the reporting year, there were three events leading to material losses.
- Model Risk losses result from decisions based on inaccurate outputs of models compared to the design objective and intended use or the risk arising from incorrect or inappropriate use of models.
- Operational Project Risk is the risk of losses due to operational risk root causes within the conduction and delivery of projects, e.g., new products, processes or systems. Operational Project Risk can only materialize due to operational risk root causes and can result in negative effects on defined project goals in terms of time, effort or quality.
- People related risks include unavailability, human error, and employment practices.
- Physical Security Risk is the risk of losses emerging from natural and human-made hazards incl. crime, civil unrest, terrorism, armed conflict and natural hazards.
- Processing and Execution Risk includes the quality and appropriateness of the design of process flows incl. interfaces and controls. This also relates to a lack of process documentation, including a description of interfaces and controls to ensure overall process transparency and incorrect execution of a defined process flow.
- Product Tax risk is the risk of losses, fines and damage to the Clearstream Banking S.A. brand and reputation due to a failure to act in accordance with tax laws and regulations, internal tax policies or prescribed best practices including tax evasion (facilitation) as well as risks resulting from inadequate or failed internal processes, people and systems, or from external events with reference to product taxes.

- Risk Management Risk is the risk of losses resulting from ineffective or partly effective risk management methods and frameworks to accurately identify, assess, monitor, report and manage the risk exposure, maintaining resilience.
- Secondary Reputational Risk effects relate to claims, interest, withdrawal of assets under custody, loss of customer cash balances or foregone revenues as customers may exit business with the Group/ entity due to operational risk events. These events include but are not limited to IT unavailability, confidentiality and competition law breaches or personal misconduct of employees.
- Third party risk is the risk of losses caused by or due to activity with third parties. It includes In-/Outsourcing and External Procurement Risk losses from service disruption or failure of non-IT related insourcing, (sub-)outsourcing operations and activities as well as external procurements. It also covers third party compliance risk includes the impact of the third party on the compliance with legislation, regulation, or the agreements in place between the parties.

No material losses occurred due to any of the above-mentioned risk clusters in the reporting year.

Clearstream Banking S.A. devotes considerable attention to mitigating the different types of operational risk mentioned above with the aim of reducing the frequency and amount of potential financial losses arising from corresponding risk events. To this end, various quality and control measures are taken to protect Clearstream Banking S.A. business from all cases of fraud and operational business losses. In addition to compliance with international best practice quality standards, these measures include a careful analysis of operational risk events that have occurred so that steps can be defined to reduce the probability of their recurrence. Apart from this, Clearstream Banking S.A. has defined business continuity measures to be taken when an incident or disaster occurs. Furthermore, Clearstream Banking S.A. has entered into insurance contracts to reduce the financial consequences of loss events.

As part of operational risk, project risks can arise as a result of project undertakings (launches of new products, services, processes or systems), which may have a significant impact on the operational risk category. Project risks are assessed by Clearstream Risk Management and are addressed in the early stages of major projects. Risks connected with the delivery of projects, such as budget risk, quality/scope risk and deadline risk, are monitored and reported by the units performing these projects. Based on relevant monitoring and control, project risks are continuously analysed and assessed.

Any residual operational risk that Clearstream Banking S.A. does not wish to retain and that can be insured at a reasonable price is transferred by taking out insurance policies. All insurance policies are coordinated centrally, thereby ensuring that uniform insurance coverage is available at any time for the entire Deutsche Börse Group at an appropriate cost-benefit ratio. Insurance policies that are relevant to risk are individually reviewed and approved by respective Executive Management.

Financial risks

Clearstream Banking S.A. is exposed to financial risks mainly in the form of credit risk and liquidity risk. On a smaller scale, there is also market price risk from cash investments and pension funds. Exposure to the risk is mitigated through the existence of effective control measures.

Credit risk

This risk consists of the risk that a counterparty may default and be unable to meet its obligations against Clearstream Banking S.A. in full or at all. Main drivers of Clearstream Banking S.A.'s credit risk are Treasury placements, customer borrowings and securities financing (ASL). When investing own funds and customer cash, Clearstream Banking S.A. respects prudent principles as laid down in its Investment Policy. Placements are in general secured with high-quality collateral or at central banks, the main part being overnight. Clearstream Banking S.A. may grant loans to its customers to increase the efficiency of securities transaction settlements. However, these lending operations cannot be compared with those of other credit institutions. Firstly, as required by CSDR, in general the loans are granted only on a secured basis, with the exception of those granted to certain central banks and multilateral institutions as per Article 23(2) of Commission Delegated Regulation (EU) 2017/390 of 11 November 2016 (supplementing Regulation (EU) No 909/2014). Secondly, loans are extended solely on an intraday.

Furthermore, credit is granted to creditworthy customers with very good credit ratings. Credit lines granted are uncommitted and can be revoked at any time.

To increase the efficiency of settlement, Clearstream Banking S.A. may lend securities to its customers in its fails lending programme (ASL).

Throughout the reporting year, no losses were observed.

Market risk

Market Risk is the risk of losses arising from holding assets and liabilities on-balance sheet or off-balance sheet with different maturity dates, creating exposure to changes in the level of interest rates, foreign exchange rates or market prices. Market Risk consists mainly of, Equity Price Risk, Foreign Exchange Rate Risk and Interest Rate Risk. Clearstream Banking S.A. invests parts of its capital in securities with the highest credit quality. Some of these securities have floating interest rates, with a low sensitivity to interest rate fluctuations, but also fixed coupon bonds have been bought leading to increased interest rate risk. Clearstream Banking S.A. avoids open currency positions whenever possible to mitigate Foreign Exchange Rate Risk. Furthermore, market risk could result from Clearstream Banking S.A.'s participation in Deutsche Börse Group's ring-fenced pension plan assets (Contractual Trust Arrangement: CTA), and from the Clearstream Banking S.A. pension fund in Luxembourg, the latter also being exposed to equity price risk from investing in ETFs on large European index. The Group reduced the risk of extreme losses by deciding to invest a predominant proportion of the CTA on the basis of a value preservation mechanism. Throughout the reporting year, no losses were observed.

Liquidity risk

At Clearstream Banking S.A., liquidity risk arises if Clearstream Banking S.A. is unable to meet its daily payment obligations or if it can only do so at a significantly higher refinancing cost. Daily and intraday liquidity is monitored closely by Treasury departments and managed with the help of a limit system. Sufficient committed and uncommitted liquidity sources are available to provide liquidity under normal and stressed conditions. In addition, Clearstream Banking S.A. performs eight daily liquidity stress tests and two monthly liquidity stress tests, in line with all relevant regulations. The aim of these liquidity stress tests is to check the sufficiency of Clearstream Banking S.A.'s liquidity resources under different stress assumptions considering a wide range of extreme but plausible scenarios. The stress tests cover short-term and prolonged stress, as well as institution-specific and market-wide shocks. Moreover, Clearstream performs three quarterly classical liquidity stress tests and reverse stress tests on Clearstream Holding AG level, covering Clearstream Banking S.A. and Clearstream Banking AG groupwide (base scenario, market disruption scenario, and a combined market disruption and idiosyncratic scenario). Reverse liquidity stress tests are based on the market disruption and idiosyncratic scenario. Their aim is to determine the required drop in customer cash balances to cause a liquidity shortfall of Clearstream Banking S.A. In 2023, Clearstream Banking S.A. always had sufficient liquidity to cover its liquidity needs under normal conditions. For each potential liquidity gap identified in the course of the stress test activities, a thorough root cause assessment has been conducted and appropriate mitigating measures have been taken.

Business risks

Business Risk is the unexpected residual loss, which arises when the Earnings at Risk (EaR) exceeds the anticipated earnings before tax (EBT), which may be due to the competitive environment (e.g., customer behaviour, investment failure, industry trend) or erroneous strategic management decisions. For example, it comprises threats from competition, a negative economic environment and other aspects, which lead to lower than projected revenues or higher than projected costs. Revenue risk arises if the competitive environment may deteriorate as a result of the demand situation on the market, or a change in this situation; for example, due to an inability to sell the services, changes in customer requirements, missed trends, a change in business areas, overpricing, or a lack of production efficiency. Major cost drivers for cost risk are, e.g., labour, hard- and software or external providers, may deteriorate in the future. Moreover, Clearstream Banking S.A. has direct and indirect dependencies on the EBITDA like interest rates, the Gross Domestic Product, interest or foreign exchange rates which could result in risk from macroeconomics. Besides the requirement to fulfil all current regulatory requirements, the risk of changing laws may additionally negatively impact Clearstream Banking S.A. Summarized, Business Risk is the unexpected residual loss, which arises when the Earnings at Risk of Clearstream Banking S.A. exceeds the anticipated earnings before tax, which can be due to the various reasons explained above. The unexpected loss due to deviations (positive or negative) from earnings before tax are calculated via the Earnings at Risk. Business Risk is reported if the calculated Value at Risk is higher than the budgeted earnings before tax for the next four quarters. The updated model is based on best financial industry practice. Business risk is considered material for CBL. Throughout the reporting year, no material losses were observed.

Pension risk

Pension Risk is defined as the risk of losses due to increased costs from post-employment benefit plans based on non-market risk factors. Pension Risk covers all effects affecting the pension debt obligations and comes from assumptions made regarding certain factors and their divergence from the expected values. The expected pension payments and therefore the overall Pension Risk is influenced by several factors: longevity in terms of unexpected changes compared to the anticipated life expectancy, inflation in terms of unexpected changes compared to the anticipated inflation rate, salary growth in terms of unexpected changes compared to the anticipated salary growth and discount rate in terms of unexpected changes compared to the anticipated discount rate. Pension Risk is quantitatively shown to be immaterial for CBL. However, Pension Risk is chosen to be managed as a material risk for CBL. This decision is mainly driven by the extra attention required due to ongoing stress inflation rates. Therefore, Pension Risk is considered as an immaterial risk in the risk profile, but processes are applied treating it as a material risk type. Throughout the reporting year, no losses were observed.

7.4.2 Business Continuity Management

Clearstream Banking S.A. endeavours to deliver its products and services as reliably as possible. For this reason, it attaches the greatest importance to maintaining its business operations and protecting them against incidents and disasters. Since the unavailability of its core processes and resources poses a substantial risk to Clearstream Banking S.A. and is a potential systemic risk for the financial markets in general, Clearstream Banking S.A. has established a comprehensive business continuity management (BCM) framework.

The BCM framework encompasses all the precautionary processes and effective responses that ensure that business continues at an acceptable level if a disruption occurs, thus substantially reducing availability risk. It covers arrangements for all key resources including the redundant design of all critical IT systems and the technical infrastructure, as well as workspace and staff unavailability plans in each of the main operational centres for critical functions. A summary of these arrangements is depicted in the table "Business continuity measures" below.

Business continuity measures

Incident and crisis management process			
Systems	**Workspace**	**Staff**	**Suppliers**
- All systems as well as related networks are designed for continuous high-availability operations without loss of electronic data. - The data centres are duplicated locally to protect against a failure of one data centre in one location.	- Dedicated backup workplaces are available for mission critical functions. - The backup locations are fully equipped and always ready for immediate use. - Secure remote working capability via VPN secured Company Owned devices.	- In case of significant staff unavailability, dispersed operations and business transfer capabilities ensure business continuity for vital functions at other locations. - Additional pandemic mitigation measures are in place to maintain operations in case of a pandemic outbreak e.g. secure remote working capability via VPN secured Company Owned devices.	- Multiple providers are used if possible, such as network providers. - Where applicable, Service Level Agreements describe business continuity procedures with critical service providers. - Business continuity arrangements of service providers, such as depositories, are regularly reviewed through a due diligence process.

An incident and crisis management process has been implemented to ensure a prompt response and a coordinated approach to any major disruptions. The process is designed to minimise the impact on business processes and the market and to facilitate a swift return to business as usual.

Incident managers have been appointed as central points of contact in all business areas. The incident managers inform and/or alert the Executive Board depending on the severity of the incident. In cases of crisis, the Executive member responsible for the area concerned acts as the crisis manager. The business continuity measures are tested regularly by realistically simulating incidents. These tests are carried out in announced as well as unannounced methods. Business Continuity Management issues test reports including the test results, problems encountered and recommendations. The test results are assessed according to the following criteria:

- Functional effectiveness: the measures must work from a functional or technical point of view.
- Executability: employees must be familiar with the incident and recovery procedures and be able to execute them.
- Recovery time: the emergency measures must ensure that operations are restored within the scheduled time.

It is essential for the Bank to provide its products and services as reliably as possible. The Bank has to maintain its business operations and safeguard against emergencies, disruptions, and crises. If its core processes and resources are not available, this represents not only a substantial risk for the Bank but also a potential systemic risk for the financial markets in general. As a result, Clearstream Banking S.A. has set up a system of contingency and crisis plans. This covers all processes designed to ensure continuity of operations in the event of a crisis and significantly reduces unavailability risk. Measures include precautions relating to all important resources (systems, workstations, employees, suppliers), including the redundant design of essential IT systems and the technical infrastructure, as well as emergency measures designed to mitigate the unavailability of employees or workspaces in core functions at all important locations. This includes unavailability due to pandemic-based events, such as the COVID-19 outbreak. For situations as these and for incidents impacting a wider area of the organization, all measures are centrally coordinated to ensure continuity of critical operations as well as employees' health and safety. Back-up locations have been successfully tested and remote working is available as main mitigating measure in accordance with directions and recommendations by authorities.

After returning to full hybrid working mode as of July 2022, the BCM testing program 2023 was designed with a focus on creating the maximum awareness and training to staff members on related updated actions documented in Business Continuity Plans (BCP) and expected responsive actions in case of an activation.

BCM Tests were successfully performed following a risk-based approach. All BCM solutions as documented in BCPs were in scope of BCM exercises to ensure full coverage.

In reaction to a possible arising energy crisis, an assessment was conducted, and measures verified. Backup Power Supply Units are in place to ensure and maintain services at Clearstream Data Centres locations. Measures are designed to mitigate impacts of both short and longer power outages. Backup Power Supply units are tested on a monthly basis and have a minimum supply capacity of 48 hrs (actual estimated capacity = 80 hrs). High priority refuelling contracts are in place to ensure maintaining supplies. Operating locations are also serviced by UPS systems. Additionally, data centres are geographically separated and thereby serviced by different sub-electricity networks. At office locations numerous energy consumption reduction measures with no operational impact have been introduced to support the overall energy saving initiatives and reduce required capacities. BCM solutions such as remote working, dispersed operations and business transfer to other locations capabilities further mitigate any potential impacts and contribute to ensuring the continuity of services. No energy related impacts were registered in 2023.

The annual IT-DR Test was successfully conducted with customer participation and no material issues identified.

Both BCM/IT-DR related tests, outcomes and implemented solutions demonstrated the effectiveness of contingency measures and that activities can be successfully maintained.

The Bank monitors its network of custodians, agent banks, cash correspondents, depositories and other critical service providers daily. Although most are operating in various stages of contingency, the network is currently functioning normally.

7.5 Legal risks

7.5.1 Litigation Involving Clearstream Banking S.A. in connection with the Central Bank of Iran

Clearstream Banking S.A. is involved in different legal proceedings in Luxembourg and the U.S. in connection with the Iranian central bank, Bank Markazi. On the one hand of this, different plaintiffs groups – each of which have obtained U.S. judgements against Iran and/or Bank Markazi – are seeking turnover of assets that Clearstream Banking S.A. is holding as custodian in Luxembourg and that are attributed to Bank Markazi. Several of these plaintiffs groups also raise direct claims for damages against Clearstream Banking S.A. On the other hand, Bank Markazi is suing, among others, Clearstream Banking S.A. in Luxembourg in connection with assets that currently or in the past were held by Clearstream Banking S.A. as custodian.

On the basis of a binding and enforceable U.S. judgement in 2013, assets in an amount of approx. USD 1.9 billion were already turned over to a plaintiffs group in a U.S. proceeding ("Peterson I") to which Bank Markazi also was a party. Currently, the following proceedings that were initiated by the mentioned plaintiffs groups and that primarily target assets attributed to Bank Markazi are ongoing:

- "Peterson II" plaintiffs group: On 30 December 2013, plaintiffs filed a complaint in the U.S. against Clearstream Banking S.A. and other parties seeking turnover of certain assets that Clearstream Banking S.A. holds as a custodian in Luxembourg and that are attributed to Bank Markazi. The proceedings since then had advanced to the U.S. Supreme Court but were then remanded to the district court. On 22 March 2023, the district court awarded judgement to the plaintiffs for turnover of approximately USD 1.7 billion that are attributed to Bank Markazi and held in custody at Clearstream Banking S.A. in Luxembourg in a client account. Clearstream Banking S.A. appealed against the decision.
- "Havlish" plaintiffs group: On 14 October 2016, plaintiffs filed a complaint in the U.S. against Clearstream Banking S.A. and other parties. Besides the request for turnover of certain assets that Clearstream Banking S.A. holds as a custodian in Luxembourg, the complaint also asserted direct damage claims against Clearstream Banking S.A. and other defendants in the amount of up to approx. USD 6.6 billion (plus punitive damages and interest). On 12 October 2020, an amended complaint was filed in this case, which added further plaintiffs and which in turn asserted additional damages of approx. USD 3.3 billion (plus punitive damages and interest) against Clearstream Banking S.A. and the other defendants.
- "Levin" plaintiffs group: On 26 December 2018, plaintiffs filed a complaint in the U.S. against Clearstream Banking S.A. and other parties. Besides the request for turnover of certain assets that Clearstream Banking S.A. holds as a custodian in Luxembourg, the complaint also asserted direct damage claims against Clearstream Banking S.A. and other defendants in the amount of up to approx. USD 29 million (plus punitive damages and interest). The plaintiffs withdrew their complaint effective as of 24 April 2023.
- "Heiser" plaintiffs group: On 4 December 2019, plaintiffs from a previous case filed a new complaint in the U.S. against Clearstream Banking S.A. targeting turnover of certain assets that Clearstream Banking S.A. holds as a custodian in Luxembourg.
- "Ofisi" plaintiffs group: On 26 August 2020, plaintiffs filed a complaint in the U.S. against Clearstream Banking S.A. and other parties. Besides the request for turnover of certain assets that Clearstream Banking S.A. holds as a custodian in Luxembourg, the complaint also asserts

direct damage claims against Clearstream Banking S.A. and other defendants in the amount of up to approx. USD 8.7 billion (plus punitive damages and interest).

- On 24 November 2020, plaintiffs from the abovementioned Havlish case also sued Clearstream Banking S.A. and other parties in Luxembourg. The complaint, among others, asserts direct damage claims against Clearstream Banking S.A. and other defendants in the amount of up to approx. USD 5.5 billion (plus interest).
- "Acosta/Beer/Greenbaum/Kirschenbaum" plaintiffs group: On 28 February 2022, plaintiffs filed new complaints in the U.S. against Clearstream Banking S.A. targeting turnover of certain assets that Clearstream Banking S.A. holds as a custodian in Luxembourg.

In connection with assets concerning Bank Markazi, Bank Markazi on 17 January 2018 filed a complaint in Luxembourg court naming Clearstream Banking S.A. and Banca UBAE S.p.A. as defendants. The complaint primarily seeks the restitution of assets totalling approximately USD 4.9 billion (plus interest), which the complaint alleges are held on accounts of Banca UBAE S.p.A. and Bank Markazi with Clearstream Banking S.A. Alternatively, Bank Markazi seeks damages in the same amount.

In another proceeding, on 30 April 2021, a Luxembourg first instance court at the request of Bank Markazi issued a declaratory judgement against Clearstream Banking S.A. in connection with, amongst others, the abovementioned Peterson II proceedings pending in the U.S. The first instance decision of 30 April 2021 subjects the transfer of assets attributed to Bank Markazi based on a U.S. decision to the requirement of prior judicial recognition in Luxembourg, violation of which is punishable by a fine of €10 million per violation. Clearstream Banking S.A. has filed an appeal against the decision.

On 15 June 2018, Banca UBAE S.p.A. filed a complaint against Clearstream Banking S.A. in Luxembourg court. This complaint is a recourse action related to the abovementioned complaint filed by Bank Markazi against Clearstream Banking S.A. and Banca UBAE S.p.A. and asks that Banca UBAE S.p.A. be indemnified and held harmless by Clearstream Banking S.A. in the event that Banca UBAE S.p.A. loses the legal dispute brought by Bank Markazi and is ordered by the court to pay damages to Bank Markazi.

Independent of whether Clearstream Banking S.A. should be required to turn over assets attributed to Bank Markazi in the U.S., the Executive Board of Clearstream Banking S.A. does not think that claims for damages raised against Clearstream Banking S.A. in Luxembourg or in the U.S. will be successful. Based on this, as of 31 December 2023 and unchanged from the previous year, no provisions were made in connection with the aforementioned matters.

7.5.2 Further litigations and Proceedings

Starting on 16 July 2010, the insolvency administrators of Fairfield Sentry Ltd. And Fairfield Sigma Ltd., two funds domiciled on the British Virgin Islands, filed complaints in the U.S. Bankruptcy Court for the Southern District of New York, asserting claims against more than 300 financial institutions for restitution of amounts paid to investors in the funds for redemption of units prior to December 2008. On 14 January 2011, the funds insolvency administrators filed litigation against Clearstream Banking S.A. for the restitution of US$13.5 million in payments made for redemption of fund units, which the funds made to investors via the settlement system of Clearstream Banking S.A. The proceedings, which were suspended for several years, are ongoing.

In the context of sanctions imposed on Russia, Clearstream Banking S.A. has frozen assets of customers in Luxembourg in accordance with applicable law. A number of lawsuits have been brought against

Clearstream Banking S.A. in Russian courts targeting turnover or restitution of frozen assets. The total value claimed from Clearstream Banking S.A. in these proceedings amounts to approximately €74 million. It cannot be ruled out that further lawsuits concerning frozen assets may be filed, which could also include recourses against assets held by Clearstream Banking S.A. in Russia or elsewhere.

On 2 April 2014, Clearstream Banking S.A. was informed that the United States Attorney for the Southern District of New York has opened a grand jury investigation against Clearstream Banking S.A. due to Clearstream Banking S.A.'s conduct with respect to Iran and other countries subject to U.S. sanction laws. Clearstream Banking S.A. is cooperating with the U.S. attorney.

In September 2017, Clearstream Banking AG and Clearstream Banking S.A. were made aware that the Public Prosecutor's Office in Cologne had initiated proceedings for tax evasion against an employee of Clearstream Banking AG for his alleged involvement in the settlement of transactions of market participants over the dividend date (cum/ex transactions). On 22 January 2018, the Public Prosecutor's Office in Cologne addressed to Clearstream Banking AG a notification of hearing Clearstream Banking AG and Clearstream Banking S.A. as potential secondary participants. Starting on 27 August 2019, together with other supporting authorities, the Public Prosecutor's Office in Cologne conducted searches of the offices of Clearstream Banking AG, Clearstream Banking S.A., as well as other Deutsche Börse Group companies and sites. In the course of these measures, Deutsche Börse Group entities were made aware that the Public Prosecutor's Office in Cologne has extended the group of suspects to include current and former employees as well as executive board members of Deutsche Börse Group companies. In 2020 and again in 2022, Deutsche Börse Group became aware of further extensions of the group of suspects. Due to the still early stage of the proceedings, it is still not possible to predict timing, scope or consequences of a potential decision. The companies concerned are cooperating with the competent authorities. They do not expect that they could be successfully held liable.

7.6 Summary

In the year under review, the risks to which Clearstream Banking S.A. was exposed to were well managed.

As at 31 December 2023, Clearstream Banking S.A. required economic capital amounting to EUR 338 million and was covered by a risk-bearing capacity amounting to EUR 925 million. The Executive Board of Clearstream Banking S.A. is sufficiently confident regarding the effectiveness of its risk management system.

7.7 Outlook

Clearstream Banking S.A. evaluates its risk environment and profile on an ongoing basis. Considering the stress test results, the pertaining required economic capital, and the risk management system, the Executive Board of Clearstream Banking S.A. concludes that the risk-bearing capacity is sufficient. Moreover, no risks with more than quite remote probabilities are identified, which could jeopardise Clearstream Banking S.A.'s viability as a going concern.

The current macroeconomic and geopolitical risks are being monitored by Clearstream Risk Management. The Bank now expects a slow, "K-shaped" recovery that will be uneven across the locations in which it operates.

Impact of the Russia-Ukraine war

The Russia-Ukraine War is monitored daily, and periodic at least weekly meetings are being performed with all key impacted internal stakeholders to assess the situation. The key exposures towards Ukraine are around the Capital Exposure as well as Operating Risks where multiple mitigants have been put in place to further reduce those risks to an acceptable level. With regards to the exposure towards Russia, while the key exposures are around Legal and Operation Risks and mitigants have been put in place to reduce to an acceptable residual risk level, the situation can always change short-term particularly around retaliation measures from Russia Government, hence need to be monitored and assessed very closely. CBL established the Ukraine Crisis Response Team whose members are key stakeholder across the impacted department and includes Compliance and Risk Management. This Team is meeting regular (at least twice a week) to discuss and assess the current situation and agree on actions to take to mitigate the risks for Clearstream and their clients.

Clearstream Banking S.A., Luxembourg (CBL) has receivables due from the Russian National Settlement National Settlement Depository (NSD) in the amount of EUR 105 million as at CBL no longer expects to be repaid by NSD and has therefore written down the value of its receivables in full. The fact that CBL does not control its assets at NSD and cannot process the instruction of its customers constitutes a force majeure event. Accordingly, CBL is, by virtue of its General Terms and Conditions and the relevant Luxembourg laws, relieved of its obligation to repay the Rouble Cash to its clients to the extent of the to its clients to the extent that it can no longer dispose of such funds due to force majeure. can no longer dispose of them. The reduction of these liabilities resulted in income of EUR 134 million, which fully compensated for the value adjustments. There were no other direct effects of the war on these financial statements.

8. Compliance function

The mission of the compliance function is to support the Bank to comply with applicable laws and regulations and to remain beyond reasonable criticism in the eyes of the authorities and the markets that it serves.

CBL is regulated as an authorized Central Securities Depositary and as a credit institution in Luxembourg. It is assessed as a Securities Settlement System by the Euro system.

Clearstream Compliance is responsible for the Prevention of Money Laundering, Combatting Terrorist Financing, Sanctions and Embargo Controls, Professional and Banking Secrecy, Prevention of Insider Dealing, Prevention of Market Manipulation, Prevention of Bribery, Corruption and Fraud, Management of Conflicts of Interest and Data Protection. It also designs and perform compliance trainings.

The compliance function of Clearstream Banking S.A. has an oversight responsibility over the following affiliates:

- Clearstream Banking S.A., Japan Branch;
- Clearstream Banking S.A., London Branch (activity was transferred to Clearstream London Limited in July 2023 and the application to deauthorise the branch was approved by the FCA and PRA in August 2023; the formal closure is in progress subject to final de-registration with UK Companies House and filing of final tax returns etc.);
- Clearstream London Limited;
- Clearstream Banking S.A., Singapore Branch;
- Clearstream Banking S.A. representative offices in Dubai, Hong Kong, New York and Zurich.

The Deutsche Börse Group has adopted a Compliance Charter and Policy, which serve as a framework for the consistent implementation compliance – related controls and procedures across the Group including CBL.

CBL adopted its own Compliance Charter which describes the mission of the compliance function to support the company to comply with applicable law and regulation and to remain beyond reasonable criticism in the eyes of the authorities and the markets that it serves.

The function of the compliance department (which covers Clearstream Banking S.A. in Luxembourg, and all its affiliates listed above) is to:

- Advise, guide and support business units in their business endeavours, while making sure they comply with all applicable compliance policies;
- To identify and keep available to all staff an inventory of relevant laws, regulations and standards pertinent to CBL. It must furthermore advise Executive Board and Audit Committee on such obligations and together in coordination with other business, administrative and control functions, inform them about any developments in these areas. It advises the Executive Board to ensure that CBL complies with any present or coming legislation applicable to it (e.g. applicable to credit institutions for the provision of banking-type ancillary services as per Regulation (EU) 909/2014 on improving securities settlement in the European Union and on central securities depositories);
- Identify risks to the fulfilment of the compliance mission, defining mitigating controls and ensuring that the controls are performed, and the control objectives fulfilled;
- To assess on a continuing basis the Bank's exposure to financial crime risk of all types including money laundering, terrorist financing, sanctions violations, bribery and corruption, market abuse and tax offences;
- To assess on a continuing basis the company's exposure to financial crime risk arising from customers and counterparties, from products and services and from the geographies to which the company and its customers are exposed directly and indirectly;
- To recommend appropriate actions to mitigate the Bank's exposure to financial crime risk, including the development of monitoring and control plans;
- To ensure that controls designed to remit financial crime risk function appropriately, remain fit for purpose and are maintained to reflect developments in the regulatory environment, the business environment and risk assessments;
- To assess potential impacts of planned new business activity on the Bank's exposure to financial crime risk and on its ability to comply with applicable law, regulation and standards. This includes new products and services, new business relationships, corporate transactions and significant changes to operating processes, which could lead to breach of applicable laws, regulations and standards, and evaluate the impact of potential breaches;
- To recommend appropriate mitigating actions to mitigate the Bank's potential exposure to financial crime risk arising from new business activities, including the development of monitoring and control plans;
- Monitor compliance with the Group Compliance Policies and implement corrective measures where appropriate;
- Monitor compliance with Compliance Procedures and implement corrective measures where appropriate;

- To establish procedures to ensure that all account holding customers and other business partners are properly documented, identified and screened and to monitor compliance with those procedures on a risk-based frequency;
- To establish procedures to assess the AML, CTF and sanctions compliance risk of each account holding customer and to monitor compliance with those procedures according to a risk-based frequency;
- To monitor the transactions and business of the Bank for suspicious activity and to take appropriate remedial action, including the fulfilment of the Bank's reporting duties to the authorities;
- Raise the awareness of staff as to the importance of compliance and related aspects, to this end developing and implementing a training program;
- Perform controls of compliance-relevant policies and procedures implemented by the business units on a regular basis (second line of defence);
- Investigate and follow up on compliance findings previously observed to ensure that measures are effectively implemented;
- Report significant risks, cases and findings, as well as measures taken to the Executive Board and to the Audit Committee of the Supervisory Board;
- Communicate as appropriate, or as required, with relevant regulators, supervisors and other authorities; and,
- Within the terms of the respective outsourcing agreements signed with each of them, provide support in Compliance related matters to sister companies of the Bank.

The Compliance function is independent from any commercial or operational function. In order to be able to fulfil its responsibilities the Compliance function may delegate specific tasks to other functions without delegating its own responsibility to analyse and report any findings to the Executive Board. In performing its tasks, the Compliance function has full and unrestricted access to any compliance-related information. It analyses the issues observed and recommends, where applicable, corrective measures to address deficiencies.

The Compliance function in the person of the Chief Compliance Officer or a delegate report to the Clearstream Banking S.A. Executive Board, and to the Audit Committee of the Supervisory Board on a regular basis and, if applicable, provides ad-hoc reports for any significant compliance risks and findings identified to the Executive Board and related committees.

The implementation of the Compliance function and its relevant procedures are defined in the Compliance Policy of the Deutsche Börse Group and the Compliance Charter of Clearstream Banking S.A. The main applicable professional obligations are the following:

- Prevention of money laundering and terrorist financing;
- Compliance with relevant sanctions regimes and the Bank's sanctions policy;
- Professional and banking secrecy;
- Prevention of insider dealing and market abuse;
- Prevention of fraud and Other Criminal Offenses;
- Prevention of conflicts of interest and corruption;
- Data protection;

- Prevention of tax offences;
- Whistle blowing;
- Prevention of bribery; and,
- Compliance with regulatory requirements.

9. Acquisition of Own Shares

During the financial year ending 31 December 2023, Clearstream Banking S.A. did not acquire own shares.

10. Credit Ratings

Throughout 2023, Clearstream Banking S.A. maintained strong credit ratings. Fitch and Standard & Poor's current short-term and long-term credit ratings are respectively F1+ and A-1+ for short-term debt and AA for long-term debt.

11. Dividends Paid and Proposed

During 2023, no interim dividend was paid (2022: NIL). In April 2023, an ordinary dividend of EUR 431,941 thousand was paid.

A dividend amounting to EUR 600,301 thousand is proposed in 2024 in respect of the result of the year ended 31 December 2023.

12. Subsidiaries, Branches and Representative offices

During 2023, Clearstream Banking S.A. had the following subsidiaries:

- Clearstream London Limited

During 2023, Clearstream Banking S.A. had four representative offices:

- New York
- Hong Kong
- Dubai
- Zurich

During 2023, Clearstream Banking S.A. had the following branches:

- London
- Singapore
- Japan

13. Employees

The average number of employees decreased by 7 percent from 557 (2022) to 518 (2023) employees.

The average number of staff is calculated based on full time equivalent which excludes interns and early retired employees.

14. Report on Post Balance Sheet Date Events

No events have occurred subsequent to the year-end which would have a material impact on the annual accounts as at 31 December 2023.

Luxembourg, 25 March 2024

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Signatory 1	Signatory 2
Anne-Pascale Malréchauffé	Joao Amaral

Audit report

To the Executive Board of
CLEARSTREAM BANKING S.A.

Report on the audit of the annual accounts

Our opinion

In our opinion, the accompanying annual accounts give a true and fair view of the financial position of CLEARSTREAM BANKING S.A. (the “Bank”) as at 31 December 2023, and of the results of its operations for the year then ended in accordance with Luxembourg legal and regulatory requirements relating to the preparation and presentation of the annual accounts.

What we have audited

The Bank’s annual accounts comprise:

- the Balance sheet as at 31 December 2023;
- the Income Statement as at 31 December 2023; and
- the notes to the annual accounts, which include a summary of significant accounting policies.

Basis for opinion

We conducted our audit in accordance with the EU Regulation No 537/2014, the Law of 23 July 2016 on the audit profession (Law of 23 July 2016) and with International Standards on Auditing (ISAs) as adopted for Luxembourg by the “Commission de Surveillance du Secteur Financier” (CSSF). Our responsibilities under the EU Regulation No 537/2014, the Law of 23 July 2016 and ISAs as adopted for Luxembourg by the CSSF are further described in the “Responsibilities of the “Réviseur d’entreprises agréé” for the audit of the annual accounts” section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

We are independent of the Bank in accordance with the International Code of Ethics for Professional Accountants, including International Independence Standards, issued by the International Ethics Standards Board for Accountants (IESBA Code) as adopted for Luxembourg by the CSSF together with the ethical requirements that are relevant to our audit of the annual accounts. We have fulfilled our other ethical responsibilities under those ethical requirements.

To the best of our knowledge and belief, we declare that we have not provided non-audit services that are prohibited under Article 5(1) of the EU Regulation No 537/2014.

The non-audit services that we have provided to the Bank and its controlled undertakings, if applicable, for the year then ended, are disclosed in Note 7.8 to the annual accounts.

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Cabinet de révision agréé. Expert-comptable (autorisation gouvernementale n°10028256)
R.C.S. Luxembourg B 65 477 - TVA LU25482518

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the annual accounts of the current period. These matters were addressed in the context of our audit of the annual accounts as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matter	How our audit addressed the key audit matter
Recognition of commission receivable from safekeeping, custody, settlement, collateral management, security lending, connectivity/reporting, cash/liquidity management and other fees (EUR 955,776 thousand) Commission receivable for the Bank consists mainly of safekeeping fees, settlement fees, connectivity/reporting fees, global securities financing fees (i.e. securities lending fees and collateral management fees), order routing and fund issuance fees charged to customers and amounts to EUR 842,462 thousand. This represents 88% of the commission receivable balance for the year. The safekeeping fees are determined mainly by the value of securities held in custody, the settlement fees by the number of transactions conducted, the income from the global securities financing business by the value of securities lent or collateralized, the connectivity/reporting fees by the number of queries from and reports to customers, the order routing and fund issuance fees by the volumes of fund issuances and order routings. The process used to determine the commission receivable is highly automated and based on various IT systems that are connected to each other by system interfaces. Changes to the fee schedule or customer specific conditions are manually	Our audit approach included evaluating the design and testing the operating effectiveness of internal controls, focusing on key controls related to the recognition of these commission receivables. Where the commission receivable process is automated with a material impact on the financial reporting process, we involved PwC IT specialists to test controls over the related IT systems relevant for the recognition of commission income. We then evaluated the results of our IT specialists. These controls procedures have been performed over the below areas: • The completeness and integrity of data transferred via system interfaces from operational applications to the billing application; • The segregation of duties for the manual input/modification and release of a commission amount in the billing application; • The segregation of duties over the authorization and implementation of changes to the fee schedule and customer specific conditions materialised in the internal control system; • The completeness of the changes of the fee schedule and the customer specific conditions in the billing IT system; • The accuracy of the group assigned to a specific client between the source application and the billing application; • The follow-up by the Billing Department of the month-end commission process; • The analysis of the profitability/variation by client and fee type.

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implemented by the Bank in the billing application.
 	
Due to the significance of the amounts involved, the strong dependency on IT systems, the significant number of customer specific conditions, and the related complexity and operational risks, the recognition of commissions is identified as a key audit matter.
 	
Refer to Note 2.9 (accounting policy on 'Income and expense recognition') and Note 7.3 (financial disclosures note on 'Commission receivable').
	Furthermore, we obtained the ISAE 3402 report on the Bank's controls and assessed their evaluation and testing of the Bank's key controls relating to the recognition of these commission receivables, including for custody and global securities financing fees, the process of determining the value of securities held in custody, lent or collateralized.
	
	In addition, the following substantive testing procedures have been performed:
	
	• We performed inquiries on the end-to-end commission recognition process including the relevant controls and the different data sources used in the revenue calculation;
	
	• We performed sample testing on:
	  ○ The fee rate changes by tracing fee rates to the underlying contractual documentation;
	  ○ On the correct mapping of clients to the relevant family group in the system.
	
	• We recomputed the commissions for a sample covering different commission streams;
	
	• We recalculated the safekeeping fees for the full year and for the settlement fees we recalculated it for a sample of one client for one month of the year;
	
	• We assessed customer complaints and claims relating to commission fees charged by the Bank and the related analysis prepared by Management.

Intercompany charges/recharges The Bank is highly integrated within the Deutsche Börse Group. Multiple services are provided by the Bank to other Group companies and many services are provided by Group companies to the Bank, in Luxembourg and abroad. Intercompany recharges amount to EUR 72,413 thousand in the commission receivable and EUR 92,423 thousand in the other operating income while the intercompany charges amount EUR 226,716 thousand in the operating	Our audit approach included both the testing of the effectiveness of internal controls linked to intercompany charges/recharges as well as substantive procedures. The procedures over internal controls included evaluating the design and testing the operating effectiveness of controls. The controls procedures have been performed over the below areas: • The 4-eyes principle on the complete and accurate creation of the contractual data within the system; • The accuracy and completeness of the data imported in the database used for the calculation of the intercompany charges/recharges;

charges, EUR 266,904 thousand in the other administrative expenses and EUR 54,754 thousand in the commission payables.

Due to the magnitude of the related charges/recharges, the high number of intercompany relationships and the level of audit work linked to those balances, we identified intercompany charges/recharges as a key audit matter.

Refer to Note 2.10 (accounting policy on ‘Related party transactions’), Note 7.3 (financial disclosures note ‘Commission receivables’), Note 7.4 (financial disclosures note ‘Other operating income‘), Note 7.5 (financial disclosures note ‘Other operating charges‘) and Note 7.8 (financial disclosures note ‘Other administrative expenses’).

- The completeness and accuracy of the charges/recharges booked in the accounting with the intercompany agreements as per inventory system;
- The completeness and accuracy of hourly recharged elements related to intercompany charges/recharges;
- The reconciliation of the Bank’s intercompany charges/recharges positions as at 31 December 2023 to the Group counterparty balances.
- Review by the Financial Accounting & Controlling (“FA&C”) Department of the calculation of related party charges/recharges on specific intercompany transactions (reasonability analysis on allocation keys, forecast, approval for invoicing).

Our substantive procedures included:

- We inquired of the FA&C Department on the identification of related parties and on the process for the recording of intercompany balances;
- We obtained the list of related parties of the Bank and for accounts used for intercompany charges/recharges.
- We inspected for a selection of intercompany transactions that the counterparty with whom they were entered into or with whom the Bank has a balance is also recorded in the list of related parties;
- To test the completeness and existence of the intercompany charges/recharges, we inspected the underlying contracts on a sample basis and agreed the contractually agreed services to the charges/recharges recorded in the accounting;
- We reconciled the Bank’s intercompany charges/recharges positions as at 31 December 2023 to the Group counterparty balances for a selection of contracts. We additionally performed counterparty confirmation procedures for a sample of signifcant intercompamy balances as at year end;
- We involved our PwC Transfer Pricing specialists in the review of transfer pricing policy and documentation underlying the most significant intercompany services;

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	• We re-performed the calculation of the intercompany charges/recharges computed by the Bank for a selection of significant intercompany bookings and compared key parameters, mark-up rates/charges and the allocation keys used in the computation to the underlying intercompany agreements.
Provisions for litigation and claims (EUR 3,413 thousand) The Bank is exposed to a number of open legal cases and regulatory investigations in a number of its markets. In the course of business, potential exposures may arise from legal or regulatory proceedings. Whether there is a liability is inherently uncertain, the amounts involved are potentially significant and the application of accounting standards to determine the amount to be provisioned, is inherently subjective. Given the business is geographically dispersed, the same matter could be subject to legal proceedings in multiple jurisdictions. There is a number of legal and regulatory matters for which no provision has been established. There is an inherent risk that legal exposures are not identified and considered for financial reporting purposes on a timely basis. This includes the consideration on whether there is a need for the recognition of a provision or a contingent liability disclosure. The recognition and measurement of provisions and the disclosure of contingent liabilities requires considerable management judgement.	Our procedures included: • We inquired of the Legal Department, Claims Investigation team and members of the Executive Board of the Bank to obtain their view on potential legal cases and the status of ongoing significant litigation and claims; • We inspected meeting minutes of the Executive Board, Supervisory Board, Audit Committee and Risk Committee, and documents provided by the Bank concerning significant litigation and claims; • We received and assessed external confirmations from the Bank's external legal counsels as at the year-end and involved internal and external experts for the assessment; • We inspected legal expense accounts of the Bank to detect whether there were significant ongoing or potential legal cases not included in the Bank's register of legal claims; • We evaluated and tested the operating effectiveness of the review and approval internal control by Management of claim provisions being in line with the Signature Policy described in the Complaints Management Procedure of the Bank; • We assessed customer complaints and claims received by the Bank and the analyses prepared by Management of these complaints/claims; • Based on these procedures, we challenged the timing of the recognition of provisions where there is potential exposure. For a sample of provisions, we independently assessed the estimated value of the provision (if applicable);

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Refer to Note 2.6.3 (accounting policy on accounting for 'Other provisions'), Note 4.4 (financial disclosures note 'Other provisions'), Note 6.3 (financial disclosures note 'Legal risks') and Management report section 7.5.	• We inspected the incidents and claims report which is presented to the Executive Board for each quarter of the year, • We assessed the completeness and accuracy of the disclosures detailing significant provisions for litigation and claims and disclosures for significant ongoing litigations.

Other information

The Executive Board is responsible for the other information. The other information comprises the information stated in the Management report but does not include the annual accounts and our audit report thereon.

Our opinion on the annual accounts does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the annual accounts, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the annual accounts 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 the Executive Board for the annual accounts

The Executive Board is responsible for the preparation and fair presentation of the annual accounts in accordance with Luxembourg legal and regulatory requirements relating to the preparation and presentation of the annual accounts, and for such internal control as the Executive Board determines is necessary to enable the preparation of annual accounts that are free from material misstatement, whether due to fraud or error.

In preparing the annual accounts, the Executive Board is responsible for assessing the Bank's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Executive Board either intends to liquidate the Bank or to cease operations, or has no realistic alternative but to do so.

Responsibilities of the "Réviseur d'entreprises agréé" for the audit of the annual accounts

The objectives of our audit are to obtain reasonable assurance about whether the annual accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue an audit 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 the EU Regulation No 537/2014, the Law of 23 July 2016 and with ISAs as adopted for Luxembourg by the CSSF 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 annual accounts.

As part of an audit in accordance with the EU Regulation No 537/2014, the Law of 23 July 2016 and with ISAs as adopted for Luxembourg by the CSSF, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- identify and assess the risks of material misstatement of the annual accounts, 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's internal control;

- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Executive Board;

- conclude on the appropriateness of the Executive Board's 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's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our audit report to the related disclosures in the annual accounts 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 audit report. However, future events or conditions may cause the Bank to cease to continue as a going concern;

- evaluate the overall presentation, structure and content of the annual accounts, including the disclosures, and whether the annual accounts represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance 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.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the annual accounts of the current period and are therefore the key audit matters. We describe these matters in our audit report unless law or regulation precludes public disclosure about the matter.

Report on other legal and regulatory requirements

The Management report is consistent with the annual accounts and has been prepared in accordance with applicable legal requirements.

We have been appointed as “Réviseur d’Entreprises Agréé” by the Executive Board on 29 March 2023 and the duration of our uninterrupted engagement, including previous renewals and reappointments, is 3 years.

PricewaterhouseCoopers, Société coopérative
Represented by

Luxembourg, 25 March 2024

Electronically signed by:
Julie Batsch

Julie Batsch

CLEARSTREAM BANKING S.A.

Balance sheet
As at 31 December 2023
(expressed in thousands of EUR)

ASSETS	**Notes**	**31 December 2023**	**31 December 2022**
Cash, cash balances at central banks and other demand deposits	3.1		
Cash in hand, balances with central banks and post office banks	3.1.1	6,584,032	8,389,228
Loans and advances to credit institutions repayable on demand	3.1.2	4,854,404	1,700,397
		11,438,436	10,089,625
Financial assets held for trading			
Derivatives	3.2.1	7,331	4,723
Financial assets at fair value through other comprehensive income			
Equity instruments			
Participating interests	3.3.1, 3.9	7,699	7,217
Financial assets at fair value through profit and loss			
Equity instruments			
Participating interests	3.3.1, 3.9	1,146	1,734
Financial assets at amortised cost			
Debt securities	3.9		
Treasury bills and other bills eligible for refinancing with central banks			
Other bills eligible for refinancing with central banks	3.3.2, 3.10	934,302	1,029,421
Debt securities and other fixed-income securities	3.3.2		
issued by public bodies		272,325	278,266
issued by other borrowers		204,420	283,357
		1,411,047	1,591,044
Loans and advances	3.4		
Loans and advances to credit institutions			
Other loans and advances		2,905,517	4,421,300
Loans and advances to customers		1,253,938	994,779
		4,159,455	5,416,079
Derivatives – hedge accounting	3.2.2	5,314	5,410
Investments in subsidiaries, joint ventures and associates	3.5, 3.9		
Shares in affiliated undertakings		6,498	14
Intangible assets	3.9	1	1
Tangible assets	3.9	14,242	12,200
Tax assets			
Deferred tax assets	3.11	9	1,102
Other assets	3.6	32,297	42,499
Prepayments and accrued income	3.7	1,343	2,793
TOTAL ASSETS		**17,084,818**	**17,174,441**

The accompanying notes are an integral part of these annual accounts.

CLEARSTREAM BANKING S.A.

Balance sheet
As at 31 December 2023
(expressed in thousands of EUR)
(continued)

LIABILITIES AND EQUITY **LIABILITIES**	**Notes**	**31 December 2023**	**31 December 2022**
Financial liabilities held for trading			
Derivatives	3.2.1	2,628	118,360
Financial liabilities measured at amortised cost			
Deposits from credit institutions	4.1.1		
Repayable on demand		12,548,732	12,182,344
With agreed maturity dates or periods of notice		51,473	393,062
Deposits from customers			
Other debts repayable on demand	4.1.2	1,827,058	2,164,466
Debt securities issued	4.1.3	549,205	504,545
Other financial liabilities	4.1.4	159,587	169,886
		15,136,055	15,414,303
Derivatives – hedge accounting	3.2.2	-	-
Other liabilities	4.2	8,223	14,645
Accruals and deferred income	4.3	64,535	57,631
Provisions			
Provisions for pension and similar obligations		2,907	880
Other provisions	4.4	32,046	15,444
		34,953	16,324
Tax liabilities			
Current liabilities	3.12	196,295	87,895
Deferred tax liabilities	3.11	3,510	3,942
		199,805	91,837
Liabilities		**15,446,199**	**15,713,100**
EQUITY			
Issued capital			
Paid up capital	4.5	92,000	92,000
Share premium account	4.5	229,935	229,935
Reserves			
Legal reserves	4.6.1	9,200	9,200
Other reserves	4.6.1	686,401	686,102
		695,601	695,302
Accumulated other comprehensive income	4.6.2		
Items that will not be reclassified to profit or loss			
Actuarial gains/losses on defined benefit pension plans	2.6.1	2,257	3,847
Fair value changes of equity instruments measured at fair value through other comprehensive income		4,317	3,956
Items that may be reclassified to profit or loss			
Cash flow hedges		3,989	4,061
		10,563	11,864
Profit or loss for the financial year		610,520	432,240
Total equity	4.7	**1,638,619**	**1,461,341**
TOTAL LIABILITIES		**17,084,818**	**17,174,441**

The accompanying notes are an integral part of these annual accounts

CLEARSTREAM BANKING S.A.

Off-balance sheet items
As at 31 December 2023
(expressed in thousands of EUR)

OFF-BALANCE SHEET ITEMS

		31 December 2023	31 December 2022
Contingent liabilities			
Guarantees and assets pledged as collateral security	6.2	521,741	1,385,239

The accompanying notes are an integral part of these annual accounts.

CLEARSTREAM BANKING S.A.

Income Statement
for the year ended 31 December 2023
(expressed in thousands of EUR)

	Notes	2023	2022
Interest receivable and similar income	7.1, 7.2	726,143	249,020
of which: arising from fixed-income securities		24,184	12,526
Interest payable and similar charges	7.2	(170,957)	(54,665)
		555,186	194,355
Commission receivable	7.1, 7.3	955,776	855,482
Commission payable		(234,352)	(221,990)
		721,424	633,492
Net profit/(loss) on financial operations	7.1, 7.4	62,130	64,368
Other operating income	7.1, 7.5	94,916	263,719
General administrative expenses:			
Staff costs	7.6	(81,024)	(86,058)
of which:			
- wages and salaries		(63,966)	(66,002)
- social security costs		(11,163)	(13,032)
of which: relating to pensions		(1,535)	(3,324)
- other staff costs		(5,895)	(7,024)
Other administrative expenses	7.8, 7.8	(303,914)	(290,831)
		(384,938)	(376,889)
Value adjustments in respect of intangible and tangible assets	3.9	(5,521)	(5,759)
of which:			
- tangible assets		(5,521)	(4,414)
- intangible assets		-	(1,345)
Other operating charges	7.5	(227,879)	(214,615)
Profit or loss on ordinary activities before tax		815,318	558,672
Tax on profit or loss on ordinary activities and other taxes (tax expense related to profit or loss from continuing operations)	7.10	(204,798)	(126,432)
of which:			
- current tax on profit or loss on ordinary activities		*(203,964)*	*(126,379)*
- deferred tax		*(834)*	*(53)*
Profit or loss for the financial year	4.7	**610,520**	**432,240**

The accompanying notes are an integral part of these annual accounts

1 General

Cedel Bank, société anonyme (the 'Company') was incorporated in 1970 as a limited liability company in accordance with Luxembourg law. By virtue of a Grand-Ducal decree dated 19 July 1983, the Company was granted a licence as a *Professionnel du Secteur Financier*.

On 1 January 1995, the Company was granted a banking licence in Luxembourg, and changed its name to Cedel Bank, société anonyme. The activities of the Company did not change as a result of its banking status. On 13 November 1998, Cedel Bank, société anonyme, changed its name to Cedel bank, société anonyme and again on 18 January 2000 to Clearstream Banking S.A. (the 'Bank'). The Bank provides clearing, settlement, depository and related services for internationally traded securities to professional financial institutions world-wide.

The Bank filed its application for its CSDR licence to the local regulators at the end of September 2017, allowing it to benefit from the grandfathering regime. The Bank provided its final filing at the end of August 2020. As at 12 October 2020, CSSF issued a declaration of completeness with regards to the Bank's application pursuant to Article 17 CSDR (Core Services), Article 55 (Banking-Type Services) and the Interoperable Link, the Bridge. As at 12 April 2021, the Bank was granted all three licenses.

The registered office of the Bank is 42, Avenue J.F. Kennedy, L-1855 Luxembourg and the Bank is registered at the commercial register in Luxembourg under number B 9248.

As at 31 December 2023, the Bank had the following direct subsidiary:

- Clearstream London Limited ("CLL"), incorporated on 27 December 2018. Registered office: Westferry House, 2nd Floor, 11 Westferry Circus, Canary Wharf, London E14 4HE, United Kingdom. Clearstream London Limited is directly 100% owned by the Bank.

As at 31 December 2023, the Bank had the following branches:

- Clearstream Banking S.A., Singapore branch (created in 2009). Registered office: 9 Raffles Place #55-01 Republic Plaza Singapore 048619 Singapore.
- Clearstream Banking S.A., UK branch (opened on 4 January 2016) which took over the activities of its former representative office. Registered office: Westferry House, 2nd Floor, 11 Westferry Circus, Canary Wharf, London E14 4HE, United Kingdom.
- Clearstream Banking S.A., Japan branch (created in 2021). Registered office: 27F, Marunouchi Kitaguchi Building, 1-6-5, Marunouchi, Chiyoda-ku, Tokyo, Japan.

As at 31 December 2023 and 31 December 2022, the Bank was directly fully-owned by Clearstream Holding AG.

Clearstream Holding AG is itself directly fully owned by Deutsche Börse AG, the ultimate parent of the Bank. The Bank is included in the consolidated financial statements of Deutsche Börse AG. Deutsche Börse's consolidated financial statements, prepared in accordance with International Financial Reporting Standards ("IFRS") as adopted by the European Union and interpretations issued by the International Accounting Standards Board, may be obtained from its registered office at Mergenthalerallee 61, D-65760 Eschborn, Germany or electronically at www.deutsche-boerse.com.

2 Summary of significant accounting policies, valuation rules and presentation of accounts

2.1 Basis of presentation

The Bank's accounting policies are in accordance with regulations in force in the Grand-Duchy of Luxembourg, and in particular the law of 17 June 1992, as amended and the CSSF circular 08/340, relating to the annual accounts and consolidated accounts of credit institutions. Management has prepared these accounts on a going-concern basis.

Since 2009, the Bank has opted for the mixed accounting regime of "Luxembourg GAAP with IAS options". The relevant IAS options are the following:

- Presentation of the balance sheet and of the income statement;
- Recognition, measurement and impairment of financial instruments as per IFRS 9;
- Recognition and measurement of leases as per IFRS 16;
- IAS 19 revised June 2011;
- Application of IFRS 2.43A – 43D to share-based payments.

In addition to the IAS/IFRS options above, as a result of the application of the recognition of financial instruments at fair value, the Bank has recognised deferred taxes.

The annual accounts have been prepared in accordance with Luxembourg legal and regulatory requirements under the historical cost convention (except for the application of relevant IAS options, as defined above, in line with the mixed regime).

Accounting policies and valuation rules are, besides the ones laid down by the law of 19 December 2002, determined and applied by the Management.

The preparation of annual accounts requires the use of certain critical accounting estimates. It also requires the Management to exercise their judgment in the process of applying the accounting policies. Changes in assumptions may have a significant impact on the annual accounts in the period in which the assumptions changed. Management believes that the underlying assumptions are appropriate and that the annual accounts therefore present the financial position and results fairly.

The Bank makes estimates and assumptions that affect the reported amounts of assets and liabilities in the next financial year. Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

In accordance with article 83 of the law of 17 June 1992, as amended, the Bank does not prepare consolidated financial statements because the Bank has subsidiary undertaking which is not material for the purposes of article 85(3) of the law of 17 June 1992, as amended (consolidated accounts shall give a true and fair view of the assets, liabilities, financial position and profit or loss of the undertakings included therein taken as a whole), both individually and as a whole.

The Bank is included in the consolidated financial statements of Deutsche Börse AG prepared in accordance with International Financial Reporting Standards ("IFRS") as adopted by the European Union and interpretations issued by the International Accounting Standards Board.

2.2 IFRS 16 "Leases"

Accounting principles applied by the Bank to leases are determined by IFRS 16 "*Leases*".

Lessee
As a lessee, the Bank uses office properties and company cars.

IFRS 16 introduces a single lessee accounting model. According to this approach, the lessee is obliged to recognise all leases: first, the lessee recognises the right-of-use asset, i.e., the lessee's right to use the leased asset; second, the lessee recognises the lease liability, i.e., the lessee's obligation to make lease payments.

Regarding leases with early termination or renewal options, the Bank exercises prudent commercial judgement to assess the applicable contract terms. Any and all significant facts and circumstances are taken into account in the assessment as to whether the exercising of early termination or renewal options is reasonably certain.

The Bank uses general practical expedients provided by IFRS 16 by not recognising right-of-use assets and lease liabilities for short-term leases (lease terms of less than twelve months) and low value assets.

Measurement of lease liabilities:
Lease liabilities are recognised at the present value of future lease payments. The incremental borrowing rate of Deutsche Börse Group at the beginning of the lease is used to calculate the present value. The difference between the incremental borrowing rate of Deutsche Börse Group and the incremental borrowing rate of the Bank is immaterial. Value-added tax included in lease payments is neither considered in the lease liability nor in the carrying amount of the right-of-use asset, regardless of whether the Bank is entitled to make tax withholding or not.

In subsequent periods, interest payments made are recognised as increases of the lease liability, while lease payments are recognised as decreases. The Bank remeasures its lease liabilities if adjustments to future lease payments are made.

Measurement of right-of-use assets:
Right-of-use assets are measured at cost. Any accumulated depreciation/amortisation and impairment amounts are deducted from the cost of right-of-use assets as part of subsequent measurement.

Lessor
As a lessor, the Bank has entered into various sublease arrangements. The Bank subleases its office properties to affiliated undertakings and as they transfer substantially all the risks and rewards of ownership of the assets they are classified as finance leases.

2.3 Financial instruments

Accounting principles applied by the Bank to financial instruments are determined by IFRS 9 "*Financial instruments*".

2.3.1 Additions and disposals of financial instruments

Financial assets and liabilities are recognised when the Bank becomes party to a financial instrument.

Regular way purchases and sales of financial assets are generally recognised and derecognised at the trade date. Purchases and sales of debt instruments classified as "at amortised cost", margin calls and of equities eligible for clearing via the central counterparties (CCPs) of Deutsche Börse Group are recognised and derecognised at the settlement date.

Financial assets are derecognised when the contractual rights to the cash flows expire or when the Bank transfers these rights in a transaction that transfers substantially all risks and rewards of ownership of the financial assets.

Financial liabilities are derecognised when the contractual obligation has been extinguished because it has been discharged or cancelled or has expired.

2.3.2 Classification and measurement of financial instruments

Financial assets: first-time measurement and classification
Financial assets are first recognised at fair value. For financial assets not at fair value through profit or loss the recognised amount also includes transaction costs that can be allocated directly to the acquisition of this asset. Transaction costs of financial assets at fair value through profit or loss are expensed as incurred.
The Bank classifies its financial assets according to the following measurement categories:

(a) fair value (either at "fair value through other comprehensive income" (FVOCI) or "fair value through profit-or-loss"(FVPL)); and,

(b) amortised cost (aAC).

The classification depends on the entity's business model for managing the financial assets and contractual terms of the cash flows.

Debt instruments are allocated on the basis of the business model for managing the financial assets and the contractual cash flow characteristics. Debt instruments are only reclassified if the business model for managing them is changed. We do not make use of the option to designate debt instruments at fair value through profit or loss upon initial recognition (fair value option).

The classification of investments in equity instruments not held for trading depends on whether the option of designating the corresponding financial assets as at fair value through other comprehensive income (FVOCI option) is used on initial recognition. Each individual equity instrument can be allocated separately and may not be changed in subsequent periods.

2.3.3 Subsequent measurement of financial assets and financial liabilities

Financial assets: subsequent measurement of equity instruments
Equity instruments are recognised at the settlement date.

Equity instruments are always subsequently measured at fair value.

Participating interests held for trading are subsequently measured as at fair value through profit or loss (FVPL).

As at 31 December 2023, the Bank has participating interests measured at FVPL.

As at 31 December 2022, the participating interest in the amount EUR 1,734 thousand measure at FVPL was disclosed within the financial assets at fair value through other comprehensive income.

For all other equity instruments, we have exercised the irrevocable FVOCI option as of the reporting date. The Bank subsequently measures participating interests at Fair Value through Other Comprehensive Income (FVOCI). Where the Bank's Management opted for presenting fair value gains and losses on participating interests in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the participating interests. An exception to this rule is the recognition of dividend revenue which is recognised in profit or loss.

Impairment losses (and reversal of impairment losses) on participating interests measured at FVOCI are not reported separately from other changes in fair value.

As at 31 December 2023 and as at 31 December 2022, the Bank has designated participating interests as at FVOCI.

Shares in affiliated undertakings are valued at acquisition cost. Value adjustments are recorded when, in the opinion of the Bank's management, there is a permanent impairment in value. These value adjustments are not continued if the reasons for which the value adjustments were made have ceased to apply.

Financial assets: subsequent measurement of debt instruments
Debt instruments are recognised at the settlement date.

Subsequent measurement of debt instruments depends on the Bank's business model for managing the asset and cash flow characteristics of the respective assets. There are three measurement categories to which the Bank may allocate its debt instruments:

- Amortised cost: Assets allocated to the "hold" business model and whose cash flows consist of solely payments of principal and interest are measured at amortised cost. Interest income from these financial assets is measured using the effective interest method. Gains and losses from derecognition, impairment and exchange rate movements are recognised through profit or loss. Interest income from these financial assets is included in interest receivable and similar income using the effective interest rate method. Foreign exchange gains and losses are shown in net profit/(loss) on financial operations.
- Fair Value through Other Comprehensive Income (FVOCI): assets allocated to the "hold and sell" business model and whose cash flows consist solely of payments of principal and interest are measured as at FVOCI. Impairments on these debt instruments are recognised as net income from financial investments through profit or loss. When a financial asset is derecognised, the cumulative gain or loss previously recognised in other comprehensive income is reclassified from equity to profit or loss and recognised in other operating income or other administrative expenses. Interest income from these financial assets would be included in interest receivable and similar income using the effective interest rate method. Foreign exchange gains and losses are presented in net profit/(loss) on financial operations. Impairment expenses are shown in other administrative expenses. The Bank did not follow the business model to hold and to sell in the reporting period. Accordingly, no debt instruments were classified at FVOCI.
- Fair Value through Profit or Loss (FVPL): assets that do not meet the criteria for a measurement at amortised cost or at FVOCI are measured at FVPL. A gain or loss on a debt investment that is subsequently measured at FVPL and not part of a hedging relationship is recognised in profit or loss in the period in which it arises.

As at 31 December 2023 and as at 31 December 2022, the Bank has designated its debt instruments as financial assets at amortised cost.

Financial assets and liabilities: subsequent measurement of derivatives and hedges
Derivatives are initially recognised at fair value at the time of the derivative contract. They are only used for hedging and not as a speculative investment. Where derivatives do not meet the hedge accounting criteria, they are classified as "held for trading" for accounting purposes and are remeasured at the end of each reporting period at fair value through profit or loss. Until 2022 gains and losses from the subsequent measurement were recognized under "Interest receivable and similar income" and "Interest payable and similar charges" respectively, as from 2023, derivatives held for trading are now recognised in the result of treasury activities under "Net profit or loss on financial operations". Further details can be found in Note 7.2.

The Bank uses foreign exchange derivatives as hedging instruments to hedge existing or expected transactions against foreign exchange risks. When a hedging transaction takes place the economic relationship between the hedging instrument and the hedged item is documented in accordance with the requirements of IFRS 9.

Cash flow hedges that qualify for hedge accounting
In the reporting year, we used cash flow hedge accounting to hedge the foreign exchange risk on highly likely transactions as well as on foreign currency receivable.
The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognised in other comprehensive income, limited to the cumulative change in fair value of the hedged item on a present value basis from the inception of the hedge. The gain or loss relating to the ineffective portion is recognised immediately in the income statement under “Gains or (losses) from hedge accounting” respective under “Interest receivable and similar income” and “Interest payable and similar charges”.

If forward contracts are used to hedge planned transactions, the Bank designates the entire change in the fair value of the forward, including the forward component, as a hedging instrument. In this case the gains or losses from the effective portion of the change in fair value for the entire future transaction are recognised in the reserve for cash flow hedges as a part of OCI. Upon the maturity of the hedging instrument, the realized result is recognized under “Interest receivable and similar income.”

For the hedge of foreign exchange risk of recognized assets or liabilities, the Bank designates only the change in fair value of the spot element of forward exchange contracts as the hedging instrument in cash flow hedging relationships. The change in fair value of the forward element of forward exchange contracts (forward points) is recognised in other comprehensive income. The forward element at the date of designation (to the extent that it relates to the hedged item) is amortized on a systematic and rational basis over the period to which the forward element relates. The amortisation of the forward element is recognised under “Net profit/(loss) on financial operations.”

Amounts accumulated in other comprehensive income are reclassified in the periods when the hedged item affects profit or loss, as follows:

- The amount accumulated in the cash flow hedge reserve is reclassified to profit or loss as a reclassification adjustment in the same period or periods during which the hedged future cash flows affect profit or loss. If that amount is a loss and the Bank expects that the entirety or a portion of that loss will not be recovered in one or more future periods, it immediately reclassifies the amount that is not expected to be recovered into profit or loss as a reclassification adjustment.
- The gain or loss relating to the effective portion of the interest rate-related instruments hedging fixed-rate borrowings is recognised in the income statement.

When a hedging instrument expires, or is sold or terminated, or when a hedge no longer meets the criteria for hedge accounting, the Bank discontinues hedge accounting. When the forecast transaction is no longer expected to occur, the cumulative gain or loss and deferred costs of hedging that were reported in equity are immediately reclassified to the income statement.

Hedge ineffectiveness is recognised in the income statement and is part of "Net profit/(loss) on financial operations."

Hedges of a net investment in a foreign operation
The portion of the gain or loss on the hedging instrument that is determined to be an effective hedge is recognised in other comprehensive income. It is recognised in the income statement when the foreign operation is sold. The ineffective portion of the gain or loss on the hedging instrument is recognised immediately in the income statement.

Derivatives held for trading
Gains or losses on derivative instruments that are not part of a highly effective hedging relationship are recognised immediately in the income statement.

Derivatives held for trading include foreign currency swaps. Those transactions correspond to economic hedges not fulfilling the conditions to be classified as highly effective hedges under IFRS 9. They are measured at fair value through profit or loss. Unrealised and realised gains and losses on such derivatives are recognised in the income statement under "Net profit/(loss) on financial operations."

Financial asset: subsequent measurement of financial assets measured at amortised cost
The following financial assets are recognised at the settlement date and are carried at amortised cost, less any write-downs for impairment:

a) Cash in hand, balances with central banks and post office banks;
b) Loans and advances to credit institutions repayable on demand;
c) Loans and advances to credit institutions;
d) Loans and advances to customers.

Cash and cash equivalents
Cash and cash equivalents comprise cash in hand and demand deposits as well as financial assets that are readily convertible into cash. They are subject to only minor changes in value. Cash and cash equivalents are measured at amortised cost.

Restricted bank balances mainly include cash deposits by market participants that are invested largely overnight, mainly at central banks or in the form of reverse repurchase agreements with banks.

Financial liabilities: subsequent measurement of financial liabilities measured at amortised cost
After initial recognition, all financial liabilities, except liabilities measured at fair value through profit or loss, are measured at amortised cost. The borrowing costs associated with the placement of financial liabilities are included in the carrying amount and accounted for using the effective interest method if they are directly attributable. Discounts are amortised over the term of the liabilities.

Financial assets and financial liabilities: subsequent measurement of financial assets and financial liabilities measured at fair value through profit and loss

Financial assets and financial liabilities at fair value through profit and loss are recognised at the trade date. This category includes currency swaps, forwards and interest rate swaps not classified as hedging instruments under IFRS 9. Fair value of these derivatives is calculated based on observable current market rates. Realised and unrealised gains and losses are immediately recognised in the income statement. The Bank waived the possibility to designate financial assets or liabilities at fair value through profit and loss (fair value option).

2.3.4 Impairment testing

As a rule, any impairment for expected credit losses for debt instruments reported at amortised cost and at fair value through other comprehensive income or nostros that do not fall into scope of low credit risk exemption is determined using the three-stage impairment model in IFRS 9. The losses represent a forward-looking measurement of future losses that are generally subject to estimates.

- Stage 1: The impairment upon initial recognition is measured on the basis of the expected losses in the event of default within the next twelve months after the reporting date.
- Stage 2: If a financial asset's credit risk has increased significantly, the expected credit loss is determined over the entire term. A significant increase in credit risk is determined individually using internal ratings and is assumed if there is a downgrade of three notches within the internal rating system.
- Stage 3: Credit-impaired financial assets are allocated to Stage 3 and the impairment is based on the full lifetime expected credit losses. This is the case if there are observable data of significant financial difficulties and there is a high risk of default, even if the definition of a default has not yet been met.

If, at the balance sheet date, there is an absolutely low credit risk for debt instruments measured at amortized cost and at fair value through other comprehensive income or for balances on nostro accounts for which the simplified impairment model is not applied, these remain in Stage 1 even if the default risk increases.

The Bank has identified the following two triggers to identify an event of default, and which cause a transfer to stage 3 accordingly:

Legal default event: a contractual partner of the Bank is unable to fulfil its contractual obligation due to its insolvency.

Contractual default event: a contractual partner of the Bank is unable or unwilling to fulfil its contractual obligations in a timely manner. The non-fulfilment of the contractual obligation could result in a financial loss for the Bank.

Within the Bank, the expected credit losses for trade receivables are measured based on the simplified approach, which requires lifetime expected losses to be recognised from initial recognition of a receivable. For trade receivables, a default is assumed for amounts which are overdue for more than 360 days.

2.4 Tangible and intangible assets

2.4.1 Intangible assets

Intangible fixed assets include licences acquired for valuable consideration. They are amortised over 3 years on a straight-line basis.

	Estimated useful life	**Method**
- purchased software	2-5 years	Straight-line
- other intangible assets	8 years	Straight-line

2.4.2 Impairment losses on intangible assets

Specific fixed assets are tested for impairment. At each reporting date, the Bank assesses whether there are any indications that an asset may be impaired. If this is the case, the carrying amount is compared with the recoverable amount (the higher of value in use and fair value less costs of disposal) to determine the amount of any potential impairment.

Value in use is estimated on the basis of the discounted estimated future cash flows from continuing use of the asset and from its ultimate disposal, before taxes. For this purpose, discount rates are estimated based on the prevailing pre-tax weighted average cost of capital. If no recoverable amount can be determined for an asset, the recoverable amount of the cash generating unit (CGU) to which the asset can be allocated is determined.

2.4.3 Tangible assets

Tangible assets are recognized at acquisition or production cost, less accumulated depreciation. Tangible assets are depreciated over their estimated useful lives.

The rates and methods of depreciation are as follows:

	Estimated useful life	**Method**
Other fixtures and fittings, tools and equipment:		
- IT equipment	4 years	Straight-line
- building improvements	5 years	Straight-line
- office equipment	5 years	Straight-line
- telecommunications equipment	4 years	Straight-line
- furniture	10 years	Straight-line

Other fixtures and fittings, tools and equipment costing less than EUR 870 or whose expected useful lives do not exceed one year, are charged directly to the income statement for the year.

This caption also includes right of use assets in accordance with IFRS 16. Right of use assets are included at cost, less accumulated depreciation. Right of use assets are depreciated over their estimated useful lives. The estimated useful life of each right of use asset depends on the duration of each contract.

2.5 Other assets and other liabilities

The position "Other assets" includes mainly net investment in the lease, deposits, fees receivables and VAT receivables.
Please refer to Note 3.6 for more details.

The position "Other liabilities" contains mainly liabilities for social security contributions, amounts due to employees, payables related to external services received, to contracted services and other payables not under the scope of IFRS 9.
Please refer to Note 4.2 for more details.

2.6 Provisions

2.6.1 Pension obligations

Pension obligations are measured in accordance with IAS 19, "Employee Benefits".

Defined benefit plan

Return on plan assets is assumed to be the discount rate used to measure the pension obligation. Actuarial gains and losses are recognised directly in Equity under "Accumulated other comprehensive income". Past service cost resulting from retrospective plan amendments is expensed immediately and in full.

Provisions for pension obligations are measured, using the projected unit credit method on the basis of actuarial reports. The fair value of plan assets, taking into account the asset ceiling rules if there are any surplus plan assets, is deducted from the present value of pension obligations. This results in the net defined benefit liability or asset. Net interest for the financial year is calculated by applying the discount rate determined at the beginning of the financial year to the net defined benefit liability determined as at that date.

The relevant discount rate is determined by reference to the return on long-term corporate bonds with a rating of at least AA (Moody's Investors Service, Standard & Poor's, Fitch Ratings and Dominion Bond Rating Service) on the basis of the information provided by Bloomberg, and a maturity that corresponds approximately to the maturity of the pension obligations. Moreover, the bonds must be denominated in the same currency as the underlying pension obligation.

Actuarial gains or losses resulting from changes in expectations with regard to life expectancy, pension trends, salary trends, or the discount rate as compared with the estimate at the beginning of the period or compared with the actual development during the period are recognised in Equity under "Accumulated other comprehensive income". Actuarial gains and losses recognised in Equity under "Accumulated other comprehensive income" may not be reclassified to profit or loss in subsequent periods. Similarly, differences between the (interest) income on plan assets determined at the beginning of the period and the return on plan assets actually recorded at the end of the period are also recognised directly in Equity under "Accumulated other comprehensive income".

The defined benefit pension plan in favour of Luxembourg employees of the Bank is funded by means of cash contributions to an "association d'épargne pension" (ASSEP), common to the Bank, and its sister companies, Clearstream International S.A. and Clearstream Services S.A. and Clearstream Fund Centre S.A, organised in accordance with Luxembourg law. The benefits consist of a one-off capital payment, which is generally paid on reaching the age of 65. Once a year, the employee receives an annual pension benefit statement. The benefit plan does not cover disability or death in service. Contributions to the "association d'épargne pension" are funded in full by the participating companies. The contributions are determined annually on the basis of actuarial reports, which takes into account various parameters, such as demographic assumptions, early retirement, wage increases, a discounting rate and the inflation rate, and the amount of the obligation is calculated in accordance with Luxembourg law.
The ASSEP invests its net contributions and reinvests cash from its maturing investments in securities and ETFs. It also leaves cash available on its cash account to cover fees, foreseeable cash outflows and have a cash buffer in case of unforeseen outflow events.
All investments are concluded in line with the criteria set in the ASSEP Investment Policy (approved by the CLPF Board of Directors and CSSF) and are controlled by the Middle Office (independent function). The ASSEP Investment Policy allows the purchase of highly liquid securities only and the purchase of pre-approved ETFs mentioned in the policy. The Middle Office ensures that the maximum investment per category type (securities, ETFs and cash) set in the ASSEP Investment Policy is respected at all times in line with the policy requirements.

As of 31 December 2023, there are 217 beneficiaries in the defined benefit pension plan in favour of Luxembourg employees of the Bank.

Defined contribution plan

Effective from 1 January 2019, employees joining the Bank are under new defined contribution plan in accordance with the Luxembourg law of 8 June 1999 and of 1 August 2018 on complementary pension plans. The contributions are paid to the statutory pension insurance scheme. The level of contributions is normally determined in relation to the benefit described in the plan regulation and income. The rights are vested on the 3rd year of employment and the benefits, if any, consist of a one-off capital payment, which is generally paid on reaching the age of 65. The benefit plan does not cover disability or death in service. Once a year, the employee receives an annual pension benefit statement.
As a rule, no provisions are recognised for defined contribution plans. The contributions paid are reported as pension expenses in the year of payment.

As of 31 December 2023, there are 175 beneficiaries in the defined contribution pension plan in favour of Luxembourg employees of the Bank.

2.6.2 Employees share options plans

Depending on their individual situation, employees of the Bank may participate in a share options plan.
Accounting for the employees share option plans is in line with IFRS 2 "Share-based payment".

2.6.3 Other provisions

In accordance with the law of 17 June 1992, the other provisions take account of all identifiable risks as well as uncertain obligations, if such obligation can be reasonably estimated, and are measured in the amount of the probable obligation.

A provision for restructuring is only recognised when an entity has a detailed formal plan for the restructuring and has raised a valid expectation in those affected that it will carry out the restructuring by starting to implement that plan or announcing its main features to those affected by it. In the creation of personnel-related restructuring provisions, certain assumptions are made to fluctuation rate, discount rate and salary trends, to name a few. Should the actual values deviate from these assumptions, adjustments may be necessary.

Separate provisions are also made for litigation and for potential losses in connection with operational activities and refurbishment and rent in connection with building improvements.

2.7 Deferred taxes

Deferred tax assets and liabilities are computed using the balance sheet approach in accordance with IAS 12. The deferred tax calculation is based on temporary differences between the carrying amounts in the tax accounts and the carrying amounts in the annual accounts with "IAS-option" that lead to a future tax liability or benefit when assets are used or sold or liabilities are settled.

Deferred tax assets or liabilities are measured using the tax rates that are currently expected to apply when the temporary differences reverse, based on tax rates that have been enacted or substantively enacted by the reporting date. Deferred tax assets are recognized for the carry forward of unused tax losses only to the extent that it is probable that future taxable profit will be available. Deferred tax assets and deferred tax liabilities are offset where a legally enforceable right to set off current tax assets against current tax liabilities exists and the deferred tax assets and deferred tax liabilities relate to income taxes levied by the same taxation authority.

The amendment to IAS 12 effective for annual periods beginning after 1 January 2023 deals with more specific guidance on accounting for deferred taxes in connection with leases and decommissioning obligations. The amendment clarifies that the exemption from recognising deferred taxes on the initial recognition of an asset or liability outside a business combination does not apply to transactions in which equal amounts of deductible and taxable temporary differences arise on initial recognition. This amendment generally matches our approach. These amendments have no material impact on the company's financial performance or financial position.

2.8 Foreign currency translation

The share capital of the Bank is expressed in euro ('EUR') and the accounting records are maintained in that currency.

Assets (except for shares in affiliated undertakings) and liabilities expressed in a foreign currency are converted into EUR at the rate of exchange ruling at the balance sheet date. Income and charges in foreign currencies are converted into EUR at the rate of exchange ruling on the date of the transaction, except for those income and charge items which have been hedged against foreign exchange risk by entering into forward foreign exchange transactions. Foreign currency gains and losses arising from these valuation principles are taken to income statement.

Shares in affiliated undertakings expressed in currencies other than EUR are translated into EUR at the exchange rate effective at the time of the transaction. At the balance sheet date, shares in affiliated undertakings expressed in currencies other than EUR remain translated at historical exchange rates. If it is expected that the reduction in the value of the currency in which shares in affiliated undertakings are denominated will be permanent, value adjustments will be made so that they are valued at the lower figure to be attributed to them at the balance sheet date.

2.9 Income and expense recognition

Interest income and expense are recognised in profit or loss using the effective interest method over the respective financial instrument's term to maturity. Interest income is recognised when it is probable that the economic benefits associated with the transaction will flow to the entity and the income can be measured reliably. Interest expense is recognised in the period in which it is incurred.

Dividend income is recognised in profit or loss on the date that the dividend is declared.

Commission receivable for the Bank consists mainly of custody fees, settlement fees, global securities financing fees (i.e., securities lending/borrowing fees and collateral management fees), connectivity/reporting fees, account maintenance fees and corporate event fees invoiced to customers. The custody fee is determined mainly by the value of securities held in custody, the settlement fee by the number of transactions conducted, the income from the global securities financing business by the value of securities lent or collateralized, the connectivity/reporting fee by the number of queries from and reports to customers, the account maintenance fee by the number of new and existing customer accounts, and the corporate event fee by the number of customer instructions and event executions.

Commissions and other income and expense items are recognised in profit or loss when the corresponding service is provided.

2.10 Related party transactions

Related party transactions are concluded at arm's length conditions. The respective intercompany balances and income/expenses are further detailed in the respective note.

2.11 ASLPlus

The ASLplus Programme combines the opportunity of the lender of securities to enhance the revenues with the demand of the borrower for securities. Clearstream Banking S.A. role in this set-up is considered as an intermediary between the lender and the borrower upon the borrower's securities request. The Bank does not initiate any lender transactions before the collateral has been settled. The program is based on a back-to-back contractual mechanism supported by the representative model of a commissionaire resulting in the Bank having an agent role and as such is not exposed to risk nor rewards of the securities.

Following the guidelines of IFRS 9 "Financial instruments" the Bank does not need to account for the ASLplus related transactions on its balance sheet. In addition, since there is no commitment from the Bank at any moment of the contractual relationship to purchase or borrow securities, it does not fall into the scope of off-balance sheet item as per the Law of 17 June 1992 definition either.

The risk born by the Bank is limited to the cases of misconduct, gross negligence in the internal execution of the obligations as system, or as agent: wrong execution of the mandate, contractual liability. These risks do not qualify as credit or liquidity risk per se and the risks arising from a borrower's default are born by the lender. This means that the ASLplus transaction does not require the Bank at any time to engage its own financial resources.

As at 31 December 2023, the market value of the securities borrowed under the ASLplus programme was EUR 58,050.7 million (2022: EUR 41,823.7 million).

As at 31 December 2023, the market value of the securities lent under the ASLplus programme was EUR 58,050.7 million (2022: EUR 41,823.7 million).

The net fee income generated by ASLplus was EUR 33,404 thousand in 2023 (2022: EUR 32,340 thousand).

3 Detailed disclosure relating to asset headings

3.1 Cash, cash balances at central banks and other demand deposits

3.1.1 Cash in hand, balances with central banks and post office banks

During the year ended 31 December 2023, the Bank was required to place, on average, a minimum of EUR 124,207 thousand (2022: EUR 123,233 thousand) with the Luxembourg Central Bank. The amount outstanding with the Luxembourg Central Bank as of 31 December 2023 was EUR 6,067,566 thousand (2022: EUR 8,205,205 thousand). The remaining amount of EUR 516,466 thousand (2022: EUR 184,023 thousand) is outstanding with other banks.

3.1.2 Loans and advances to credit institutions repayable on demand

As of 31 December 2023, loans and advances to credit institutions amounting to EUR 4,854,404 thousand (2022: EUR 1,700,397 thousand) were repayable on demand. The movement relates mainly to the increase in the balances of reverse repo agreements as described below.

The amount of reverse repurchase agreements included in the caption amounted to EUR 3,834,952 thousand as of 31 December 2023 (2022: EUR 533,689 thousand). Amounts due from affiliated undertakings repayable on demand amounted to EUR 195,604 thousand as of 31 December 2023 (2022: EUR 112,682 thousand).

3.2 Derivatives held for trading and hedge accounting derivatives

3.2.1 Derivatives held for trading

Financial assets and liabilities held for trading include foreign currency swaps and forwards.

The fair value of foreign currency swaps and forwards can be analysed as follows:

Derivatives held for trading (amounts in thousands of EUR)	**2023**	**2022**
Assets	7,331	4,723
Liabilities	(2,628)	(118,360)
Net position held for trading	**4,703**	**(113,637)**

The total notional value of the foreign currency swaps amounted to EUR 1,757.4 million (2022: EUR 4,265.2 million). The remaining maturity can be analysed as follows:

(amounts in millions of EUR)	**2023**	**2022**
At sight	907.3	285.6
Not more than one month	660.1	1,815.2
More than one month but no more than three months	190.0	840.2
More than three months but no more than one year	-	1,324.2
	1,757.4	**4,265.2**

3.2.2 Hedge accounting derivatives

In 2023 and 2022 the Bank designated forward instruments, as hedging instruments.

Clearstream Banking S.A. had designated cash flow hedges of highly probable forecast transactions to reduce the impact of fluctuations in the EUR/USD exchange rate on its USD-based net interest income for the 2024 financial year. The last instrument designated into this cashflow hedge matures in December 2024. The USD-related net interest income is derived from USD placements from customer cash balances less the corresponding compensation for customers. The hedge was concluded to be highly effective based on prospective hedge effectiveness assessment. At the end of each month, the change in fair value of the forward foreign-exchange contracts attributable to the effective part of the hedge is deferred in “Other Comprehensive Income”, and the gain or loss realised on the maturing foreign-exchange is recognized as “Interest receivable and similar income”.

As of 31 December 2023, the fair value of the hedging instruments designated into the hedge of the forecast transaction amounted to EUR 5,314 thousand (2022: EUR 5,410 thousand).
The fair value of hedged derivatives can be analysed as follows:

Derivatives – hedge accounting (amounts in thousands of EUR)	**2023**	**2022**
Assets	5,314	5,410
Liabilities	-	-
Net position held for hedging	5,314	5,410

The total notional value of forwards amounted to EUR 143.8 million (2022: EUR 146.2 million).
The remaining maturity can be analysed as follows:

(amounts in millions of EUR)	**2023**	**2022**
At sight	-	-
Not more than one month	12.0	12.2
More than one month but no more than three months	24.0	24.4
More than three months but no more than one year	107.8	109.6
	143.8	**146.2**

3.3 Financial assets

3.3.1 Equity instruments

The shares measured as FVPL have a fair value of EUR 1,146 thousand as of 31 December 2023 (2022: EUR 1,734 thousand).

Please refer to the Note 3.9 for more details regarding the nature of this equity instruments.

The shares measured as FVOCI have a fair value of EUR 7,699 thousand as of 31 December 2023 (2022: EUR 7,217 thousand) and represent an investment into S.W.I.F.T. SC.

3.3.2 Treasury bills and other bills eligible for refinancing with central banks

As of 31 December 2023, out of the total amount of EUR 934,302 thousand (2022: EUR 1,029,421 thousand), the nominal value of treasury bills and other debt securities eligible for refinancing with central banks with a remaining maturity of less than one year amounted to EUR 191,960 thousand (2022: EUR 257,671 thousand).

The amount of treasury bills and other debt securities eligible for refinancing with central banks with a remaining maturity of less than one year included in the caption “Treasury bills and other bills eligible for refinancing with central banks” is equal to EUR 193,495 thousand (2022: EUR 259,131 thousand), thereof EUR 1,535 thousand in 2023 (2022: EUR 1,460 thousand) corresponds to premium/discount, accrued interests and expected credit loss allowance.

As of 31 December 2023, treasury bills and other bills eligible for refinancing with central banks included only listed securities.

3.3.3 Debt securities and other fixed-income securities

As of 31 December 2023, debt securities and other fixed-income securities amounting to EUR 476,745 thousand were not eligible for refinancing with central banks (2022: EUR 561,623 thousand).

As of 31 December 2023, debt securities and other fixed-income securities only included listed securities.

3.4 Loans and advances

Remaining maturity of other loans and advances to credit institutions can be analysed as follows:

(amounts in thousands of EUR)	**2023**	**2022**
Not repayable on demand but not more than one month	2,549,137	3,569,659
More than one month but not more than three months	355,942	796,500
More than three months but not more than one year	438	55,141
	2,905,517	**4,421,300**

EUR 123,526 thousand were due from affiliated undertakings as of 31 December 2023 (2022: EUR 84,401 thousand).

The amount of reverse repurchase agreements included in the caption amounted to EUR 2,716,145 thousand as of 31 December 2023 (2022: EUR 4,200,312 thousand).

Remaining maturity of loans and advances to customers can be analysed as follows:

(amounts in thousands of EUR)	2023	2022
Repayable on demand	1,211,690	198,374
Not repayable on demand but not more than one month	42,234	796,090
More than one month but not more than three months	-	-
More than three months but not more than one year	14	315
	1,253,938	**994,779**

Amounts due from affiliated undertakings amounted to EUR 29,158 thousand as at 31 December 2023 (2022: EUR 48,585 thousand).

The amount of reverse repurchase agreements included in the caption amounted to EUR 1,190,127 thousand as of 31 December 2023 (2022: EUR 886,113 thousand).

3.5 Investments in subsidiaries, joint ventures and associates

Investments in subsidiaries correspond to the investment of EUR 6,498 thousand the Bank holds in its fully owned subsidiary Clearstream London Limited (CLL) (2022: EUR 14 thousand).

CLL, a company under UK law, was incorporated on 27 December 2018 but remained dormant until 1 July 2023. The Bank is the sole shareholder of CLL. In March 2023, the Bank increased share capital by EUR 6,477 thousand (GBP 5,700 thousand).

The above-mentioned equity instruments are not listed on a quoted market. See Note 3.9.

3.6 Other assets

This caption consists of the following:

(amounts in thousands of EUR)	2023	2022
Fees receivable	325	698
VAT receivable	26,310	12,058
Deposits	986	903
Pension fund investments	170	3,088
Net investment in the lease [(i)]	3,498	6,075
Other assets	1,008	19,677
	32,297	**42,499**

(i) The recognised carrying amount of net investment in the lease is as follows:

Sublease in the balance sheet	
Net investment in the lease	(amounts in thousands of EUR)
	Land and buildings
Gross book value	
As at 1 January 2023	**6,075**
Additions	1,270
Foreign exchange evolution	739
Disposals	(3,215)
Interest income	(178)
Repayment	(1,193)
Gross book value as at 31 December 2023	**3,498**

3.7 Prepayments and accrued income

This caption consists of the following:

(amounts in thousands of EUR)	**2023**	**2022**
Prepayments and accrued income	1,343	2,793
	1,343	**2,793**

This caption consists mainly of prepayments for commitment and membership fees.

3.8 Assets denominated in foreign currencies

Assets denominated in currencies other than EUR have a total value equivalent to EUR 10,017,569 thousand as at 31 December 2023 (2022: EUR 7,846,140 thousand).

3.9 Fixed assets

3.9.1 Fixed assets movements

See table overleaf for fixed assets movements for further details.

(amounts in thousands of EUR)

FIXED ASSETS	Net book value at start of financial year	Additions	Disposals (1)	Book value adjustment (9)	Transfers and exchange differences (2)	Revaluation, amortization of premium / discounts and accrued interest (3)	Total value at end of financial year	Value adjustments at the end of the financial year		Net book value at the balance sheet date
								Adjustments for the financial year (4)	Write-backs for the financial year	
Equity instruments valued at FVOCI	7,217					482	7,699			7,699
Equity instruments valued at FVPL (8)	1,734					(588)	1,146			1,146
Shares in affiliated undertakings (6)	14	6,484					6,498			6,498
Debt securities	1,591,044	221,101	(375,564)	2,425	(42,963)	15,044	1,411,087	(40)		1,411,047
Intangible assets of which (5):	1					-	1			1
Goodwill	-						-			-
Similar rights and assets	1					-	1			1
Tangible assets of which:	12,200	9,814	(8,336)		(3,097)		10,581	3,661		14,242
Right of use assets (7)	7,406	9,114					16,520	(3,005)		13,515
Other fixtures and fittings, tools and equipment	4,794	700	(8,336)		(3,097)		(5,939)	6,666		727

3.9.1 Fixed assets movements (continued)

(1) Disposals

In the case of debt securities, disposals correspond to the final redemption of securities.

(2) Transfers and exchange differences

Exchange differences correspond to the revaluation at the closing rate of debt securities as well as furniture, fixtures, and fittings held by representative offices and branches abroad.

(3) Revaluation, amortization of premium/discounts and accrued interest

Amortised discount on treasury bills and other bills eligible for refinancing with central banks and on debt securities and other fixed income securities amounted to EUR 11,495 thousand as at 31 December 2023 (2022: EUR 3,421 thousand). Amortised premium on those securities amounted to EUR 8,179 thousand as at 31 December 2023 (2022: EUR 11,415 thousand).

(4) Adjustments for the financial year

In the case of debt securities, disposals correspond to evolution of the expected credit loss (ECL). Please refer to Note 8.3 for more details regarding ECL.

In case of intangible and tangible assets adjustments for the financial year corresponds to amortization and depreciation charge.

(5) Intangible assets

As at 31 December 2023, intangible assets amounted to EUR 0.7 thousand (2022: EUR 1 thousand). The evolution comes from the amortization of EUR 0.3 thousand.

(6) Shares in affiliated undertakings

As at 31 December 2023, shares in affiliated undertakings amounted to EUR 6,498 thousand (2022: EUR 14 thousand). The evolution comes from:

Amounts in thousands of EUR

Shares in affiliated undertakings as at 1 January 2023	14
Capital injection CLL	6,484
Shares in affiliated undertakings as at 31 December 2023	**6,498**

(7) Right of use assets

The recognised carrying amounts of right-of-use assets refer to the following asset categories:

Leasing in the balance sheet	(amounts in thousands of EUR)		
Non-current right-of-use assets	Right of use land and buildings	Right of use car pool	Total
Gross book value			
As at 1 January 2023	16,268	2,683	18,951
Additions	8,642	472	9,114
As at 31 December 2023	24,910	3,156	28,065
Accumulated depreciation			
As at 1 January 2023	(9,604)	(1,942)	(11,545)
Charge	(2,557)	(448)	(3,005)
Charge from asset retirement obligation			
As at 31 December 2023	(12,160)	(2,390)	(14,550)
Net book value as at 31 December 2023	12,749	766	13,515

(8) Equity instruments valued at FVPL

The Bank credits whole shares resulting from corporate actions to customer account. Any remaining fractional units are rounded down to the next whole number of shares and the cash equivalent is credited to customer's account. As a result, the shares are registered in the name of the Bank.
The fair value of these instruments is EUR 1,146 thousand as at 31 December 2023.

(9) Book value adjustment

The Bank has adjusted the book value of the debt instruments as a part of SAP S/4 HANA transformation by EUR 2,425. The correction involved four bonds that were acquired prior to IFRS 9 implementation. Upon the implementation of the IFRS 9 standard the starting book value was not recalculated with effective interest rate method and adjusted through retained earnings as first-time adoption effects, but rather based on the linear amortization method. This adjustment in fair value was reflected through *Interest receivable and similar income*.

3.10 Own securities deposited at the Luxembourg Central Bank

As at 31 December 2023, the Bank had no securities deposited as part of its investment portfolio at Luxembourg Central Bank (2022: EUR 451,260 thousand).

3.11 Deferred tax

Provisions for deferred tax assets and liabilities are made up as follows:

(Amounts in thousands of EUR)	**2023** **Taxable temporary differences**	**Deferred tax assets**	**Deferred tax liabilities**
Clearstream Banking S.A. (1)	14,072	-	3,510
Clearstream Baking S.A., UK Branch	-	-	-
Clearstream Banking S.A., Singapore branch	53	9	-
	14,125	**9**	**3,510**

(1) The temporary taxable difference is caused by OCI reserve for pensions, cash flow hedges and equity instruments measured at FVOCI.

As at 31 December 2023, the applicable tax rates for deferred tax calculation are 24.94% in Luxembourg, 25% in United Kingdom and 17% in Singapore.

(Amounts in thousands of EUR)	**2022** **Taxable temporary differences**	**Deferred tax assets**	**Deferred tax liabilities**
Clearstream Banking S.A.	15,804	-	3,942
Clearstream Banking S.A., UK branch	4,120	1,030	-
Clearstream Banking S.A., Singapore branch	424	72	-
	20,348	**1,102**	**3,942**

As at 31 December 2022, the applicable tax rates for deferred tax calculation were 24.94% in Luxembourg, 25% in United Kingdom and 17% in Singapore.

3.12 Current tax assets and liabilities

Provision for taxation is made up as follows:

(amounts in thousands of EUR)	**Luxembourg**	**Singapore**	**2023** **UK**	**Japan**	**Total**
As at 1 January 2023	87,417	318	118	42	87,895
Tax expense	203,115	495	360	(6)	203,964
Tax paid	(94,857)	(440)	(173)	(94)	(95,564)
As at 31 December 2023	**195,675**	**373**	**305**	**(58)**	**196,295**

	2022				
(amounts in thousands of EUR)	**Luxembourg**	**Singapore**	**UK**	**Japan**	**Total**
As at 1 January 2022	21,635	253	146	6	22,040
Tax expense	125,941	291	78	69	126,379
Tax paid	(60,159)	(226)	(106)	(33)	(60,524)
As at 31 December 2022	**87,417**	**318**	**118**	**42**	**87,895**

3.13 Pillar II

By way of the Law of 22 December 2023 (the “Pillar 2 Law”), Luxembourg transposed the EU Council Directive 2022/2523 of 14 December 2022 on ensuring a global minimum level of taxation of 15% for multinational enterprise (“MNE”) groups and large-scale domestic groups in the European Union (“EU”), known as the EU Pillar Two Directive or the GloBE (Global anti-Base Erosion) Directive.

For the groups in scope, the GloBE rules introduce a requirement to compute the effective tax rate (“ETR”) for each jurisdiction they operate in, and potentially pay additional taxes according to the Income Inclusion Rule, the Undertaxed Profits Tax Rule or the Qualified Domestic Minimum Top-up Tax Rule.

Clearstream Banking S.A. belongs to a group that is within the scope of the OECD Pillar Two model rules. Pillar Two legislation was enacted in Luxembourg, the jurisdiction in which the company is incorporated, which has come into effect for fiscal years starting on or after 31 December 2023.Since the Pillar Two legislation was not effective at the closing date of the financial year, the Bank has no related current tax exposure. The Bank applies the exception to recognising and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes.

Clearstream Banking S.A. is part of Group Deutsche Börse which qualifies as an MNE group that is within scope of Pillar Two legislation. The Group Deutsche Börse is performing an assessment of the Group’s potential exposure to Pillar Two income taxes.

This assessment is based on the most recent information available regarding the financial performance of the constituent entities in the Group Deutsche Börse.

Due to the complexities in applying the legislation and calculating GloBE income, the quantitative impact of the enacted legislation cannot yet be reasonably estimated.

Clearstream Banking S.A. will disclose known or reasonably estimable information that helps users of financial statements to understand the Group’s exposure to Pillar Two income taxes in the Group’s annual consolidated financial statements in which the Pillar Two legislation has been enacted or substantially enacted and will disclose separately current tax expense/income related to Pillar Two income taxes when it is in effect.

4 Detailed disclosure relating to liability headings

4.1 Financial liabilities measured at amortised cost

4.1.1 Deposits from credit institutions

Deposits from credit institutions can be analysed as follows:

(amounts in thousands of EUR)	**2023**	**2022**
Repayable on demand		
Repayable on demand	12,548,732	12,182,344
With agreed maturity dates or periods of notice		
Remaining maturity of 24 hours or one working day	51,473	393,062
	12,600,205	**12,575,406**

Deposits from central banks outstanding as at 31 December 2023 amounting to EUR 614,704 thousand (2022: EUR 543,487 thousand) were all repayable on demand.
Amounts owed to affiliated undertakings have a total value of EUR 302,635 thousand (2022: EUR 326,864 thousand).

4.1.2 Deposits from customers

Deposits from customers as at 31 December 2023 amounting to EUR 1,827,058 thousand (2022: EUR 2,164,466 thousand) are repayable on demand.

Amounts owed to affiliated undertakings have a total value of EUR 87 thousand (2022: EUR 45,727 thousand).

4.1.3 Debt securities issued

The nominal amount of issued debt evidenced by certificates as at 31 December 2023 of EUR denominated issue was EUR 549,205 thousand (2022: EUR 504,545 thousand).

Remaining maturity of debt evidenced by certificates was as follows:

(amounts in thousands of EUR)	**2023**	**2022**
Not repayable on demand but not more than three months	549,205	504,545
More than three months but not more than one year	-	-
	549,205	**504,545**

4.1.4 Other financial liabilities

This caption consists of the following:

(amounts in thousands of EUR)	2023	2022
Amounts due to affiliated undertakings	141,671	154,457
Lease liabilities	17,914	15,429
Other financial liabilities	2	-
	159,587	**169,886**

4.2 Other liabilities

This caption consists of the following:

(amounts in thousands of EUR)	2023	2022
Amounts due to employees	2,091	1,738
Amounts due to suppliers	1,761	3,617
Liabilities for social security contributions	1,282	703
Other liabilities	3,089	8,587
	8,223	**14,645**

4.3 Accruals and deferred income

This caption consists of the following:

(amounts in thousands of EUR)	2023	2022
Accrued employee costs	13,035	14,195
Accrued fee costs	32,795	30,515
Deferred income	18,705	12,921
	64,535	**57,631**

The movement under caption ‘Deferred income’ relates to the increase in prepayments by customers and accrued employee costs.

4.4 Other provisions

This caption consists of the following:

(amounts in thousands of EUR)	2023	2022
Provisions for potential losses on operational activities	3,413	2,440
Provisions for restructuring [1]	1,351	1,942
Provisions for employee share plans	6,370	6,986
Provisions for refurbishment and rent	872	1,730
Other provisions	20,040	2,346
	32,046	**15,444**

No provision for litigation was recognized as at 31 December 2023 (2022: EUR NIL). The Bank presents further details of litigations in its management report.

Other provisions mainly relate to reimbursement of interest earned from blocked customer cash and performance-related variable remuneration.

4.5 Issued capital and share premium account

As at 31 December 2023 the share capital of the Bank consisted of 920,002 ordinary shares (2022: 920,002) with a nominal value of EUR 100 per share, all fully paid. The share premium of the Bank amounted to EUR 229,935 thousand as at 31 December 2023 (2022: EUR 229,935 thousand).
In addition to the amount of the issued share capital, the Bank has an authorised share capital of EUR 25,000 thousand divided into 250,000 ordinary shares with a nominal value of EUR 100 per share. Such authorisation is valid for a period of five years starting from 15 September 2022, the date of publication of the notarial deed amending the articles of incorporation of the Bank enacted on 15 September 2022.

4.6 Reserves

4.6.1 Legal and other reserves

The Bank is required by Luxembourg law to appropriate annually to a legal reserve 5% of its statutory net profits until the aggregate reserve equals 10% of the subscribed share capital. Such reserve amounting to EUR 9,200 thousand as at 31 December 2023 (2022: EUR 9,200 thousand) is not available for distribution.

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[1] Structural Performance Improvement Programme (SPIP) measures had been implemented by end-of 2021, no further exit agreements in 2022. Exit agreements affecting 69 positions in Clearstream Banking S.A. (thereof 13 managers) had been made; additionally, 29 open positions were cut (original plan: 18); severance packages and early retirement plans are expected to continue until end-of 2026.

In accordance with paragraph 8a of the net wealth tax law, the Company has opted for the constitution of a special net wealth tax reserve in order to reduce its net wealth tax charge incurred during the financial year 2023, amounting to EUR 2,962 thousand (2022: EUR 2,964 thousand). Such a reduction is subject to allocating an amount equal to five times the net wealth tax, amounting to EUR 15,000 thousand (2022: EUR 15,000 thousand), to a special net wealth tax reserve which may not be distributed during a minimum period of five years. The total of this reserve was EUR 75,500 thousand at 31 December 2023 (2022: EUR 75,000 thousand).

4.6.2 Accumulated other comprehensive income

In accordance with IFRS 9, fair value adjustments on financial instruments are recognised in the income statement or directly in Equity under "Accumulated other comprehensive income". The actuarial gains or losses and the difference between the expected and the actual return or loss in plan assets are recognised in Equity under "Accumulated other comprehensive income" (other items) in accordance with IAS 19.

The following table shows the movements in Equity under "Accumulated other comprehensive income" during the financial year:

amounts in thousands of EUR	**Equity instruments**	**Cash Flow hedges**	**Other items (IAS 19)**
Amount as at 1 January 2023	**3,956**	**4,061**	**3,847**
Fair value measurement	481	-	(2,118)
Cost of hedging reserve	-	-	-
Revaluation reserve	-	(96)	-
Deferred taxes	(120)	24	528
Amount as at 31 December 2023	**4,317**	**3,989**	**2,257**

In accordance with article 3 (2) of CSSF Regulation N° 14-02, the "Accumulated other comprehensive income" and other valuation differences above are not available for distribution. See table overleaf.

4.7 Movements in capital and reserves

Movements in capital and reserves

Movements in capital and reserves can be analysed as follows:

Amounts in thousands of EUR	1 January 2023	Allocation of profits	Ordinary dividend	Accumulated other comprehensive income (see Note 4.6.2)	Profit 2023	31 December 2023
Ordinary shares	**92,000**	-	-	-	-	**92,000**
Share premium	**229,935**	-	-	-	-	**229,935**
Legal reserve	**9,200**	-	-	-	-	**9,200**
Other reserves	**686,102**	432,240	(431,941)	-	-	**686,401**
Accumulated other comprehensive income	**11,864**	-	-	(1,301)	-	**10,563**
Profit for the year	**432,240**	(432,240)	-	-	610,520	**610,520**
Total	**1,461,341**	**-**	**(431,941)**	**(1,301)**	**610,520**	**1,638,619**

Amounts in thousands of EUR	1 January 2022	Allocation of profits	Ordinary dividend	IFS business carve out	Accumulated other comprehensive income (see Note 4.6.2)	Profit 2022	31 December 2022
Ordinary shares	**92,000**	-	-	-	-	-	**92,000**
Share premium	**229,935**	-	-	-	-	-	**229,935**
Legal reserve	**9,200**	-	-	-	-	-	**9,200**
Other reserves	**931,050**	236,927	(236,901)	(244,974)	-	-	**686,102**
Accumulated other comprehensive income	**69**	-	-	-	11,795	-	**11,864**
Profit for the year	**236,927**	(236,927)	-	-	-	432,240	**432,240**
Total	**1,499,181**	**-**	**(236,901)**	**(244,974)**	**11,795**	**432,240**	**1,461,341**

4.8 Dividends paid and proposed

During 2023, no interim dividend was paid (2022: EUR NIL). In July 2023, an ordinary dividend of EUR 431,941 thousand was paid.

A dividend amounting to EUR 600,301 thousand is proposed in 2024 in respect of the result of the year ended 31 December 2023.

4.9 Liabilities denominated in foreign currencies

Liabilities denominated in currencies other than EUR have a total value of EUR 10,710,624 thousand as at 31 December 2023 (2022: EUR 8,252,218 thousand).

5 Fair values per category, fair value adjustments and changes in fair value adjustments per category of financial instruments

The fair value adjustments and the changes in fair value adjustments of financial instruments measured at fair value can be analysed as follows:

	Fair value adjustments as at		**Change in fair value during 2023 included in the income statement**	**Accumulated other comprehensive income**
(Amounts in thousands of EUR)	**31 Dec 23**	**31 Dec 22**		
Assets				
Financial instruments:				
equity instruments	5,751	5,270	-	481
Financial assets held for trading	7,331	4,723	2,608	-
Derivatives – hedge accounting	5,314	5,410	-	(96)
Liabilities				
Financial liabilities held for trading	2,628	118,360	(115,732)	-
Financial liabilities held for hedging	-	-	-	-

6 Information relating to off-balance sheet items

6.1 Commitments

The law related to the resolution, reorganisation and winding-up measures of credit institutions and certain investment firms and on deposit guarantee and investor compensation schemes ("the Law"), transposing into Luxembourgish law the directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investment firms and the directive 2014/49/EU related to deposit guarantee and investor compensation schemes, was passed on 18 December 2015.

The deposit guarantee and investor compensation scheme through the "*Association pour la Garantie des Dépôts Luxembourg*" (AGDL) was replaced by a new contribution-based system of deposit guarantee and investor compensation scheme. This new system covers eligible deposits of each depositor up to an amount of EUR 100,000 and investments up to an amount of EUR 20,000. The Law also provides that deposits resulting from specific transactions or fulfilling a specific social or other purpose are covered for an amount above EUR 100,000 for a period of 12 months.

The funded amount of the "*Fonds de résolution Luxembourg*" (FRL) shall reach by the end of 2024 at least 1% of covered deposits, as defined in article 1 number 36 of the Law, of all authorized credit institutions in all participating Member States. This amount is collected from the credit institutions through annual contributions during the years 2015 to 2024.

The FGDL reached the target level of 0.8% of covered deposits at the end of 2018. In line with the growth of guaranteed deposits, the FGDL continued to collect contributions in order to maintain its target level. In accordance with Article 180(1) of the aforementioned law, the FGDL collects contributions during the period 2019 to 2026 in order to provide the FGDL with a buffer of additional financial means representing another extra 0.8% of the covered deposits. The FGDL will therefore have to double the amount of assets compared to the minimum provided for by Directive 2014/49/EU.

The law of 23 December 2016 on the tax reform 2017 has introduced a tax neutral reversal of the existing AGDL provisions in successive annual tranches from 2016 to 2026, under the condition that each annual tranche is at least equal to the contributions to the FGDL and FRL for that fiscal year. Any remaining balance of the AGDL provision not yet reversed at the end of this transitional period will have to be reversed and added to the taxable income of the year 2026.

On 18 January 2017, CSSF issued a circular letter relating to the abrogation of the AGDL and to the consequent accounting treatment of the AGDL reversal to enable the banks to follow from an accounting point view the tax treatment foreseen in the law of 23 December 2016.

In 2023, no FGDL provision was recognised in the books of the Bank (2022: EUR NIL).

6.2 Contingent liabilities

Contingent liabilities include guarantees issued in connection with the Automated Securities Fails Financing (ASL) programme in favour of the securities lenders. As at 31 December 2023, these guarantees amounted to EUR 521.7 million (2022: EUR 1,385.2 million).

In connection with a lease agreement of CAL, during 2019 the Bank provided a guarantee in favour of the landlord amounting to EUR 663 thousand (AUD 1,019 thousand) with maturity date of 31 January 2026. As per article 4.3.1(iii) of the asset owner agreement between the Bank and Clearstream Funds Centre Luxembourg (CFCL), CFCL shall indemnify and hold harmless the Bank from all liabilities, obligations, losses and damages that may arise in relation to client agreements.

On 14 April 2021 the Bank entered into a guarantee agreement with JPMorgan Chase Bank, N.A. (the Obligee) and CAL (the Principal) as the Guarantor. The subject of this guarantee are liabilities and debts the Principal may now or at any time have to the Obligee pursuant to the Subcustody Agreement between the Obligee and the Principal that the Obligee is unable to recover from the Principal after using reasonable efforts and which is not disputed, on reasonable grounds, by the Principal. As at 31 December 2023, the above mentioned agreement still stands with the Bank. However, as per the Asset Owner Agreement between the Bank and CFCL, CFCL shall indemnify and hold harmless the Bank from all liabilities, obligations, losses and damages that may arise in relation to client agreements.

6.3 Legal risks

The Bank presents further details of litigation risks in its management report.

6.4 Management and representative services supplied by the Bank

The Bank's services to third parties consist of clearing and settlement of securities transactions, safekeeping of securities, fund distribution support services and related services, including that of fiduciary agent.

Settlement facilities referred to as ‘Technical Overdraft Facilities’ are made available to the Bank’s customers in order to maximise settlement efficiency during processing and are subject to normal credit review procedures by the Bank. These facilities are revocable at the option of the Bank and principally collateralised by cash and securities and amounted to EUR 114.9 billion as at 31 December 2023 (2022: EUR 116.7 billion). Amounts actually outstanding at the end of each business day generally represent a small percentage of such facilities. As at 31 December 2023, they amounted to EUR 395 million (2022: EUR 144 million).

7 Detailed information on the income statement

7.1 Geographical analysis of income

Revenue is primarily derived from operations with customers in OECD countries. Interest receivable and similar income, income from transferrable securities, commission receivable, net profit on financial operations, and other operating income may be further analysed as follows:

(amounts in percentage)	**2023**	**2022**
Luxembourg	25%	11%
Other European Union	31%	36%
Other Europe	8%	26%
Other countries	36%	27%
	100%	**100%**

7.2 Interest receivable and similar income and interest payable and similar charges

Interest receivable and similar income and interest payable and similar charges consist of the following:

(amounts in thousands of EUR)	**2023**	**2022**
Interest receivable and similar income on assets	723,898	203,845
Interest receivable and similar income on liabilities	2,245	45,172
Interest receivable and similar income	**726,143**	**249,020**

(amounts in thousands of EUR)	**2023**	**2022**
Interest payable and similar charges on liabilities	(170,391)	(30,325)
Interest payable and similar charges on assets	(566)	(24,340)
Interest payable and similar charges	**(170,957)**	**(54,665)**

Average customer cash deposits decreased by 6% year-on-year, to EUR 16.4 billion (2022: EUR 17.5 billion) (thereof international business of Clearstream Banking AG 2023: EUR 1.5 billion, 2022: EUR 1.6 billion). The average customer cash deposits in USD remains stable representing 52% of the total average customer cash deposits.

Interest payable and similar charges on liabilities caption includes also interest expense on lease liabilities amounting to EUR 257 thousand (2022: EUR 118 thousand).

For fiscal year 2022, income from derivatives held for trading of EUR 79,384 thousands and expense of EUR 23,827 thousands were recognised as "Interest receivable and similar income" and "Interest payable and similar charges" respectively. As of 2023, these income and expenses are shown under "Net profit/(loss) on financial operations". The restatement of 2022's figures has been done for comparability reasons.

7.3 Commission receivable

Commission receivable consists of the following:

(amounts in thousands of EUR)	**2023**	**2022**
Safekeeping fees	488,651	433,150
Settlement fees	71,883	70,688
Administration fees	35,641	33,421
Order routing and fund issuance fees	51,631	49,279
Connectivity/reporting fees	98,388	92,666
Collateral management and security lending fees	131,909	127,268
Cash and liquidity management fees	24,048	23,181
Other commission fees	53,625	25,829
Commission receivable*	**955,776**	**855,482**

* Commission receivable split has been amended to reflect the Bank's customer handbook.

For fiscal year 2023, commission receivable included transactions with affiliated undertakings of EUR 72,413 thousand (2022: EUR 42,240 thousand) mainly comprised of intercompany recharges to Clearstream Banking A.G for SWIFT, Nostro and support for the international business (CBFi)

7.4 Net profit/(loss) on financial operations

This caption consists mainly of net revenue earned on matured derivatives held for trading (realised and unrealised FX result), customer FX service and foreign currency revaluation of the balance sheet positions.

7.5 Other operating income and other operating charges

Other operating income and other operating charges consist of the following:

(amounts in thousands of EUR)	2023	2022
Write down of blocked customer deposits (1)	660	127,407
Write down of blocked deposits with affiliated undertakings (1)	-	7,093
Sale of REGIS-TR S.A.	-	52,967
Transactions with affiliated undertakings	92,424	72,042
Miscellaneous	1,832	4,210
Other operating income	**94,916**	**263,719**

(amounts in thousands of EUR)	2023	2022
Impairment of cash balances with NSD (1)	-	(134,080)
Transactions with affiliated undertakings (2)	(226,716)	(80,535)
Loss allowance	(1,163)	-
Other operating charges	**(227,879)**	**(214,615)**

(1) The Bank has fully written off receivables from the Russian National Settlement Depository, NSD in the amount of EUR 134,080 thousand as at 31 December 2022, as it no longer expects repayment from NSD. No such write-off recognized as at 31 December 2023.

The fact that CBL is not able to control its assets held with NSD and to execute its clients' instructions constitutes a force majeure event.

Accordingly, by virtue of its general terms and conditions and the applicable laws of Luxembourg, CBL is released from its obligation to repay the rouble funds to its clients by reason of its inability to dispose of such funds due to force majeure. The reduction of these liabilities resulted in income of EUR 660 thousand, which fully compensated for the funds written off. The write off is included in "Other operating income."

(2) The evolution of this caption mainly relates to the transfer of commission income and net interest income for the fiscal year 2023 related to IFS business from the Bank to Clearstream Fund Centre S.A. as part of asset owner agreement.

7.6 Staff costs

The movements during the year in staff costs, including pensions, is in line with the movements during the year in the average number of staff (see also Note 9.1).

Please refer to note 0 for details in respect of Structural Performance Improvement Programme (SPIP).

7.7 Employee share option plans

Group Share Plan ("GSP")

Employees of Deutsche Börse Group who are not members of the Executive Board have the opportunity to acquire shares of Deutsche Börse AG at a discount under the Group Share Plan (GSP). Under the GSP tranche for the year 2023, the participating employees could subscribe for up to 50 shares of Deutsche Börse AG at a discount of 40 per cent and another 50 shares at a discount of 10 per cent. The acquired shares are subject to a lock-up period of two years.

The expense of the discount was recharged by Deutsche Börse AG to the Bank and has been recognised under staff costs for the year. These expenses amounted to EUR 419 thousand (2022: EUR 447 thousand).

Stock Bonus Plan ("SBP")

In the year under review, Deutsche Börse AG established an additional tranche of the SBP for senior executives who are not so-called risk takers.

In order to participate in the SBP, a beneficiary must have earned a bonus. The number of this stock-based instrument ("SBP shares") is determined by the amount of the individual and performance based SBP bonus for the financial year, divided by the average share price (Xetra closing price) of Deutsche Börse AG's shares in the fourth quarter of the financial year in question. The converted SBP bonus is not paid at the time the bonus is determined. Rather, the entitlement is generally received three years after the grant date (the "waiting period"). Within this period, beneficiaries cannot assert shareholder rights (in particular, the rights to receive dividends and attend the Annual General Meeting). Once they have met the condition of service, the beneficiaries' claims resulting from the SBP are calculated on the first trading day following the last day of the waiting period. The referenced current market price at that date (closing auction price of Deutsche Börse shares in electronic trading on the Frankfurt Stock Exchange) is multiplied by the number of SBP shares. The SBP shares are settled in cash.

The SBP shares from the 2019 SBP tranche were exercised in the reporting period following expiration of the waiting period.

The carrying amount of the provision for the SBP results from the measurement of the number of SBP shares at the fair value of the closing auction price of Deutsche Börse shares in electronic trading at the Frankfurt Stock Exchange at the reporting date and its proportionate recognition over the waiting period.

In accordance with IFRS 2, the Bank uses an adjusted Black-Scholes model (Merton model) to calculate the fair value of the stock bonus plan options. An expense of EUR 234 thousand has been recognised in the income statement for 2023 (2022: EUR 289 thousand).

Long-term Sustainable Instrument (LSI) and Restricted Stock Units (RSU)

In 2014, the Bank introduced the Long-Term Sustainable Instrument (LSI) plan in order to provide share-based remuneration in line with regulatory requirements. This programme was extended in 2016 with the Restricted Stock Units (RSU) plan. The following disclosures relate to both plans.

The LSI remuneration model requires at least half of a part of the variable remuneration to be settled in cash and half in share-based instruments of Deutsche Börse AG (LSI shares). All tranches will be settled in cash. A portion of the variable remuneration is paid in the subsequent year and another portion over a further period of three (since 2021 tranche: four) to five (up to seven in case of phase-in) years and a one-year waiting period. Moreover, a portion of the variable remuneration shall be converted into RSU, subject to a three- (since 2018 tranche five and up to seven years in case of phase-in) year deferral period after grant and a one-year waiting period (RSU shares).

Deutsche Börse Group thus measures the LSI and RSU shares as cash-settled share-based payment transactions. The number of LSI and, as applicable, RSU shares for the 2015 to 2017 tranches is calculated by dividing the proportionate LSI or RSU bonus, respectively, for the year in question by the average closing price of Deutsche Börse AG shares in the last month of the respective financial year. The number of LSI and RSU shares for the tranche 2018 and subsequent tranches is based on the closing auction price of Deutsche Börse shares as at the disbursement date of the upfront cash component of the respective tranche due, or on the closing price as at the following trading day on the Frankfurt Stock Exchange. This results in individual LSI tranches for the LSI bonus, which have maturities of between one and seven (in case of phase-in) years. The RSU bonus of tranche 2023 is deferred for five up to seven (in case of phase-in) years and payment is made after a waiting period of one year. Neither remuneration system stipulates any condition of service. Following the expiry of the waiting period, both the LSI and the RSU shares of the 2015 to 2017 tranches are measured on the basis of the average closing price of Deutsche Börse AG shares in the last month preceding the end of the waiting period. The LSI and RSU shares of the 2018 and subsequent tranches are measured at the closing auction price as at the first trading day in February of the year in which the waiting period ends.
In accordance with IFRS 2, the Bank uses an adjusted Black-Scholes model (Merton model) to calculate the fair value of the LSI and RSU shares. The valuation model does not take into account exercise hurdles. The volatilities applied correspond to the market volatilities of comparable options with comparable maturities.

The carrying amount of the provisions for the LSI and the RSU results from the measurement of the number of LSI and RSU shares at the fair value of the closing auction price of Deutsche Börse shares in electronic trading at the Frankfurt Stock Exchange at the reporting date. An expense of EUR 2,002 thousand has been recognised in the income statement for 2023 (2022: EUR 2,498 thousand).

7.8 Other administrative expenses

For the year ended 31 December 2023, the category “Other administrative expenses” includes an amount of EUR 266,904 thousand recharged by affiliated undertakings to the Bank (2022: EUR 240,868 thousand).

7.9 Remuneration of the external auditor

PricewaterhouseCoopers, Société coopéerative (Luxembourg) ("PwC"), fees billed and accrued to the Bank by PwC Société coopérative; and other member firms of the PwC network during the year are as follows:

(amounts in thousands of EUR, excluding VAT)	2023	2022
Audit fees	1,367	823
Other fees related to permissible non-audit services	194	192
Tax fees	-	-
	1,561	**1,015**

Such fees are presented under “Other administrative expenses” in the income statement.

7.10 Tax on profit on ordinary activities and other taxes

The tax charge in 2023 amounted to EUR 204,798 thousand (2022: EUR 126,432 thousand).

	2023	2022
(amounts in thousands of EUR)		
Applicable tax rate	24.94%	24.94%
Profit before tax from continuing operations	815,317	558,672
Non-deductible expenses	3,144	1,251
Non-taxable income	-	(52,356)
Prior year adjustment	2,702	(621)
Taxable basis	821,163	506,946
Tax income/(expense) related to profit or loss from continuing operations	**(204,798)**	**(126,432)**

The applicable tax rate for 2023 and 2022 is 24.94% in Luxembourg, 19% in UK and 17% in Singapore. As per 01.04.2023 CIT rate in UK is 25%.

8 Risk management disclosures

Risk management policies are described in the management report of the Bank.

8.1 Risk management disclosures relating to primary financial instruments

8.1.1 Non-trading financial activities

The following table provides an analysis of the carrying amount of financial assets and financial liabilities of the Bank into relevant maturity groupings based on the remaining periods to repayment.

CLEARSTREAM BANKING S.A.

Notes to the annual accounts
As at 31 December 2023
(continued)

(amounts in thousands of EUR)	**2023** **Less than three months**	**Between three months and one year**	**Between one year and five years**	**More than five years**	**Total**
Assets					
Cash, cash balances at central banks and other demand deposits					
Cash in hand, balances with central banks and post office banks	6,584,032	-	-	-	6,584,032
Loans and advances to credit institutions repayable on demand	4,854,404	-	-	-	4,854,404
Financial assets at amortised cost					
Debt securities					
Treasury bills and other bills eligible for refinancing with central banks	6,305	187,190	740,808	-	934,302
Debt securities and other fixed income securities	-	26,520	450,225	-	476,745
Loans and advances					
Loans and advances to credit institutions	2,905,079	438	-	-	2,905,517
Other loans and advances					
Loans and advances to customers	1,253,924	14	-	-	1,253,938
	15,603,744	**214,162**	**1,191,032**	**-**	**17,008,938**
Liabilities					
Financial liabilities measured at amortised cost					
Deposits from credit institutions					
Repayable on demand	12,548,732	-	-	-	12,548,732
With agreed maturity dates or periods of notice	51,473	-	-	-	51,473
Deposits from customers					
Other debts repayable on demand	1,827,058	-	-	-	1,827,058
Debt securities issued	549,205	-	-	-	549,205
Other financial liabilities	143,128	3,921	12,454	84	159,587
	15,119,596	**3,921**	**12,454**	**84**	**15,136,055**

			2022		
(amounts in thousands of EUR)	**Less than three months**	**Between three months and one year**	**Between one year and five years**	**More than five years**	**Total**
Assets					
Cash, cash balances at central banks and other demand deposits					
Cash in hand, balances with central banks and post office banks	8,389,228	-	-	-	8,389,228
Loans and advances to credit institutions repayable on demand	1,700,397	-	-	-	1,700,397
Financial assets at amortised cost					
Debt securities					
Treasury bills and other bills eligible for refinancing with central banks	80,767	178,364	739,892	30,398	1,029,421
Debt securities and other fixed income securities	-	117,975	443,648	-	561,623
Loans and advances					
Loans and advances to credit institutions	4,366,159	55,141	-	-	4,421,300
Other loans and advances					
Loans and advances to customers	994,464	315	-	-	994,779
	15,531,015	**351,795**	**1,183,540**	**30,398**	**17,096,748**
Liabilities					
Financial liabilities measured at amortised cost					
Deposits from credit institutions					
Repayable on demand	12,182,344	-	-	-	12,182,344
With agreed maturity dates or periods of notice	393,062	-	-	-	393,062
Deposits from customers					
Other debts repayable on demand	2,164,466	-	-	-	2,164,466
Debt securities issued	504,545	-	-	-	504,545
Other financial liabilities	155,462	3,889	9,405	1,130	169,886
	15,399,879	**3,889**	**9,405**	**1,130**	**15,414,303**

8.2 Risk management disclosures relating to derivative financial instruments

8.2.1 Non-trading activities

The following tables provide an analysis of the financial assets and financial liabilities of the Bank into relevant maturity groupings based on the remaining periods to repayment.

8.2.1.1 OTC derivatives non-trading instruments

OTC derivatives non-trading instruments are as follows:

			2023		
(amounts in thousands of EUR)	**Less than three months**	**Between three months and one year**	**Between one year and five years**	**More than five years**	**Total**
Derivative financial instruments (notional amount)					
Linked to exchange rates					
- forward	35,939	107,816	-	-	143,755
- swaps	1,757,423	-	-	-	1,757,423
	1,793,362	**107,816**	**-**	**-**	**1,901,178**

			2022		
(amounts in thousands of EUR)	**Less than three months**	**Between three months and one year**	**Between one year and five years**	**More than five years**	**Total**
Derivative financial instruments (notional amount)					
Linked to exchange rates					
- forward	36,549	109,648	-	-	146,197
- swaps	2,940,999	1,324,234	-	-	4,265,233
	2,977,548	**1,433,882**	**-**	**-**	**4,411,430**

8.2.1.2 Derivative non-trading instruments, quoted on a regulated market

The Bank has not entered into any derivative instruments which are quoted on a regulated market.

8.2.2 Trading activities

The Bank does not have trading activities.

8.3 Risk management disclosure relating to credit risk

The following tables provide information about Expected Credit Loss (ECL) on nostro balances with Russian National Settlement Depository (NSD) as at 31 December 2023:

2023
(amounts in thousands of EUR)

Days past due	Default rates	Gross carrying amount	Impairment loss allowance	Net carrying amount
Stage 3				
insolvent	100%	105,235	(105,235)	-
Total Stage 3		105,235	(105,235)	-

2022
(amounts in thousands of EUR)

Days past due	Default rates	Gross carrying amount	Impairment loss allowance	Net carrying amount
Stage 3				
insolvent	100%	134,080	(134,080)	-
Total Stage 3		**134,080**	**(134,080)**	-

Please refer to Note 7.5 for more details on the ECL on balances with NSD.

The following tables provide information about ECLs for trade receivables as at 31 December 2023 and 31 December 2022:

2023
(amounts in thousands of EUR)

Days past due	Default rates	Gross carrying amount	Impairment loss allowance	Net carrying amount
Stage 1/2	**%**			
0 -60	0.00	80,557	-	80,557
61-90	0.67	90	(1)	89
91-120	0.67	19	-	19
121-360	2.09	225	(5)	220
Total Stage 1/2		**80,891**	**(6)**	**80,885**
Stage 3				
360+	98.46	749	(737)	12
insolvent	100.00	-	-	-
Total Stage 3		**749**	**(737)**	**12**
Total		**81,460**	**(743)**	**80,896**

2022
(amounts in thousands of EUR)

Days past due	Default rates	Gross carrying amount	Impairment loss allowance	Net carrying amount
Stage 1/2	**%**			
0 -60	0.00	76,000	-	76,000
61-90	0.20	516	(1)	515
91-120	0.86	44	-	44
121-360	2.09	367	(8)	359
Total Stage 1/2		**76,927**	**(9)**	**76,918**
Stage 3				
360+	98.46	451	(444)	7
insolvent	100.00	-	-	-
Total Stage 3		**451**	**(444)**	**7**
Total		**77,378**	**(453)**	**76,925**

The following tables provide information about ECLs for debt securities as at 31 December 2023 and 31 December 2022.

2023
(amounts in thousands of EUR)

Rating/ Year	**Default rate %**	**Gross carrying amount**	**Impairment loss allowance**	**Net carrying amount**
			Stage 1	
AAA	0.00	1,011,982	-	1,011,982
AA	0.06	399,313	(248)	399,065
Total		**1,411,295**	**(248)**	**1,411,047**

2022
(amounts in thousands of EUR)

Rating/ Year	**Default rate %**	**Gross carrying amount**	**Impairment loss allowance**	**Net carrying amount**
			Stage 1	
AAA	0.00	1,164,829	-	1,164,829
AA	0.05	426,423	(208)	426,215
Total		**1,591,252**	**(208)**	**1,591,044**

The movement in the allowance for impairment in respect of nostro balances with NSD during the year was as follows.

Nostro balances with NSD Expected credit loss (amounts in thousands of EUR)	**Stage 3**
Book value as at 31.12.2022	**134,080**
Additions	-
FX revaluation	(28,845)
Book value as at 31.12.2023	**105,235**

The movement in the allowance for impairment in respect of trade receivables during the year was as follows.

Trade receivables Expected credit loss (amounts in thousands of EUR)	**Stage 1/2**	**Stage 3**
Book value as at 31.12.2022	**9**	**444**
Additions	2	286
Transfer from Stage 1 /2 to Stage 3	(7)	7
Net remeasurement	2	-
Write offs	-	-
Book value as at 31.12.2023	**6**	**737**

The movement in the allowance for impairment in respect of debt instruments during the year was as follows.

Debt instruments Expected credit loss (amounts in thousands of EUR)	**Stage 1/2**
Book value as at 31.12.2022	**208**
New debt instruments acquired	-
Net remeasurement of loss allowance	45
Matured instruments	(5)
Book value as at 31.12.2023	**248**

Credit risk exposure can be analysed as follows:

	2023		
(amounts in thousands of EUR)	**Maximum credit risk exposure**	**Collateral**	**Net risk exposure**
Primary financial assets			
- Participating interests	8,845	-	8,845
- Shares in affiliated undertakings	6,498	-	6,498
- Treasury bills and other bills eligible for refinancing with central banks	934,302	-	934,302
- Debt securities and other fixed-income securities	476,745	-	476,745
- Cash in hand with central banks	6,584,032		6,584,032
- Loans and advances to credit institutions repayable on demand	4,854,404	3,817,793	1,036,611
- Loans and advances to credit institutions other	2,905,517	2,733,329	172,188
- Loans and advances to customers	1,253,938	1,190,127	63,811
Derivative financial instruments	46,600	-	46,600
	17,070,881	**7,741,249**	**9,329,632**

	2022		
(amounts in thousands of EUR)	**Maximum credit risk exposure**	**Collateral**	**Net risk exposure**
Primary financial assets			
- Participating interests	8,951	-	8,951
- Shares in affiliated undertakings	14	-	14
- Treasury bills and other bills eligible for refinancing with central banks	1,029,421	-	1,029,421
- Debt securities and other fixed-income securities	561,623	-	561,623
- Cash in hand with central banks	8,389,228		8,389,228
- Loans and advances to credit institutions repayable on demand	1,700,397	533,689	1,166,708
- Loans and advances to credit institutions other	4,421,300	4,178,554	242,746
- Loans and advances to customers	994,779	886,113	108,666
Derivative financial instruments	255,361	-	255,361
	17,361,074	**5,598,356***	**11,762,718**

* Restated compared to annual accounts of 2022

The maximum credit risk exposure on primary financial assets has been taken as the carrying amount, whereas for derivative financial instruments it represents the replacement cost, calculated in accordance with current regulations.

The expected loss calculated as at 31 December 2023 amounted to EUR 743 thousand (2022: EUR 453) and EUR 248 thousand (2022: EUR 208 thousand) in respect of trade receivables and debt instruments at amortised cost respectively.

Refer to Note 6.1 and 6.2 in relation to commitments, financial guarantees and other credit related contingent liabilities.

Total on and off-balance sheet economic sector credit risk concentrations are presented in the table overleaf.

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As at 31 December 2023
(continued)

(amounts in thousands of EUR)	**2023**	**2023 %**
Banks and financial institutions	9,319,699	55
Corporate customers	247	-
Public sector	7,750,935	45
	17,070,881	**100**

(amounts in thousands of EUR)	**2022**	**2022 %**
Banks and financial institutions	7,739,771	45
Corporate customers	502	-
Public sector	9,620,801	55
	17,361,074	**100**

Total geographic sector risk concentrations are presented in the table below.

(amounts in thousands of EUR)	**2023**	**2023 %**
Luxembourg	6,440,846	38
Other Monetary Union member states	3,760,111	22
Other	6,869,924	40
	17,070,881	**100**

(amounts in thousands of EUR)	**2022**	**2022 %**
Luxembourg	8,868,912	51
Other Monetary Union member states	2,766,809	16
Other	5,725,353	33
	17,361,074	**100**

The table below shows a breakdown of total credit extended by the Bank by type of collateral:

(amounts in thousands of EUR)	**2023**	**2023 %**
Collateralised by listed investments	7,741,249	45
Unsecured	9,329,632	55
	17,070,881	**100**

(amounts in thousands of EUR)	**2022**	**2022 %**
Collateralised by listed investments*	5,598,356	32
Unsecured	11,762,718	68
	17,361,074	**100**

* Restated compared to annual accounts of 2022

8.4 Risk management disclosure relating to market risk

The Bank uses maturity analysis to estimate the degree of sensitivity to interest rate changes (IRR) for its different portfolios. The IRR is calculated daily on the basis of the net present value (NPV) of a 1% interest rate change for trades/instruments with a remaining life to maturity less than 1 year and 2% if greater than or equal to 1 year.

The effect of 1% increase for the money market book shows an exposure of EUR 4 thousand (2022: EUR 763 thousand), for the floating rate notes portfolio EUR 45,787 thousand (2022: EUR 63,509 thousand).

In 2023, the Bank has decreased its term exposures in particular fixed and zero-coupon EUR portfolio led to decrease of the IRR accordingly.

9 Other information

9.1 Personnel

The average number of persons employed by the Bank is as follows:

	2023	2022
Management*	42	56
Employees	476	501
	518	**557**

*Management comprises all senior managers, directors and executive directors.

9.2 Administrative, managerial and supervisory bodies

Remuneration paid to the various bodies of the Bank was as follows:

(amounts in thousands of EUR)	**2023**	**2022**
Supervisory bodies (Supervisory Board and Audit Committee members)	111	164
of which:		
- pension expenses	-	-
Administrative and managerial bodies (Executive Board members and other managers)	13,167	17,154
of which:		
- remuneration paid in respect of the employee share options plans	*133*	*246*
- pension expenses	*955*	*1,496*

There are no pension liabilities or commitments for the benefit of former directors of the Bank.

The Bank has not granted loans, advances or credits to members of the administrative, management and supervisory bodies. The Bank has not entered into guaranteed commitments on their behalf.

9.3 Return on assets

The Bank has a return on assets as at 31 December 2023 of 3.57 % (2022: 2.52 %).

9.4 Report on post balance sheet date events

No events have occurred subsequent to the year-end which would have a material impact on the annual accounts as at 31 December 2023.