BANQUE ET CAISSE D'EPARGNE DE L'ETAT, LUXEMBOURG

Head Office:
1, Place de Metz, Luxembourg

Luxembourg Trade and Companies Register (R.C.S.) B 30775

Self-governing public institution, established pursuant to the law of 21 February 1856 (Memorandum 1, no. 6 of 10 March 1856) and governed by the constitutional law of 24 March 1989, as amended (Memorandum A, no. 16 of 28 March 1989)

2022 Audited Consolidated Financial Statements

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BANQUE ET CAISSE D'EPARGNE DE L'ETAT, LUXEMBOURG

STATEMENT ON THE COMPLIANCE OF THE CONSOLIDATED FINANCIAL STATEMENTS

31 December 2022

Luxembourg, 29 March 2023

Statement on the compliance of the consolidated financial statements and management report in accordance with the provisions of article 3 of the coordinated version of the Luxembourg transparency law ("Loi Transparence") of 11 January 2008

We hereby declare that, to the best of our knowledge, the consolidated financial statements of Banque et Caisse d’Epargne de l’Etat, Luxembourg as at 31 December 2022 have been prepared in accordance with the applicable accounting standards and give a true and fair view of the assets and liabilities as well as the financial position and results. We also hereby declare that the management report presents an accurate description of the development, results and situation of Banque et Caisse d’Epargne de l’Etat, Luxembourg and of the group of companies included in the consolidated financial statements, taken as a whole, as well as the main risks and uncertainties facing the Bank and the BCEE Group.

For the Executive Committee

Doris Engel
Executive Vice President
Member of the Executive Committee

Françoise Thoma
Chief Executive Officer
President of the Executive Committee

BANQUE ET CAISSE D'EPARGNE DE L'ETAT, LUXEMBOURG

CONSOLIDATED MANAGEMENT REPORT
31 December 2022

Aykut Efe
Economist & Strategist, Spuerkeess Asset Management

2022: a year of major disruption

The year 2022 was characterised by major upheavals and severe shocks, whether political, economic or financial. At the end of 2021, none of the possible scenarios had predicted the war in Ukraine or the resulting energy shock and inflation, not to mention the never-ending lockdowns imposed in China. Since the end of the 1980s, developed economies have benefited from relatively stable macroeconomic aggregates, with inflation kept in check, growth generally steady and interest rates trending down in the long term. Economists are now concerned that the period of “Great Moderation” is over and is giving way to the period of “Great Volatility”.

The various shocks to the global economy took all economic players by surprise. The central banks, which had not been planning to tighten their monetary policies so aggressively, quickly reversed course to respond to this series of jolts.

The monetary authorities deployed an impressive arsenal to combat 10% inflation in the developed world by pursuing a highly aggressive monetary tightening cycle, and catapulted their key interest rates from a floor rate to more than 2% in the eurozone and more than 4% in the United States. Even the Bank of Japan, known for its decades-long ultra-accommodative monetary policy, had to admit defeat in the face of rising inflation. Ultimately, this surge in inflation marked the end of the zero and negative interest rate era.

Despite the challenging conditions, the global economy weathered the shock as it was still able to grow by more than 3% in 2022, according to the latest estimates. That said, forecasts continue to trend down for 2023, which should be the year that this global monetary tightening takes its toll on growth. As of the beginning of the year, we have managed to avoid the worst-case scenarios in the short term. Europe has been able to diversify its gas supply and prices per cubic metre have eased somewhat from their peak right after the invasion of Ukraine. Furthermore, the reopening of China and robust job markets are key factors in keeping recession scenarios at bay. It is nonetheless important to remember that leading indicators continue to show that rising rates will eventually have an impact on activity.

Not surprisingly, throughout 2022 the financial markets suffered the consequences of this sudden shift in the macroeconomic environment. Prices of both equities and bonds fell sharply, leaving portfolios that were diversified across the two asset classes with little chance of success. Investors had no choice but to protect themselves with cash or commodities, as reflected in the significant rise in oil prices. In contrast, this asset price revaluation suggests a positive long-term outlook, implying that expected returns will be much better.

Right now, risks continue to weigh on the macroeconomic environment. While most analysts are pleased that inflation has likely peaked, the central banks are not claiming victory just yet as wage inflation continues to fuel the price of services and dim the outlook for inflation. The scenario that the central banks dread the most would be for inflation to become entrenched in economic agents' expectations. Inflation remained sticky at the beginning of the year, however, which is why central bankers continue to send the markets strong messages on inflation. With the end of the cycle drawing near, the question is how fast inflation can return to healthier levels.

In short, the topics of inflation and rising rates will remain relevant in 2023. In addition, growth well below potential is likely to complicate the macroeconomic environment.

"Financing advice for real estate projects is one of the core services offered by Spuerkeess, the leader on the domestic mortgage loan market"

Anne-Catherine Schlink
Team Manager – Housing Loans

I manage the "Place de Metz" housing unit and have been responsible for the new "Luxembourg Finance Centre" housing unit since October 2022. Since good communication and collaboration are key factors in ensuring a team's success, my focus is on interpersonal relationships. Ideas, needs and potential concerns are shared as part of an ongoing dialogue.

Following the recent reorganisation of the branch network, our goal is to continue to further improve our customers' overall satisfaction by providing personalised advice that meets their expectations.

At a time of economic and geopolitical uncertainty, we saw a significant decline in loan applications in the last few months of 2022. The year was marked by the lifting of the health restrictions, commodity shortages, rising prices and interest rates and, most importantly, the war in Ukraine. We are proud of our results and pleased to confirm that, despite these uncertainties, the entire team was able to further improve customer loyalty.

OUR OBJECTIVES

- Increase customer satisfaction
- Assist and support our customers in the current economic environment
- Promote environmental, social and governance (ESG) criteria and tax products such as building savings schemes (BHW) and insurance policies (Lalux)
- Reorganise the housing unit after the merger of the finance centres
- Build team spirit and create a positive atmosphere

OUR RESULTS

- Customer trust and satisfaction (89% satisfaction rate according to the surveys)
- Customer retention
- File structure consistency
- Ongoing training for advisors and great team atmosphere

OUR CHALLENGES

- Rising rates and market uncertainties

OUR SOLUTIONS

- Delegate files and encourage team members to work independently
- Be attentive to the team and offer ongoing training
- Support customers and provide personalised advice

"We are pleased to see a sharp increase in our low carbon emissions financing".

Nobby Brausch
Senior Vice President & Head of Department
Corporate Banking

The multiple crises in 2022 strained the resilience of Luxembourg companies. Certain challenges, such as the economic consequences of the Russia-Ukraine conflict, had a significant impact on the profitability of many companies.

Spuerkeess once again demonstrated its commitment and its support for Luxembourg companies in a crisis environment. For example, we offer financing under the new government-backed loans scheme, with the aim of providing companies with financial support to help them through these difficult times.

We also assist our business customers with their energy transition projects by providing advice and appropriate financing. We are pleased to report a sharp increase in loans related to ESG projects.

In short, Spuerkeess is determined to support Luxembourg companies in an ever-changing environment while complying with the most stringent environmental standards. We are standing by to assist our business customers as they transition to a more sustainable and environmentally friendly economy.

OUR OBJECTIVES

- Support Luxembourg companies in a multi-crisis environment
- Assist our business customers with their energy transition projects by providing advice as well as loans

OUR RESULTS

- Sharp increase in loans related to ESG projects

OUR CHALLENGES

- Russia-Ukraine conflict and the ensuing economic impacts that affect companies' profitability (higher energy costs, commodity supply issues, rising interest rates)
- Slowdown in the real estate market

OUR SOLUTIONS

- Proactive support for our customers through customised financing that takes their individual situations into account
- Implementation of a green financing product for business customers based on the EIB's green eligibility checker

"We must not fear change but instead face it together so we can best meet our customers' evolving needs".

Sandra Kühn-Weis

Deputy Head of Business Unit Product Management Retail and Private Banking

Even as we celebrate our first anniversary and the many challenges we have faced, we are focused on all the new goals we have set! The Product Management (PRM) unit's first order of business was to set up the new Product Management unit to coordinate all the Retail and Private Banking products, and we completed this task successfully. This collaboration allows us to focus on our primary goal of implementing a customer-centric strategy throughout the Bank built on the expertise of the commercial units, process owners and IT teams. The synergies needed to develop and effectively manage the products intended for our Retail and Private Banking customers are starting to pay off: the PRM unit's results in terms of introducing innovative products and monitoring existing products speak for themselves.

Thanks to the motivated "Desks, Daily, Investment and Lending" teams, a number of product and service initiatives are underway, as are ongoing efforts to improve existing products and even develop new ones, potentially in areas Spuerkeess has not yet targeted!

OUR OBJECTIVES

- Manage projects cross-functionally
- Monitor Retail and Private Banking products
- Track our competitors' pricing and products
- Help Spuerkeess meet its strategic objectives
- Set up and maintain an efficient and effective product repository

OUR RESULTS

- Management of 14 projects related to products that already exist or are in development
- 13 new initiatives currently being analysed with the goal of offering products across all channels

OUR CHALLENGES

- Maintain transparent communication with the other Business Units
- Anticipate the needs of our Retail and Private Banking customers
- Monitor and guarantee a life-cycle approach for Retail and Private Banking products

OUR SOLUTIONS

- Expertise in project management and in Retail and Private Banking products
- Cross-functional communication
- Client centricity in partnership with the Bank's UX designers, in close collaboration with distributors

"In 2022, we restructured our entire unit to better focus on our strategic objectives, strengthen our ESG commitment and improve our internal and external communications".

Marco Rasqué da Silva
Secretary General & Member of Extended Management

Spuerkeess's Secretary General is responsible for coordinating the decision-making process for the Bank's executives. We have implemented a collaboration system for different teams within the Bank in order to develop reportings on a variety of subjects (including, for example, commercial, digital transformation, data, HR, etc.), which proved helpful in implementing our five-year strategic plan. The goal of Spuerkeess 2025 is to ensure the sustainability of the Bank's activities to benefit the national economy and our customers. To help management make informed decisions and to ensure effective cross-functional consultation on project implementation, the Executive Committee has established Extended Management. Together, we helped move a number of projects forward, including "business succession", and we successfully expanded our Bank's presence in the Greater Region.

Our primary mission in 2022 was to communicate the Bank's strategic vision and highlight both our environmental, social and governance (ESG) efforts and the digital transformation that is part of Spuerkeess's strategic plan. We collaborated with a dozen scientists on the Spuerkeess Scientific Advisory Board, who helped us examine and improve the way we calculate our carbon emissions. To better analyse the climate risks that affect Luxembourg's various sectors, we launched a collaboration with LISER and LIST.

The digital world is constantly changing, and our challenge is to adapt to trends in communication. To meet our goals, we integrated the internal communications team into the Secretary General's office. We want to listen to our various stakeholders (both internal and external) and have therefore introduced a two-way communication process. In January 2022, we launched our "Evergreens by Spuerkeess" podcast and posted 24 articles on our "Why is this important?" ESG blog.

OUR OBJECTIVES

- Transpose and monitor Spuerkeess 2025
- Improve our internal and corporate communications
- Ensure ESG compliance and communicate our values

OUR RESULTS

- First carbon assessment completed
- 24 articles for the "Why is this important?" blog and 12 episodes of the "Evergreens by Spuerkeess" podcast

OUR CHALLENGES

- Two-way communication with our stakeholders
- Adaptation to constantly changing communication channels

OUR SOLUTIONS

- Establishment of the Strategic and Sustainability Office
- Strategic reporting and annual review of strategy implementation
- Reliance on the expertise of our Scientific Advisory Board
- Acquisition of an interest in i-Hub
- Collaboration with LISER and LIST

"Our post-trade activities are seeing rapid worldwide transformation from a business, regulatory and technological point of view. Our teams want to actively participate in the transformation rather than having to undergo it".

Muriel Kimmes
Senior Vice President & Head of Department, Securities & Market Operations

We live in an ever-evolving world and the pace of change continues to accelerate. Because they will have to adapt to whatever the future may hold, our teams are forward-looking and have developed strategies based on a review of our operational processes, the rollout of new digital tools and the implementation of automation and streamlining projects.

We faced many challenges in 2022, but I will mention just one as it is the key to successfully meeting all the others: we have to continuously automate and streamline our operational processes by implementing new technological solutions and developing new organisational set-ups. Projects are underway to improve our operational efficiency, which will enable us to anticipate and adjust to market developments.

OUR OBJECTIVES

- Offer post-trade service for orders sent on the capital markets and the corresponding financial markets
- Bank network management
- Efficiently manage the Bank's cash nostro position
- Manage the regulatory transaction reporting
- Provide a service to international securities issuers

OUR RESULTS

- EUR 70 billion in assets (securities) in custody
- 60.000 post-trade transactions per month on securities (equities, bonds, undertakings for collective investment)
- Control and accounting for several thousand own-account deals per month (forex, futures/options, money market, etc.)
- Network of 23 sub-custodians covering 37 markets and cash correspondents in 27 countries
- Reporting of approximately 220.000 MiFIR transactions and thousands of EMIR transactions per month
- Tens of thousands of securities available in the Bank's value database
- Above-market settlement efficiency rate

OUR CHALLENGES

- Automate and streamline our operational processes
- Maintain our high settlement efficiency performance against the backdrop of shorter life cycles
- Adjust to increased regulatory requirements
- Develop the Corporate Trust/Services activity for international securities issuers

OUR SOLUTIONS

- Review of our operational processes and implementation of automation and streamlining projects
- Efficient and innovative middle offices in charge of rolling out effective automated reconciliation tools

"I became head of private banking in July 2022 and met my new team, which had a good balance of maturity and experience and a wide range of cultural and linguistic diversity. Most importantly, the team is highly motivated to best support our customers. I believe that we are well positioned to grow the business".

Alain Uhres
Senior Vice President & Head of Department Private Banking

The financial markets had a challenging year in 2022, with both equities and bonds delivering disappointing performances. However, the Private Banking activity continued to grow at a stable and steady pace. Most of our customers kept calm, proof that our long-term investment approach produces results.

Our Activmandate Green ESG discretionary management offering met with great success among investors, with assets under management more than doubling over the past year. A special effort was made throughout the year to train our staff to provide advice on investments that meet sustainability and social criteria. We implemented a new investor profile to help us understand each customer's preferences when it comes to sustainable development considerations (ESG).

The recent rise in interest rates (central bank action on interbank rates) allows us to once again pay interest on money-market deposits at the end of the year and to resume our issues of structured products.

OUR OBJECTIVES

- Help our customers with all their needs
- Promote discretionary management solutions

OUR RESULTS

- Stable assets under management in the context of challenging financial markets
- Growth in customers

OUR CHALLENGES

- Raise our profile as a financial centre private banker
- Incorporate ESG aspects into our investment process

OUR SOLUTIONS

- A broad range of investment products and solutions
- Personal monitoring and support for our customers

"Internal Audit is a control function that works with management to ensure that risks are identified and addressed, that processes are effective and efficient, and that the Bank operates in accordance with laws and regulations".

Nathalie Mangen
Deputy Head of Function Internal Audit

The Internal Audit function is the third line of defence at the Bank. It is an independent and permanent control function responsible for the critical assessment of internal governance, compliance and management of activities and risks as a whole. Internal Audit therefore aims to help the Bank achieve its goals by providing an objective assessment of its management systems, identifying opportunities for improvement and potential weaknesses, and making recommendations. One of Internal Audit's major challenges is to adapt to an ever-changing environment to be able to meet the needs of the Bank and its stakeholders, as well as the regulator's requirements. The year 2022 was marked by the following key events:

- **Multi-year audit plan (MAP):** Internal Audit prepares a multi-year audit plan to ensure that audit assignments are conducted in an orderly manner and to cover all of the Bank's activities and functions, including developments and planned innovations, within a reasonable timeframe. The current MAP came to an end in 2022. Internal Audit worked throughout 2022 to develop a new MAP and used this exercise as an opportunity to revise its audit universe. This new universe covers all the important aspects of the Bank in a general way.
- **External review of the audit function:** The Internal Audit function's performance and compliance with the standards of the IIA (Institute of Internal Auditors) are regularly evaluated by an independent external firm. This evaluation confirmed that Internal Audit is functioning properly and that it is aligned with the standards.
- **Expansion of the team:** The Internal Audit function was significantly expanded in 2022 to adjust to an ever-changing environment and manage the proliferation of regulatory requirements.

These developments will ultimately enable Internal Audit to fulfil its role, which is to help the governing bodies effectively manage the activities and their related risks.

OUR OBJECTIVES

- Help the Bank meet its goals by assessing its risk management, control and internal governance processes
- Identify weaknesses and opportunities for improvement and make recommendations

OUR RESULTS

- Coverage of all of the Bank's units and activities through our audit assignments
- Periodic and independent review of the Bank's operations

OUR CHALLENGES

- Adjust to an ever-changing economic and technological environment
- Manage the proliferation of regulatory requirements

OUR SOLUTIONS

- Systematic and methodical approach to analysis consistent with international internal audit standards
- Annual independent assessment of risks and of the internal control system, and development of an audit plan based on the results of this assessment

"We take advantage of digital developments to make life easier for our customers and employees".

Martine Kirsch

Vice President & Head of Business Unit Business Innovation Office

Since its creation, the Business Innovation Office has aimed to create an efficient user experience for both our customers and our employees. Together with the Retail Customer Innovation team, we coordinate the S-Net projects that affect several commercial units, while maintaining the platform at the highest level of satisfaction on the market. We also work with the Internal Innovation team, which is tasked with representing the Bank's employee-users in the various IT projects. The UX division therefore ensures that the Design Thinking and Client Centricity methodologies are communicated to the different business units.

Our goal is to continually make new features available. In 2022, the two most important projects were the digital onboarding project for our Corporate customers and S-Net Business, a financial platform that offers our SME customers simple and secure daily management. To promote innovation within the Bank, our unit held its second hackathon and our digital transformation programme continues to reinvent our users' work ecosystem. Lastly, our unit, in conjunction with the IT teams, is supervising the migration to the Microsoft 365 environment. The migration is an opportunity for the different business units to take a new look at how they collaborate and communicate.

OUR OBJECTIVES

- Remain a catalyst for innovation within the Bank
- Continue the Connect digital transformation programme
- Stay one step ahead in terms of features

OUR RESULTS

- 81 ideas generated at the hackathon including 4 that will be implemented
- 16 new features in S-Net including cyberattack awareness
- Increase in S-Net users (+16.000)
- 20% increase in S-Net logins (4 million logins per month)
- 18% of sales across all products available via S-Net
- Ranked 18th among the best banking web apps worldwide

OUR CHALLENGES

- Provide an excellent user experience in a changing world
- Involve users in implementing new collaborative solutions
- Convince digital transformation sceptics
- Maintain S-Net's excellence and expand beyond the services offered in the branches
- Develop new solutions for business customers

OUR SOLUTIONS

- Change management around the M365 migration
- Technology and competition watch at all levels
- Close collaboration with the business units to ensure customer satisfaction

OUR RISK MANAGEMENT POLICY

To ensure effective risk management at all levels, we have implemented governance based on the concept of the three lines of defence. Spuerkeess has a Risk Management department, which reports directly to the Executive Committee, as does the Compliance department. These two departments provide the second line of defence in the Bank's governance model, while the Internal Audit department represents the third line of defence. These three internal control functions drew up an internal control charter in 2022. The objective of this charter is to define the steps that must be taken for the Bank's internal control to function properly: risk identification and management in the first line of defence, and continuous or periodic supervision of risk management in the second or third line of defence.

The Bank has opted for a "defensive" risk profile defined in its Risk Appetite Framework (RAF). The RAF includes indicators of the Bank's major risk categories and enables the Executive Committee and the Board of Directors to regularly monitor Spuerkeess's overall risk situation in detail. The levels of risk to which the Bank is exposed are measured using a set of strategic indicators, operational metrics, and macroeconomic indicators. Risk appetite is defined through surveillance levels set for the different indicators and transposed into a set of limits intended to manage and control Spuerkeess's various risks. The internal capital adequacy assessment process (ICAAP) and internal liquidity adequacy assessment process (ILAAP) are used to ensure that the Bank has adequate capitalisation and liquidity to pursue and grow its business activities. Risk management is supervised by various working groups and committees, at both the Executive Committee level and the Board of Directors level. Risk management is described in detail in Note 6 to the financial statements as at 31 December 2022. Several categories of risk need to be considered:

Financial risks

Credit risk

Credit risk is the risk of loss on the Bank's receivables due to a deterioration in the credit quality of borrowers, which could even result in the default of a borrower or the inability to recover assets deposited with third parties.

Each material Bank commitment giving rise to a credit risk is subject to prior analysis of the borrower's credit quality by the Loan and Credit Management department. The borrower's credit quality is assigned an internal rating which is a direct component of the credit risk management system. It is one of the key parameters used to set limits or grant new financing.

The Enterprise Risk Management unit within the Risk Management department is responsible for developing the internal rating models. The Financial Risk Management unit within the Risk Management department, as the second line of defence, produces analyses and reports on credit risk in the Bank's various sub-portfolios.

Decisions on loans to the national economy are made by the various credit committees according to the customer's overall credit outstanding. Residential mortgage loans account for more than half of Spuerkeess's loan and credit portfolio. Credit risk is assessed based on the customer's overall solvency and repayment ability as well as the existence of real guarantees.

For international commitments, an initial investment is made only with counterparties classified as investment grade, excluding counterparties rated BBB-. For non-financial entities, priority is given to counterparties from Organisation for Economic Co-operation and Development (OECD) countries, mainly in Europe and North America.

Outstanding amounts are subject to counterparty risk monitoring, sector and systemic risk monitoring and regular checks based on updated financial analyses and proposed adjustments to limits per counterparty. We also apply a country limit system for all non-Luxembourg countries in which the Bank is active. These limits are reviewed annually.

The European Market Infrastructure Regulation (EMIR) aims to reduce bilateral counterparty risk by requiring the use of Central Counterparty Clearing (CCP) for derivative financial instrument transactions. To comply with this obligation, we have opted to work through direct members, known as clearing brokers.

Although the Bank has no direct exposures to Russia, Belarus or Ukraine, the war launched by Russia on 24 February 2022 has had impacts on price stability, economic growth and the quality of some of the

Bank's assets. An analysis of the potential impacts of this situation on the Bank's portfolios was conducted in 2022.

Market risk

Market risk is the risk of loss arising from unfavourable changes in various financial parameters, the main ones being interest rates, share prices and foreign exchange rates. Spuerkeess's market risk management policy distinguishes between mismatch risk arising from structural mismatches between the maturities of resources and the use made of those resources in the Bank's balance sheet, and the risk associated with cash management and trading activities.

Interest rate risk in the banking book (IRRBB)

IRRBB refers to the current or prospective risk to which the Bank's capital is exposed due to adverse movements in interest rates. In recent years, the ALM unit within the Global Markets department has developed models to analyse customers' digital behaviour, which can help assess the interest rate risk associated with the Bank's activities. These models have now been implemented in a tool used to manage interest rate risk based on specific metrics and in accordance with a predefined limit framework. Compliance with these limits is monitored by the first line of defence; the Financial Risk Management unit within the Risk Management department, as the second line of defence, is responsible for supervising this system. The very rapid rise in interest rates and the impacts of this situation on interest rate risk management remain a major challenge for the Bank.

Liquidity risk

Liquidity risk results from a potential mismatch between financial inflows and outflows on a specific date. The risk for a credit institution is that it may be unable to meet its payment obligations at a given point in time as a result of having insufficient liquid assets relative to its maturing liabilities. By virtue of its financial structure, the Bank is in a position of excess liquidity.

The Bank constantly monitors liquidity risk on the basis of maturities, including both a very detailed reconciliation of cash inflows and outflows over a six-month horizon and a medium- and long-term assessment of structural funding requirements monitored by the ALM Committee.

Non-financial risks

Operational risk

Operational risk is defined as the risk of losses resulting from an inadequacy or a failure of processes, personnel, internal systems, or external events, including legal risk.

The roles and responsibilities of the first and second lines of defence are highlighted in the Operational Risk Management Policy. Operational risks can arise in all the Bank's activities, and all staff must therefore act as the first line of defence to manage these risks. The Non-Financial Risk Management unit within the Risk Management department serves as the second line of defence in this context.

We aim to reduce operational risk by continuously improving our processes and organisational structures. To that end, the Bank uses a governance, risk and compliance (GRC) tool to coordinate the risk and control self-assessments (RCSAs), manage incidents and monitor action plans.

Information technology (IT) risk and cyber risk

As the first line of defence, the IT department is responsible for managing the Bank's IT and cyber risks. The Non-Financial Risk Management unit within the Risk Management department supervises IT and cyber risk management.

An Information Security Officer in the Non-Financial Risk Management unit is responsible for overseeing IT security, reports to the head of the Risk Management department and has a direct reporting line to the Chief Risk Officer, who is a member of the Executive Committee.

This IT and cyber risk management structure allows the Bank to operate within the limits set in the Risk Appetite Framework (RAF). In 2022, IT and cyber risk management was integrated into operational risk management to improve the efficiency of these processes. Teams from the Non-Financial Risk Management unit within the Risk Management department support and monitor IT projects and changes throughout the year.

Model risk

The scope of model risk is defined in the model risk management policy. Any unit that develops models within this scope creates model risk and must manage this risk as the first line of defence. Model risk management is supervised by the Non-Financial Risk Management unit within the Risk Management department.

This supervisory role is performed through the processes in place for the initial and periodic validation of the Bank's models. The validation activities are developed and organised as part of a validation plan and adhere to the principles included in the "Model Risk Management Policy". All stakeholders involved in the Bank's models come together once a month as part of a "Model Working Group".

AML/FT risk

The fight against money laundering and the financing of terrorism (AML/FT) is a constant concern for Spuerkeess. Implementation of the professional obligations applicable to financial sector entities relies on a conservative "AML/FT risk appetite" and the rollout of a robust system defined according to a risk-based approach. The system's scope of coverage also includes themes relating to restrictive measures in financial matters (sanctions and embargos) and the prevention of market abuse.

The commercial departments (first line of defence) and the Compliance department (second line of defence) are jointly responsible for implementing AML/FT procedures and controls. In 2022, the separation between AML/FT risk management and supervision was strengthened with the creation of a new unit that aims to bring a range of "Know Your Customer" and "Know Your Transaction" tasks together in a dedicated entity reporting to the first line of defence.

At the Compliance department level, the Financial Crime Compliance unit is responsible for managing AML/FT risks and supervising risk management by the first line of defence. Its tasks include, among others, analysing suspicious files and cooperating with the competent authorities, namely the Financial Intelligence Unit, the Luxembourg Ministry of Finance and/or the CSSF, depending on the type of suspicious activity.

Conduct risk and prevention of internal fraud

Prevention and control are the key to guaranteeing high standards of professional ethics and internal fraud risk management. The Conduct & Controls unit within the Compliance department educates staff on the importance of complying with the Code of Conduct, the conflict of interest policy, and discretion and professional secrecy obligations, and on the value of using the whistleblowing procedure, if necessary. It is responsible for conducting investigations if there is a complaint against a Spuerkeess agent.

Data Protection

Protecting the personal data of our customers, staff and suppliers is a core concern for Spuerkeess. The Data Protection Officer, who is part of the Compliance department, is committed to providing all employees with regular training on this important topic and participates in project governance, with the aim of ensuring data protection by design for every new product or service.

Regular monitoring and controls, along with detailed and well-communicated procedures, make it possible to detect any risk of this nature and propose quick corrective measures, if necessary. The data protection policy is updated regularly and posted on the Bank's website.

Other compliance risks

Spuerkeess is subject to and must comply with a specific set of regulations. The Compliance department is responsible for identifying the standards applicable to its operations and maintains a register of these requirements. In addition to this regulatory watch, the Regulatory Compliance unit within the Compliance department supervises the work done by the Bank's different operational entities to comply with applicable regulations, and regularly communicates the status of ongoing initiatives and projects to Spuerkeess's management bodies.

For the other regulatory matters under the supervision of the Compliance function, the Compliance department implements a Compliance monitoring programme, defined and managed on the basis of a mapping and an assessment of the underlying risks, which is updated annually. This programme is reflected in a multi-year second-line control plan carried out by the Compliance department's units. The purpose of this plan is to ensure compliance with the legal and regulatory requirements applicable to Spuerkeess's activities.

Other risks

Management and monitoring of risks inherent in compiling financial reporting

The Bank has developed procedures and control systems to compile and monitor financial information. To provide an assurance of the quality and completeness of financial information, the Bank conducts daily checks on internal account movements, monitors the main headings of the income statement, including interest margin, fees and general expenses, and verifies the completeness of the information gathered through different IT applications before being fed into the accounting information system. The Bank reconciles the balances of pending accounts, interest accrual accounts and other internal accounts on a monthly basis.

The accounting and asset risk management units in the first line of defence work in close cooperation to evaluate portfolio positions or to calculate valuation allowances for assets showing evidence of impairment. Since the introduction of IFRS 9, the impairment model for financial assets has been based on the recognition of expected losses. The calculation is performed monthly.

Besides purely accounting controls, the Bank regularly monitors its profitability by customer, product and business line and conducts a monthly analysis of the spending budget. The Executive Committee uses the Management Information System (MIS) to monitor the performance of the Bank's business lines. Similarly, it analyses and validates the Bank's financial position and monitoring of the spending budget on a monthly basis.

Hedge accounting

The consolidated financial statements of the Spuerkeess Group have been prepared in accordance with IFRS as adopted by the European Union and comprise the financial statements of the Bank, subsidiaries, and special purpose entities over which the Group has control when it has rights to variable returns, because of its relationships with those entities, and the ability to affect those returns through its power over those entities.

Subsidiaries are consolidated from their date of acquisition, when the Bank, as the parent company, has the power to direct their financial policies. They are deconsolidated on the date such control ceases. The Bank uses derivative financial instruments to hedge against interest-rate, foreign-exchange, and fixed-price risks (stock market indices and share prices). The derivative financial instruments commonly used are IRS and CIRS in standard plain vanilla hedging transactions. In addition to these standardised contracts, the Bank uses swaps with structured components to specifically hedge structured issues and acquisitions of bonds containing embedded derivatives, provided they are closely related.

Derivative financial instruments are considered as being held for trading except where they are designated as hedging instruments. When entering into a contract, the Bank may designate certain financial instruments as hedging instruments, if the transactions meet the criteria set out in IAS 39. The Bank primarily uses fair value hedges and, secondarily, cash flow hedges. Beyond these contract-by-contract hedges, the Bank applies fair value macro-hedging on fixed-rate loans in accordance with the principles of IAS 39 in its "carve-out" version for the European Union. This hedging is done exclusively using IRS financial instruments. In accordance with IFRS 9, the Bank continues to apply hedging principles according to the old IAS 39.

Compliance with CRR 2

Spuerkeess meets market requirements through compliance with Regulation (EU) 575/2013, one of the objectives of which is to disclose to the market the Bank’s exposure to the above risk categories. In 2021, the Bank took the necessary steps to comply with Regulation (EU) 2019/876, which entered into force on 28 June 2021.

In 2022, an adjustment was made to the methodology used for the capital charge for credit risk. Spuerkeess thus migrated its low default portfolios from the internal ratings-based approach to the standard approach after obtaining the necessary approvals from the European Central Bank.

Information on the composition of capital, the risk management strategy and the remuneration policy may be found in the Bank's Pillar 3 publication. This information supplements the information published in these annual financial statements.

The Pillar 3 report for financial year 2022, which details how the Bank is organised to ensure that all the risks to which the institution is or could be exposed are anticipated, detected, measured, controlled and reported, is available on the Bank's website.

OTHER ACTIVITIES

Other activities include back office and support activities, which play an essential role in supporting the Bank's strategic and development goals. Back office activities make it possible to process the growing volumes of payment, credit and securities transactions from the commercial units, and ensure control and security in processing these transactions in accordance with the laws in force. We continue our efforts to improve our systems and processes in order to adapt to market developments and increase our efficiency.

Support activities cover a wide variety of areas, such as Bank finances, legal and regulatory matters, organisation, marketing, logistics and IT.

Back-office activities

The Payments Business Unit coordinates and manages activities related to payment services that support transfers, direct debits, debit cards, credit cards, Payconiq, cash, banking packages, current accounts, savings accounts and deposits. This also includes case management in the event of customer queries (information, complaints, fraud). It also manages relationships and contracts with external service providers, interbank payment systems and payment schemes. It provides business support for electronic channels such as S-Net, Multiline and Payconiq. It acts as Registration Office for the issuer of LuxTrust certificates. It is also responsible for printing and sending out hard-copy reports, implementing electronic management of paper documents produced in the normal course of business, and dealing with the post.

The Securities & Markets Operations department carries out several complementary activities that can be classified into six categories. Accordingly, the teams handle the post-trade component of capital market transactions (e.g. settlement, delivery, corporate actions, custody, tax services) and the post-trade component of financial market transactions (derivatives, forex, repos, money market). In addition, the department is responsible for regulatory transaction reporting (MiFIR, EMIR, SFTR, etc.) and for the Bank's network management and cash and securities reconciliation. Lastly, the department also manages the Bank's securities value database and provides services to securities issuers.

The Loan & Credit Management department participates in activities related to granting and monitoring loan and credit products for individuals, corporates, the public sector and institutional customers. In particular, it analyses loan applications, assesses and monitors the real and personal property collateral offered as security, decides whether to grant credit under the powers assigned to it by Spuerkeess's Executive Committee, and handles contract preparation and loan monitoring. The department is also responsible for periodically updating Spuerkeess's general credit risk management policy, for carrying out the first level of credit risk monitoring for the loan and credit portfolio, and for producing and analysing the aggregate credit risk indicators. In addition to the loan and credit activity, the department participates in Spuerkeess's Global Credit Investments portfolio activities. It is responsible for suggesting exposure limits by asset class, analysing the risk of the investments proposed by the trading floor, and monitoring sector risk and the exposures held in the investment portfolio.

The Innovation & Project Management department is responsible for managing innovation and for the Bank's cross-functional and regulatory projects. The innovation component mainly involves introducing new ways of working at the Bank with the migration to the Microsoft suite and the implementation of knowledge management and UX design. One of the Innovation team's other tasks is to maintain, but also mostly to develop, the S-Net Mobile and S-Net Desktop Internet banking tool. The Project Management team is focused on multiple priority issues for the Bank. Part of this team works to optimise the Bank's work processes and manage the "Project Online" project management tool. The other part consists of project managers who coordinate or take the lead on cross-functional and/or regulatory projects.

Shareholdings

Fulfilling one of its statutory tasks, which involves contributing to the country's economic and social development in all areas through its financing activities, in addition to promoting savings, Spuerkeess holds equity interests, directly or indirectly, in key sectors of Luxembourg's economy. It also supports the start-up and development of businesses with a national interest.

Since 1989, Spuerkeess has been a 40% shareholder of the La Luxembourgeoise S.A. group.

After its acquisition in 2021 of some of the shares held by another financial centre bank, Spuerkeess now holds 25,35% of the capital of Société de la Bourse de Luxembourg S.A., of which it is a founding member and the largest shareholder.

In collaboration with three other players in the Luxembourg financial centre, Spuerkeess participated in the 2018 creation of LuxHub S.A., in which it holds 32,50% of the capital. Since December 2022, Spuerkeess has held a 20% equity interest in i-Hub, a start-up launched by POST Luxembourg that is focused on automating AML/KYC processes.

Media and telecommunications are important sectors for Luxembourg's economy. The Bank is a founding shareholder of SES S.A., the world leader in global satellite communications. The Bank holds a 10,88% interest in the share capital of SES S.A. in the form of Class B shares. These Class B shares grant a voting right corresponding to this stake, in accordance with the "one share, one vote" principle. Spuerkeess also holds Fiduciary Depositary Receipts (FDRs) representing a 0,85% interest in the share capital of SES S.A. These FDRs are quoted on the market and are convertible into an equivalent number of SES's Class A shares. The Class A shares also grant a voting right corresponding to this stake, in accordance with the "one share, one vote" principle. In terms of the economic right, SES S.A.'s by-laws specify that a Class B share gives the holder the right to a dividend that is 40% of the dividend paid for a Class A SES S.A. share.

In the air transport sector, Spuerkeess holds a 21,81% equity interest in the capital of Luxair, Société Luxembourgeoise de Navigation Aérienne S.A., which is active in air navigation, tour operation, cargo handling and catering, and a 10,92% equity interest in the capital of Cargolux Airlines International S.A., which is one of the world's largest all-cargo airlines.

The Bank also holds a 12% stake in the capital of Encevo S.A., the holding company for Luxembourg's market-leading energy group.

At the time of SMS Group's takeover of all of Paul Wurth S.A.'s industrial activities in 2021 through SMS's acquisition of the respective stakes held by the Luxembourg State, SNCI and Spuerkeess in the capital of Paul Wurth S.A., Paul Wurth S.A.'s real estate activities were transferred to Paul Wurth Real Estate S.A. Spuerkeess continues to hold a 10,98% stake in Paul Wurth Real Estate S.A. and will thus contribute to the development and sale of the properties held by this company in Luxembourg City.

Through its 11% stake in the capital of Société Nationale des Habitations à Bon Marché S.A. (S.N.H.B.M.), a national player specialising in the design and construction of single-family homes and apartment buildings at affordable prices and under long-term leases, Spuerkeess is fulfilling its social mission of facilitating home ownership for personal needs.

In addition to these major shareholdings, Spuerkeess contributes to the economic development not only of the country but also of the Greater Region by acquiring smaller stakes in Luxembourg and cross-border companies. For companies in the border region, this mainly includes EUREFI S.A., with the Bank making an 8,76% investment. At the European level, Spuerkeess is the only financial institution in Luxembourg to hold a stake in the European Investment Fund (EIF), an institution that is part of the European Investment Bank (EIB) group and supports SMEs across Europe by issuing bank guarantees. The EIF, or the EIB Group more specifically, has set ambitious targets regarding its role in the fight against climate change, which also represents one of the two major pillars of Spuerkeess's sustainable development strategy. At the end of 2022, the 31,5% stake in European Fund Administration was sold to Universal Investment Group, one of the main fund services platforms in Europe. A breakdown of the ownership percentages in investments in associates and subsidiaries is presented in Note 4.9 to the 2022 annual financial statements.

Sustainable development strategy

Since 2017, Spuerkeess has published a non-financial report in accordance with the standards of the Global Reporting Initiative (GRI) detailing Spuerkeess's strategy and activities in the area of sustainable development. All the details on the Bank's energy transition are published in this sustainable development report.

THE BANK'S FINANCIAL RESULTS AT 31 DECEMBER 2022

The Spuerkeess Group comprises Spuerkeess, Luxembourg as the parent company and its fully consolidated subsidiaries and associates consolidated using the equity method. At EUR 747,1 million as of 31 December 2022, the Group's bank margin was up EUR 78,7 million (11,8%) compared with the 2021 financial year.

The Group's net interest margin rose by 22,3% due to business development in the credit activities and the rise in interest rates, which made it possible to rebuild the interest margin on liability products. The end of the negative rate policy also meant the Bank could stop paying interest on the surplus of its deposits with the European Central Bank.

Fee and commission income was up 2,6% due mainly to the favourable change in income from current accounts and asset management, the increase in fees from capital markets activities, which benefited from dynamic commercial activity in a volatile environment, and the strong growth in fees for administration and custody of securities.

Income from the Group's shareholdings was EUR 36,0 million at end-2022, up EUR 12,9 million (55,9%) from the previous year, as the dividends received from some of the Group's parent company's holdings were higher than in the past.

Income from financial instruments decreased from EUR 42,5 million at the end of 2021 to EUR 2,7 million as at 31 December 2022. The decrease in this item stemmed in large part from realised and unrealised losses on financial instruments measured at fair value through profit or loss due to volatility in yield curves and foreign exchange rates.

Income from derecognition of non-financial assets was EUR 8,1 million as at 31 December 2022, i.e. an increase of EUR 7,8 million compared with the 2021 financial year. This increase can be attributed to the sale of several bank branches that are no longer operational.

Other operating income and expenses rose to EUR 11,3 million at year-end 2022 from EUR 7,7 million at the end of 2021. The nature of its composition makes this item volatile and the change is mainly due to specific non-recurring factors.

Spuerkeess made its contribution to the national compartment of the "Fonds de Résolution Luxembourg" (Luxembourg resolution fund, or FRL), which has gradually merged over an eight-year period with the single resolution fund established by the Single Resolution Mechanism. It also made its contribution to the "Fonds de Garantie des Dépôts" (Deposit Guarantee Fund, or FGDL) over the course of 2022. These two contributions combined totalled EUR 41,7 million for 2022.

Total general expenses were therefore up 2,6%. The growth in general expenses stemmed mostly from structural wage growth and the April 2022 index bracket payment. Digitalisation and process optimisation efforts improved productivity and limited the increase in general expenses.

The cost of risk had a considerable influence on the trend in Spuerkeess income in 2022. Given the deterioration in the economic environment, the Bank protected itself from credit risk by recording value adjustments and provisions totalling EUR 62,1 million versus a reversal of EUR 31,3 million in 2021. Cost of risk for performing loans (Stage 1 and Stage 2) increased sharply due to the more uncertain economic environment and the rapid rise in interest rates which affects household budgets and businesses' financial position.

The Group therefore posted net income of EUR 332,9 million for the 2022 financial year, up EUR 3,8 million (+1,2%) from net income of EUR 329,1 million in the prior year. This slight increase in income can be attributed mainly to dynamic growth in bank margin.

ANALYSIS OF MAIN BALANCE SHEET ITEMS

The balance sheet totalled EUR 56.674,9 million at 31 December 2022, an increase of EUR 3.250,0 million compared with 31 December 2021, mainly due to the increase in deposits from retail, business and public sector customers.

On the assets side of the balance sheet, the "Cash and sight accounts with central banks" line increased by EUR 1.074,0 million to EUR 10.847,8 million at end-2022, pointing to the surplus of customer deposits relative to the opportunities for investment and loan origination that are consistent with Spuerkeess's risk appetite.

Outstanding fixed-income securities recognised at amortised cost amounted to EUR 13.586,2 million, down EUR 235,7 million compared with 31 December 2021.

The outstanding amount of financial assets mandatorily recognised at fair value through profit or loss totalled EUR 490,7 million, a decrease of EUR 141,8 million compared with 31 December 2021. This item includes financial instruments that do not meet the necessary conditions for measurement at amortised cost and which are measured at fair value through profit or loss. The reduction in outstandings can be attributed to redemptions of securities without reinvestment, following the decision to reduce this type of financial asset.

The outstanding amount of variable-income securities recognised at fair value through the revaluation reserve was EUR 892,7 million, down EUR 232,4 million compared with 31 December 2021, due to the decrease in the measurements of certain shareholdings.

Similarly, investments in associates accounted for using the equity method increased by EUR 116,3 million to EUR 687,8 million at 31 December 2022, due mainly to the favourable change in measurements.

Compared with 31 December 2021, the outstanding amount of loans to credit institutions increased by EUR 111,4 million to EUR 1.458,0 million at 31 December 2022. This item also includes the Bank’s deposits with other banks, whether or not they are collateralised with securities.

Outstanding customer loans totalled EUR 26.705,4 million at 31 December 2022, an increase of EUR 1.458,7 million since 31 December 2021. The increase was driven by the development of the housing loan and corporate loan businesses, illustrating the continued desire of Spuerkeess to support the projects of individuals and businesses in the country. The commercial performance remained high despite the impact of rising interest rates and high inflation.

On the liabilities side of the balance sheet, issues of securities decreased by EUR 147,8 million to EUR 2.810,7 million at end-2022. This decrease stemmed from the decision to voluntarily reduce the Euro Commercial Paper (ECP) and US Commercial Paper (USCP) programmes.

Credit institution deposits decreased by EUR 1.252,3 million and totalled EUR 5.682,4 million. This item also includes bank deposits collateralised with securities and liabilities received in TLTRO III operations. Early repayments of the liquidity lent by the European Central Bank account for most of this change.

Customer deposits totalled EUR 41.126,3 million, an increase of EUR 4.219,7 million compared with 31 December 2021. This growth was driven by strong inflows of deposits from corporates and individuals. Public sector deposits increased significantly, as changes in this item are more volatile and depend on the State’s needs and cash management policy.

In accordance with Article 38-4 of the Amended Law of 5 April 1993 on the Financial Sector, the Group reported its return on assets, which stood at 0,59% versus 0,62% in the prior year.

CHANGE IN OWN FUNDS

The Spuerkeess Group's total equity attributable to the parent company amounted to EUR 5.472,5 million as at 31 December 2022 compared with EUR 5.214,4 million at the end of 2021, i.e. an increase of 5,0%.

This EUR 258,1 million increase in equity consisted mainly of:

- an increase in consolidated reserves of EUR 316,9 million, after distribution of part of the profit for financial year 2021;
- a EUR 197,0 million change in actuarial gains or losses on the employee pension fund due to the increase in actuarial rates;
- a EUR 3,8 million increase in 2022 income;
- a EUR 239,3 million decrease in the revaluation reserve due mainly to a decrease in the fair value of strategic holdings;
- a EUR 20,3 million decrease in other items due mainly to lower capital gains realised this year on sales of variable-income securities recognised at fair value through the revaluation reserve.

2023 OUTLOOK

The topic of inflation dominated the news on the financial markets in 2022. Inflation, which is measured as the change in consumer prices over a rolling 12-month period, rose in Luxembourg from 4,14% at end-December 2021 to 5,37% at end-December 2022. It remained consistently above 5% throughout 2022, with the exception of January when it was 3,58%. Inflation hit its peak in June at 7,43%.

STATEC forecasts inflation will remain in check in Luxembourg in 2023, due mainly to state measures designed to curb the rise in the price of energy products. In its medium-term projections published on 24 February 2023, STATEC forecast growth in GDP in volume terms of 2,2% for 2023, i.e. below the forecast for 2022 of 2,5%. Lastly, STATEC expects unemployment to increase slightly from 4,8% of the working population in 2022 to 5% in 2023.

Against the backdrop of persistently high inflation, the European Central Bank (ECB) raised its key rates by 250 basis points in 2022 and is expected to continue to tighten its monetary policy in 2023.

The Bank's Executive Committee confirms that, in 2023, Spuerkeess will continue to assume its mission of supporting the national economy, which is facing slowdowns in certain sectors, such as construction. As a responsible financial actor, Spuerkeess will play an even greater role in the sustainable development of the Luxembourg economy and the ecological transition, in accordance with the commitments it made when it signed the Principles for Responsible Banking and joined the Net Zero Banking Alliance.

EVENTS AFTER THE REPORTING PERIOD

In the first quarter, the ECB further tightened its monetary policy and announced two additional increases in its key rates of 50 basis points each.

In Luxembourg, STATEC measured annual inflation at 4,83% in January and 4,31% in February 2023, i.e. below 5% for the first time in a year. At the meeting of the Tripartite Coordination Committee of 3 March 2023, the Government and social partners took additional measures to avoid an inflationary shock in early 2024, a risk that STATEC had predicted if the state measures on energy product prices were allowed to expire.

Within the eurozone, average inflation was 8,6% at end-January and 8,5% at end-February. In a context of low growth in domestic GDP and, in particular, lower inflation than in neighbouring countries, the ECB's monetary policy tightening could have a larger impact on the domestic economy, in particular through the construction market. However, the current situation has not led to downward revisions of the growth outlook described above.

The failures of Silicon Valley Bank (SVB) and Signature Bank in the United States in early March 2023 led to a panic on the financial markets. The US authorities responded quickly and announced a series of measures, including a guarantee on all SVB deposits. After this panic in the United States, the markets turned to the more fragile players in Europe, including the Crédit Suisse group. On 19 March, the Swiss authorities brokered the merger between UBS Group and Crédit Suisse Group to calm the financial markets and strengthen the stability of the Swiss banking industry. As of the date of this report, this situation on the financial markets has not had a significant impact on the normal course of Spuerkeess's business. Management is closely monitoring these developments in order to be in a position to respond to any unanticipated consequences.

Luxembourg, 29 March 2023

For the Executive Committee

Doris Engel	Françoise Thoma
Executive Vice President	Chief Executive Officer
Member of the Executive Committee	President of the Executive Committee

BANQUE ET CAISSE D'EPARGNE DE L'ETAT, LUXEMBOURG

STATUTORY AUDITOR'S REPORT
31 December 2022

REPORT OF THE “REVISEUR D’ENTREPRISES AGREE”

Au Comité de direction,
Banque et Caisse d’Epargne de l’Etat, Luxembourg
1, place de Metz
L-1930 Luxembourg

Report on the audit of the consolidated annual accounts

Opinion

We have audited the consolidated annual accounts of Banque et Caisse d’Epargne de l’Etat, Luxembourg and its subsidiaries (the “Group”), which comprise the consolidated statement of financial position as at 31 December 2022, and the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and the notes to the consolidated annual accounts, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated annual accounts give a true and fair view of the consolidated financial position of the Group as at 31 December 2022, and of its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (“IFRS”) as adopted by the European Union.

Basis for Opinion

We conducted our audit in accordance with the EU Regulation N° 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 those Regulation, Law and standards are further described in the section « Responsibilities of “Réviseur d’Entreprises Agréé” for the Audit of the Consolidated Annual Accounts » of our report. We are also independent of the Group in accordance with the International Ethics Standards Board for Accountants’ Code of Ethics for Professional Accountants (“IESBA Code”) as adopted for Luxembourg by the CSSF together with the ethical requirements that are relevant to our audit of the consolidated annual accounts, and have fulfilled our other ethical responsibilities under those ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

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

Depreciation of loans and advances at amortized cost for “Corporate” customers

Loans and advances to “Corporate” customers represent a key activity of the Group and are recorded in the consolidated annual accounts under the section Loans and advances at amortized cost – Customers. These loans and advances are accounted at amortized cost, less value adjustment for expected credit losses. They represent on the asset side of the balance sheet a net exposure of EUR 5,9 billion, including a balance of expected credit losses for individual risks of EUR 101,3 million.

The application of value adjustments to such instruments requires judgment by the Executive Committee which is based on a credit analysis prepared by the department in-charge of credit risk monitoring following the principles of the IFRS 9 standard regarding the determination of depreciations for expected credit losses. This calculation is based on a categorization of all credits based on the change of their internal ratings (staging) and on estimates primarily related to probabilities of defaults and effective exposures in the moment of default.

The process to determine expected credit losses is based on numerous factors and is inherently complex, and includes a certain degree of judgment in identifying quantitative and qualitative factors of a significant increase in credit risk and to determine the required levels of depreciations needed. For the year ended 31 December 2022, this process has been impacted by the rise of interest rates together with the uncertainties and risks coming from the macro-economic and geopolitical evolution.

We have considered the depreciations of loans and advances to “Corporate” customers as a key audit matter because of the level of judgment required for their determination, the complexity of the modalities to compute value adjustments for expected credit losses as defined by the IFRS 9 standard, the consequences of the macro-economic and geopolitical evolutions and related economic uncertainties, as well as because of their importance for the presentation of the financial position and the statement of comprehensive income for the year ended 31 December 2022.

How the matter was addressed in our audit

Within the context of the audit, we proceeded with walkthroughs and test of controls related to the identification process and the monitoring process of overdue exposures of the Group, the periodical review of such exposures, the elaboration of a list of specific provisions and consideration of others quantitative indicators, as defined by the Group.

We reviewed the internal documentation and made interviews with the heads of departments in order to validate the approach applied by the Group to categorize loans and advances to “Corporate” customers (staging) and to estimate the qualitative and quantitative data used as a basis for the computation of credit impairments.

We have examined the internal control environment of the Group related to the appreciation of the level of impairment of loans and advances through interviews, the review of key controls, the review of the governance and decision-making process as well as the validation by the Management of the level of specific impairment for these exposures.

Furthermore, in order to respond to the impacts of the macro-economic evolutions as well as its geopolitical uncertainties, we have reviewed the Group's approach to identify high-risk industries and the impact on internal ratings. Our procedures notably included a critical examination of the industries identified as high-risk as well as the specific reviews carried out by the Group of loans and advances granted to companies in these industries through their integrated strategy relating to vulnerabilities. We have also followed-up the evolution of the forborne loans and of the volume of loans in default to ensure that the latter are reflected in the calculated expected credit losses. Lastly, we assessed the assumptions and macroeconomic factors included in the scenarios used for the computation of expected credit losses.

For loans and advances, subject to a specific impairment, we assessed, on a sample basis the reasonableness of the amount of impairment. Our procedures have, among others, included the verification of information related to the files and, where applicable, a verification that the existence and valuation of collateral was duly considered.

In addition, based on a sample of loans and advances with low internal ratings, we have ensured that the latter should not have been subject to an impairment due to particular circumstances.

Depreciation of mortgage loans at amortized cost for retail customers

Mortgage loans to retail customers represent a key activity of the Group and are recorded in the consolidated annual accounts under the section “Loans and advances at amortized cost – Customers”. These loans and advances are accounted at amortized cost, less value adjustment for expected credit losses. They represent on the asset side of the balance sheet a net exposure of EUR 17,3 billion, including a balance of expected credit losses for individual credit risks of EUR 30,2 million.

The application of value adjustments to such instruments requires judgment by the Executive Committee which is based on a credit analysis prepared by the department in-charge of credit risk monitoring following the principles of the IFRS 9 standard regarding the determination of depreciations for expected credit losses. This calculation is based on a categorization of all credits based on the change of their internal ratings (staging) and on estimates primarily related to probabilities of defaults and effective exposures in the moment of default.

The process to determine expected credit losses is based on numerous factors and is inherently complex, and includes a certain degree of judgment in identifying quantitative and qualitative factors of significant increase in credit risk and to determine the required levels of depreciations needed. For the year ended 31 December 2022, this process has been impacted by the rise of interest rates together with the uncertainties and risks coming from the macro-economic and geopolitical evolution that may particularly impact the mortgage market.

We have considered the depreciations of loans and advances to retail customers as a key audit matter because of their importance in term of presentation in the financial position and the statement of comprehensive income ending on 31 December 2022, and of the level of judgment required for their determination, the complexity of the modalities to compute value adjustments for expected credit losses as defined by the IFRS 9 standard, the consequences of the interest rates environment on the population having contracted loans at variable rates or at adjustable fixed rates, and uncertainties linked to the evolution of the prices of real estate which serve as guarantees for this type of loan, and macro-economic turbulence resulting in a sharp rise in inflation which impacts the purchasing power of borrowers. All of these events having an impact on the assumptions influencing the expected credit losses.

How the matter was addressed in our audit

Within the context of the audit, we proceeded with walkthroughs and test of controls related to the identification process and the monitoring process of overdue exposures of the Group, the periodical review of such exposures, the elaboration of a list of specific provisions and consideration of others quantitative indicators, as defined by the Group.

We reviewed the internal documentation and made interviews with the heads of departments in order to validate the approach applied by the Group to categorize loans and advances to “Corporate” customers (staging) and to estimate the qualitative and quantitative data used as a basis for the computation of credit impairments.

We conducted a walkthrough of retail loan approval and monitoring processes. We examined the Group's internal control system in connection with the assessment of the level of impairment of mortgage loans through interviews, the review of key controls, the review of governance and decision protocols as well as validation by Management of levels of specific value adjustment for some of these defaulted exposures.

We reviewed the implementation of the internal rating model, its implementation by the Group, the controls put in place on the valuation of real estate guarantees taken by the Group in the context of mortgage loans as well as the automatic revaluation system for mortgages guarantees of less than EUR 3 million.

We also looked at the half-yearly simulation of the rising interest rates shock on retail mortgages. We have reviewed how this analysis was built, the assumptions made by the Group and the parameters used (exposure, income and disposable income, family situation, guarantees, income remaining, etc.). We have made a selection of mortgage loans considered at risk following the stress of variable rates or revisable fixed rates carried out by the Group. Finally, we inquire with the heads of the service that monitors mortgage loans in order to understand the measures implemented by the Group and proposed to its customers deemed to be the most at risk by the current interest rate environment.

In addition, with the use of our data analysis tool, we reviewed the portfolio as a whole and selected a sample, based on several qualitative and quantitative factors, of mortgage loans granted to retail customers and performed a detailed test on this same sample including renegotiated credits and monitoring of overruns.

Other information

The Executive Committee is responsible for the other information which is subject to the approval of the Board of Directors. The other information comprises the information included in the consolidated management report and the Corporate Governance Statement but does not include the consolidated annual accounts and our report of “Réviseur d’Entreprises Agréé” thereon.

Our opinion on the consolidated 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 consolidated annual accounts, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated 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 this fact. We have nothing to report in this regard.

Responsibilities of the Executive Committee and the Board of Directors for the Consolidated Annual Accounts

The Executive Committee is responsible for the preparation and fair presentation of the consolidated annual accounts in accordance with IFRS as adopted by the European Union, and for such internal control as the Executive Committee determines is necessary to enable the preparation of consolidated annual accounts that are free from material misstatement, whether due to fraud or error. Such consolidated annual accounts are subject to approval by the Board of Directors pursuant the organic Law of 24 March 1989.

The Executive Committee is also responsible for presenting and marking up the consolidated annual accounts in compliance with the requirements set out in the Delegated Regulation 2019/815 on European Single Electronic Format, as amended ("ESEF Regulation").

In preparing the consolidated annual accounts, the Executive Committee is responsible for assessing the Group'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 Committee either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Responsibilities of the "Réviseur d'Entreprises Agréé" for the Audit of the Consolidated Annual Accounts

The objectives of our audit are to obtain reasonable assurance about whether the consolidated annual accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue a report of "Réviseur d'Entreprises Agréé" 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 N° 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 consolidated annual accounts.

As part of an audit in accordance with the EU Regulation N° 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 skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated 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 Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Executive Committee.
- Conclude on the appropriateness of the Executive Committee 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 Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our report of "Réviseur d'Entreprises Agréé" to the related disclosures in the consolidated 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 report of "Réviseur

d'Entreprises Agréé". However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated annual accounts, including the disclosures, and whether the consolidated annual accounts represent the underlying transactions and events in a manner that achieves fair presentation.
- Assess whether the consolidated annual accounts have been prepared, in all material respects, in compliance with the requirements laid down in the ESEF Regulation.

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.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

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

Report on Other Legal and Regulatory Requirements

We have been appointed as "Réviseur d'Entreprises Agréé" by the Government of the Grand-Duché of Luxembourg on 21 June 2017 and the duration of our uninterrupted engagement, including previous renewals and reappointments, is five years.

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

The corporate governance statement, included in the consolidated management report, is the responsibility of the Executive Committee. The information required by article 70bis paragraph 1 of the law of 17 June 1992 relating to the annual and consolidated accounts of credit institutions governed by the laws of Luxembourg, as amended, is consistent with the consolidated annual accounts and has been prepared in accordance with applicable legal requirements.

We have checked the compliance of the consolidated annual accounts of the Group as at 31 December 2022 with relevant statutory requirements set out in the ESEF Regulation that are applicable to the consolidated annual accounts. For the Group, it relates to:

- Consolidated annual accounts prepared in valid xHTML format;
- The XBRL markup of the consolidated annual accounts using the core taxonomy and the common rules on markups specified in the ESEF Regulation.

In our opinion, the consolidated annual accounts of the Group as at 31 December 2022, identified as R7CQUF1DQM73HUTV1078-2022-12-31-consolidated, have been prepared, in all material respects, in compliance with the requirements laid down in the ESEF Regulation.

We confirm that the audit opinion is consistent with the additional report to the audit and compliance committee.

We confirm that the prohibited non-audit services referred to in the EU Regulation No 537/2014 were not provided and that we remain independent of the Group in conducting the audit.

Ernst & Young
Société anonyme
Cabinet de révision agréé

Antoine Le Bars   Bernard Lhoest

Luxembourg, 14 April 2023

Only the French version of the present report has been reviewed by the auditors. In case of differences between the French version and the translation, the French version should be retained.

BANQUE ET CAISSE D'EPARGNE DE L'ETAT, LUXEMBOURG

AUDITED CONSOLIDATED FINANCIAL STATEMENTS
31 December 2022

Consolidated balance sheet as at 31 December 2022

ASSETS in euros	**Notes**	**31/12/2021**	**31/12/2022**
Cash and sight accounts with central banks	4.1	9.773.732.257	10.847.765.699
Loans and advances at amortised cost – Credit institutions	4.2	1.346.631.751	1.457.998.005
Loans and advances at amortised cost – Customers	4.3	25.246.693.237	26.705.358.823
Financial instruments held for trading	4.4 4.12	235.242.636	132.075.729
Hedging derivative financial instruments	4.12	90.195.038	1.462.544.131
Financial assets mandatorily recognised at fair value through profit or loss	4.5	632.455.934	490.686.909
Fixed-income securities recognised at amortised cost	4.6	13.821.928.357	13.586.207.982
Fixed-income securities recognised at fair value through the revaluation reserve	4.7	17.534.901	29.626.380
Variable-income securities recognised at fair value through the revaluation reserve	4.8	1.125.045.988	892.667.729
Investments in associates accounted for using the equity method	4.9	571.515.457	687.778.605
Change in fair value of a portfolio of financial instruments hedged against interest rate risk	4.13	156.504.244	-
Tangible assets for own use	4.14	257.157.451	241.057.335
Investment property	4.15	10.430.664	11.343.967
Intangible assets	4.16	34.200.035	40.995.209
Current taxes	4.18	70.166.184	78.491.337
Deferred taxes	4.18	26.057.864	-
Other assets	4.19	9.373.000	10.262.100
TOTAL ASSETS		**53.424.864.998**	**56.674.859.940**

LIABILITIES in euros	**Notes**	**31/12/2021**	**31/12/2022**
Deposits at amortised cost – Credit institutions	4.20	6.934.711.998	5.682.385.528
Deposits at amortised cost – Customers	4.21	36.906.630.696	41.126.287.235
Financial instruments held for trading	4.4 4.12	129.935.940	294.865.180
Hedging derivative financial instruments	4.12	827.678.271	307.181.440
Financial liabilities designated at fair value through profit or loss	4.22	165.001.798	131.633.032
Issuance of debt securities	4.23	2.793.469.938	2.679.078.951
Change in fair value of a portfolio of financial instruments hedged against interest rate risk	4.13	-	752.334.874
Provisions	4.24	48.103.059	64.206.549
Other liabilities	4.25	33.982.358	38.362.362
Deferred taxes	4.18	-	26.734.754
Provision for employee benefits	4.26	367.952.878	96.253.102
Sub-total of LIABILITIES (before equity capital) to be carried forward		**48.207.466.936**	**51.199.323.007**

The notes on pages 45 to 170 are an integral part of these consolidated financial statements.

Consolidated balance sheet as at 31 December 2022 (continued)

EQUITY in euros	Notes	31/12/2021	31/12/2022
Sub-total of LIABILITIES (before equity capital) carried forward		**48.207.466.936**	**51.199.323.007**
Share capital		173.525.467	173.525.467
Consolidated reserves		3.883.953.142	4.200.838.422
Other items of comprehensive income		827.910.223	765.247.562
° *Variable-income securities recognised at fair value through the revaluation reserve*	*4.8*	*844.771.939*	*609.237.755*
° *Actuarial gains/losses relating to employee benefits*	*4.26*	*-371.100.157*	*-174.149.136*
° *Equity method adjustment*		*326.077.809*	*318.580.104*
° *Gains or losses on disposals of variable-income securities measured at fair value*	*4.27*	*27.349.601*	*14.531.312*
° *Fixed-income securities recognised at fair value through the revaluation reserve*	*4.7*	*15.006*	*-2.956.580*
° *Cash flow hedges*	*4.12*	*796.025*	*4.107*
Income for the year		329.053.453	332.857.550
Sub-total of equity attributable to equity holders of the parent company		5.214.442.285	5.472.469.001
Non-controlling interests		2.955.777	3.067.932
Total equity		**5.217.398.062**	**5.475.536.933**
TOTAL LIABILITIES, including EQUITY		**53.424.864.998**	**56.674.859.940**

The notes on pages 45 to 170 are an integral part of these consolidated financial statements.

Consolidated income statement as at 31 December 2022

in euros	Notes	31/12/2021	31/12/2022
Interest income	5.1	399.163.945	488.247.873
Income from securities	5.2	23.095.100	35.996.778
Fee and commission income	5.3	195.689.468	200.738.671
INCOME FROM INTEREST, DIVIDENDS AND FEES AND COMMISSIONS		**617.948.513**	**724.983.322**
Income from financial instruments not recognised at fair value through profit or loss	5.4	1.457.733	62.443
Income from financial instruments held for trading	5.5	-7.140.447	-20.784.039
Income from financial instruments designated at fair value through profit or loss	5.6	8.979.320	35.047.621
Income from financial instruments mandatorily measured at fair value through profit or loss	5.7	9.615.378	-32.605.458
Income from hedging transactions	5.8	397.531	-6.403.336
Foreign exchange income	5.9	29.187.465	27.414.868
Income from derecognition of non-financial assets	5.10	234.774	8.065.407
Other operating income	5.11	10.810.701	14.214.396
Other operating expenditure	5.11	-3.098.081	-2.940.934
BANK MARGIN		**668.392.887**	**747.054.290**
Personnel expenses	5.12	-246.718.484	-256.197.262
Other general and administrative expenses	5.13	-100.925.231	-103.750.198
Cash contributions to resolution funds and deposit guarantee systems	5.14	-42.132.567	-41.738.472
Allowances for impairment of tangible and intangible assets	5.15 5.16 5.17	-46.492.993	-45.874.264
INCOME AFTER GENERAL EXPENSES		**232.123.612**	**299.494.094**
Net allowances for impairment of individual and collective credit risks	5.18	24.285.798	-45.892.748
Provisions	5.19	6.992.856	-16.232.740
Share in the profit of equity-accounted associates	5.20	121.155.292	142.220.740
INCOME BEFORE TAX		**384.557.558**	**379.589.346**
Tax on income from continuing operations	5.21	-57.892.450	-56.026.836
Deferred taxes	5.21	4.503.574	11.506.558
INCOME FOR THE YEAR		**331.168.682**	**335.069.068**
of which income for the year attributable to			
- non-controlling interests		*2.115.229*	*2.211.518*
- equity holders of the parent company		*329.053.453*	*332.857.550*

The notes on pages 45 to 170 are an integral part of these consolidated financial statements.

Consolidated statement of comprehensive income as at 31 December 2022

in euros	Notes	31/12/2021	31/12/2022
INCOME FOR THE YEAR		**331.168.682**	**335.069.068**
Items not reclassified in net income subsequently		**320.921.265**	**-31.549.555**
Actuarial gains/losses relating to employee benefits	4.26	1.723.630	262.391.449
Share in the profit of equity-accounted investments in associates	4.9	11.792.309	-7.497.705
Variable-income securities recognised at fair value through the revaluation reserve	4.8	308.265.911	-220.718.245
° *Variation in measurement results*		*283.539.536*	*-235.249.631*
° *Income from sales*		*24.726.375*	*14.531.386*
Impact of deferred and current taxes		-860.585	-65.725.054
Items to be reclassified in net income subsequently		**901.088**	**-3.763.503**
Fixed-income securities recognised at fair value through the revaluation reserve		-500.540	-3.958.949
Cash flow hedges		1.701.031	-1.055.045
Impact of deferred taxes		-299.403	1.250.491
Total items of comprehensive income for the year - net of tax		**321.822.353**	**-35.313.058**
TOTAL COMPREHENSIVE INCOME FOR THE YEAR		**652.991.035**	**299.756.010**
share attributable to			
- non-controlling interests		*2.115.229*	*2.211.518*
- equity holders of the parent company		*650.875.806*	*297.544.492*

The notes on pages 45 to 170 are an integral part of these consolidated financial statements.

Consolidated statement of changes in equity as at 31 December 2022

For financial year 2023, Spuerkeess plans to distribute EUR 60 million from 2022 net profit to the Luxembourg State in 2023.

For financial year 2022, Spuerkeess distributed EUR 40 million from 2021 net profit to the Luxembourg State in 2022.

The levels of profit distribution comply every year with the recommendations made by the European Central Bank for the eurozone banking sector.

in euros	Share capital	Consolidated reserves	Other items of comprehensive income	Net income	Total equity – holders of the parent	Non-controlling interests	Total equity
At 1 January 2021	**173.525.467**	**3.766.051.922**	**493.388.362**	**172.000.556**	**4.604.966.307**	**2.727.007**	**4.607.693.314**
Appropriation of 2020 income	-	172.000.556	-	-172.000.556	-	-	-
Appropriation of 2020 income from sales of variable-income securities	-	-12.699.508	12.699.508	-	-	-	-
2021 net income	-	-	-	329.053.453	329.053.453	2.115.229	331.168.682
Distribution for FY 2020	-	-40.000.000	-	-	-40.000.000	-	-40.000.000
Actuarial gains/losses relating to employee benefits net of deferred taxes	-	-	1.293.757	-	1.293.757	-	1.293.757
Value adjustment on financial instruments measured at fair value through the revaluation reserve net of deferred taxes	-	-	280.109.892	-	280.109.892	-	280.109.892
Measurement results of cash flow hedges net of deferred taxes	-	-	1.276.794	-	1.276.794	-	1.276.794
Equity method adjustment	-	-1.395.116	11.792.309	-	10.397.193	-	10.397.193
2021 income from sales of variable-income securities	-	-	27.349.601	-	27.349.601	-	27.349.601
Other	-	-4.712	-	-	-4.712	-1.886.459	-1.891.171
As at 31 December 2021	**173.525.467**	**3.883.953.142**	**827.910.223**	**329.053.453**	**5.214.442.285**	**2.955.777**	**5.217.398.062**

The notes on pages 45 to 170 are an integral part of these consolidated financial statements.

in euros	Share capital	Consolidated reserves	Other items of comprehensive income	Net income	Total equity – holders of the parent	Non-controlling interests	Total equity
At 1 January 2022	**173.525.467**	**3.883.953.142**	**827.910.223**	**329.053.453**	**5.214.442.285**	**2.955.777**	**5.217.398.062**
Appropriation of 2021 income	-	329.053.453	-	-329.053.453	-	-	-
Appropriation of 2021 income from sales of variable-income securities	-	27.349.601	-27.349.601	-	-	-	-
2022 net income	-	-	-	332.857.550	332.857.550	2.211.518	335.069.068
Distribution for FY 2021	-	-40.000.000	-	-	-40.000.000	-	-40.000.000
Actuarial gains/losses relating to employee benefits net of deferred taxes	-	-	196.951.021	-	196.951.021	-	196.951.021
Value adjustment on financial instruments measured at fair value through the revaluation reserve net of deferred taxes	-	-	-238.505.771	-	-238.505.771	-	-238.505.771
Measurement results of cash flow hedges net of deferred taxes	-	-	-791.917	-	-791.917	-	-791.917
Equity method adjustment	-	-280.164	-7.497.705	-	-7.777.869	-	-7.777.869
2022 income from sales of variable-income securities	-	-	14.531.312	-	14.531.312	-	14.531.312
Other	-	762.390	-	-	762.390	-2.099.363	-1.336.973
As at 31 December 2022	**173.525.467**	**4.200.838.422**	**765.247.562**	**332.857.550**	**5.472.469.001**	**3.067.932**	**5.475.536.933**

The notes on pages 45 to 170 are an integral part of these consolidated financial statements.

Consolidated statement of cash flow as at 31 December 2022

The statement of cash flows represents the inflow and outflow of cash. Cash and cash equivalents include cash on hand, deposits with central banks, and assets with an original maturity of less than 90 days.

in euros	31/12/2021	31/12/2022
Cash and cash equivalents		
Cash and sight accounts with central banks	9.774.621.715	10.848.002.668
Loans and advances at amortised cost – Credit institutions	601.382.723	1.436.853.212
Loans and advances at amortised cost – Customers	1.887.565.410	2.016.876.762
Total	**12.263.569.848**	**14.301.732.642**

The Group uses the indirect method to determine the cash flows. To do this, the Group eliminates from the net result all pure accounting flows that do not translate into an inflow or outflow of liquid funds and directly presents the items of the net result arising from operating activities before changes in operating assets and liabilities.

The cash flow statement classifies the cash flows of the period into operating activities, investment activities and financing activities:

- operating activities are the main income-generating activities. They comprise all activities other than investment or financing. They consist of the operating income and expenses, cash flows relating to financial and other income and expenses, as well as the different categories of taxes paid during the year;

- investing activities comprise the acquisition and disposal of long-term assets and all other investments not included in cash equivalents;

- financing activities comprise activities leading to changes in the breadth and composition of equity, and subordinated capital issued by the Bank.

in euros	31/12/2021	31/12/2022
CASH POSITION AT 1 JANUARY	**9.428.132.011**	**12.263.569.848**
Income for the year	331.168.682	335.069.068
Non-cash adjustments relating to:		
Net allowances for impairment of credit risks	-24.285.798	45.892.748
Allowances for impairment of tangible and intangible assets	43.735.888	43.126.454
Provisions	-6.715.047	8.679.916
Unrealised gains/losses	-8.518.318	12.039.371
Share in the profit of equity-accounted associates	-121.155.292	-142.220.740
Other adjustments	-25.835.635	-14.881.596
Changes relating to assets and liabilities from operating activities:		
Financial instruments recognised at fair value	220.577.017	94.235.858
Loans and advances at amortised cost	-506.269.746	-829.857.216
Deposits at amortised cost	3.319.875.955	2.922.029.178
Issuance of debt securities	-108.024.297	-154.346
Other assets and liabilities	-14.363.074	-28.050.968
Total cash flow from operating activities	**3.100.190.335**	**2.445.907.727**
of which:		
Interest received	*724.730.117*	*909.493.489*
Interest paid	*-334.759.951*	*-433.008.188*
Income from securities	*23.095.100*	*35.996.778*
Tax on income from continuing operations	*-57.892.450*	*-56.026.836*
Acquisition/disposal of variable-income securities	20.951.039	-
Acquisition/disposal of investments in associates accounted for using the equity method	-6.818.861	-977.892
Acquisition of fixed-income securities	-3.040.415.782	-2.857.036.320
Disposal/redemption of fixed-income securities	3.042.175.532	2.207.887.999
Acquisitions/disposals of intangible and tangible assets	-29.784.149	-33.523.094
Total cash flow from investment activities	**-13.892.221**	**-683.649.307**
Proceeds from subordinated liabilities	-42.260.000	-49.935.000
Expenses related to leases	-1.490.973	-3.060.553
Income distribution*	-80.000.000	-40.000.000
Total cash flow from financing activities	**-123.750.973**	**-92.995.553**
NET CHANGE IN CASH	**2.962.547.141**	**1.669.262.867**
Effect of exchange rates on cash and cash equivalents	-127.109.304	368.899.928
CASH POSITION AT 31 DECEMBER	**12.263.569.848**	**14.301.732.643**

* For financial year 2021, income distributed consisted of a distribution for financial year 2019 (which had been on hold in accordance with ECB guidance) and a distribution for financial year 2020.

The notes on pages 45 to 170 are an integral part of these consolidated financial statements.

Reconciliation of cash flows from financing activities

in euros	01/01/2021	Movements related to cash flow	Movements unrelated to cash flow	31/12/2021
Proceeds from subordinated liabilities	91.019.148	-42.260.000	1.237.978	49.997.126

in euros	01/01/2022	Movements related to cash flow	Movements unrelated to cash flow	31/12/2022
Proceeds from subordinated liabilities	49.997.126	-49.935.000	-62.126	-

Movements unrelated to cash flow correspond to movements in accrued interest and accrued premiums/discounts.

The notes on pages 45 to 170 are an integral part of these consolidated financial statements.

BANQUE ET CAISSE D'EPARGNE DE L'ETAT, LUXEMBOURG

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

31 December 2022

1 GENERAL INFORMATION

Banque et Caisse d’Epargne de l’Etat, Luxembourg (hereinafter "Spuerkeess" or the "Group’s parent company"), established by the law of 21 February 1856 and governed by the law of 24 March 1989, as amended, is a self-governing public law institution endowed with legal personality. Ultimate responsibility for the institution lies with the Government Minister with responsibility for the Treasury.

Spuerkeess is subject to Luxembourg’s banking regulations, particularly the law of 5 April 1993 on the financial sector. Starting on 4 November 2014, with the entry into force of the Single Supervisory Mechanism (SSM), the European Central Bank has taken over prudential supervision of Spuerkeess.

Spuerkeess’s registered office is located at 1, Place de Metz, L-1930 Luxembourg.

Within the limits set by the laws and regulations applicable to credit institutions, Spuerkeess’s objective is to perform all financial and banking activities, as well as all similar, related or ancillary operations.

The consolidated financial statements concern the Group, of which Banque et Caisse d’Epargne de l’Etat, Luxembourg is the parent company. The Group had an average headcount for financial year 2022 of 1.865 versus 1.881 in 2021.

The Group’s commercial activity is carried out from the territory of the Grand Duchy of Luxembourg.

The financial year coincides with the calendar year.

The consolidated financial statements were approved by the Board of Directors meeting on 29 March 2023.

The official version of the consolidated annual financial statements as at 31 December 2022 is the version in the ESEF format, published in accordance with the requirements of Delegated Regulation 2019/815 on the European Single Electronic Reporting Format, available via the Officially Appointed Mechanism (OAM) tool.

2 BASIS OF PREPARATION OF THE CONSOLIDATED FINANCIAL STATEMENTS

2.1 Compliance with general accounting principles

The Group's consolidated financial statements for the 2022 financial year have been prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union.

The consolidated financial statements are stated in euros, the functional currency of the parent company and its subsidiaries. They have been prepared on the basis of historical cost or amortised cost, adjusted to fair value for the recognition of financial assets mandatorily recognised at fair value through profit or loss, financial assets held for trading and derivatives. Variable-income securities, debt instruments included in the hold to collect and sell business model (HTCS, see section 3.2.4.1) and employee benefit provision assets are recognised at fair value through the revaluation reserve.

2.1.1 New or revised standards adopted by the European Union, applicable since 1 January 2022

The amendments to the following standards and interpretations have little or no impact on the Spuerkeess Group:

- The amendments to IFRS 3 "Business Combinations", IAS 16 "Property, Plant and Equipment" and IAS 37 "Provisions, Contingent Liabilities and Contingent Assets", as well as to IFRS 9 and IFRS 1 for the 2018-2020 cycle as part of the annual improvements applicable from 1 January 2022.

2.1.2 New or revised standards adopted by the European Union and not yet applicable as of 1 January 2022

The amendments to the following current and new standards are not expected to have a material impact on the Spuerkeess Group's annual financial statements:

- Disclosure of accounting policies amendments to IAS 1 "Presentation of Financial Statements" and IFRS practice statement 2 (applicable from 1 January 2023),
- The amendments to IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors" regarding the definition of accounting estimates (applicable from 1 January 2023),
- The amendments to IAS 12 "Income taxes" regarding deferred tax related to assets and liabilities arising from a single transaction (applicable from 1 January 2023).

The amendments to the following current and new standards will have an impact on the Spuerkeess Group's consolidated annual financial statements:

- IFRS 17 (standard) "Insurance Contracts" (application postponed until 1 January 2023 by the IASB).

2.1.3 New or revised standards not yet adopted by the European Union and not yet applicable as of 1 January 2022

The amendments to the following current and new standards are not expected to have an impact on the Spuerkeess Group:

- The amendments to IAS 1 "Presentation of Financial Statements" regarding the classification of liabilities as current or non-current liabilities (applicable from 1 January 2024),
- The amendments to IFRS 16 "Leases: Liability arising from an operating lease" (applicable from 1 January 2023).

2.2 CONSOLIDATION

2.2.1 Scope of consolidation

The consolidated financial statements comprise the parent company, subsidiaries and associates over which the Group has control when it has rights to variable returns, because of its relationships with those entities, and the ability to affect those returns through its power over those entities. Subsidiaries are consolidated from their date of acquisition, when the acquiror has the power to direct their financial policies. They are deconsolidated on the date such control ceases.

Consolidation has not generated any goodwill as the subsidiaries have been majority Group-owned since their creation.

Acquisitions are recognised at cost, i.e. the amount of cash or cash equivalents paid representing the fair value, plus all costs directly attributable to the acquisition. All intra-group transactions and unrealised gains on transactions between Group companies are eliminated. Unrealised losses on intra-group transactions are also eliminated unless the cost can be recovered.

If a Group subsidiary or associate accounted for under the equity method applies accounting standards different from those applied to the preparation of consolidated financial statements, appropriate restatements are made to ensure consistency with the Group's accounting policies.

If the reporting date for a company within the consolidated group is different from the Group's reporting date, adjustments are made to take into account transactions made and any other significant events that occurred between this closing date and that of the parent company.

The portion of Group equity attributable to minority interests is given on a separate line. Similarly, the portion of Group earnings attributable to minority interests is also shown on a separate line.

2.2.1.1 *Fully consolidated subsidiaries*

The consolidated financial statements record the assets, liabilities, income and expenditure of the parent company and its subsidiaries. A subsidiary is an entity over which the parent company exercises control. The parent company controls an entity if it is exposed or has the right to variable income from its interest in the entity and if it has the power to influence the amount of this variable income.
Subsidiaries are fully consolidated as of the date on which the Group took control. They are deconsolidated on the date such control ceases.

Subsidiaries	Activity	% of voting rights held	
		31/12/2021	31/12/2022
Lux-Fund Advisory S.A.	Investment advice	89,55	89,31
BCEE Asset Management S.A.	UCI management company	90,00	90,00
Bourbon Immobilière S.A.	Real estate	100,00	100,00
Luxembourg State and Savings Bank Trust Company S.A.	Acquisition of shareholdings	100,00	100,00
Spuerkeess Ré S.A.	Reinsurance	100,00	100,00

2.2.1.2 *Investments in associates*

Associates are companies over which the Group exercises significant influence and are accounted for using the equity method. Significant influence means the Group has the power to direct a company's financial and operating policies in order to obtain a substantial share of the economic benefits. Significant influence is presumed when the Group holds, directly or indirectly through its subsidiaries, 20% or more of the voting rights.

Investments in associates are recognised at cost, and the book value is subsequently adjusted to reflect the investor's share of the net profit or loss of the associate after the acquisition date. The Group's share of the associate's profit or loss is recognised in the income statement.

Equity-method consolidation ceases when the Group no longer has significant influence over the shareholding, unless the Group has incurred legal or constructive obligations to assume or guarantee commitments on behalf of the associate.

The Group's investments in associates:

Associates	Activity	% of capital held	
		31/12/2021	31/12/2022
Société Nationale de Circulation Automobile S.à r.l.	Automotive services	20,00	20,00
Luxair S.A.	Air transport	21,81	21,81
Société de la Bourse de Luxembourg S.A.	Financial services	25,35	25,35
Europay Luxembourg S.C.	Financial services	30,10	30,10
European Fund Administration S.A.	Financial services	31,51	-
LuxHub S.A.	Financial services	32,50	32,50
i-Hub S.A.	Financial services	-	20,00
Visalux S.C.	Financial services	35,36	35,36
Lalux Group S.A.	Insurance	40,00	40,00

The scope of investments in associates has changed since 31 December 2021. In 2022, European Fund Administration S.A. was fully sold and the Spuerkeess Group acquired a 20% equity interest in i-Hub S.A.

2.3 Foreign currency transactions

The impact of exchange rate fluctuations on income statement items is detailed below. The Group's functional currency is the euro (EUR).

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the date of the transactions.

Monetary items denominated in foreign currency are translated at the closing rate on each balance sheet date.

Non-monetary items recognised at historical cost denominated in a foreign currency are translated using the exchange rate on the transaction date, while non-monetary items recognised at fair value in a foreign currency are translated at the exchange rates prevailing on the date of fair value measurement.

Foreign exchange gains and losses resulting from monetary assets and liabilities are recognised in the income statement, except where the transaction is classified as a cash flow hedge.

For monetary assets measured at fair value through the revaluation reserve, translation differences resulting from the variance between their fair value on the balance sheet date and their acquisition cost are recognised in the revaluation reserve, whereas translation differences relating to the adjustment of the amortised cost relative to the acquisition value are recognised through profit or loss.

Translation differences relating to adjustments in the fair value of non-monetary items are recognised in the same way as the recognition of these changes in fair value.

The following exchange rates were used for translation of the main currencies in the annual financial statements, where EUR 1 is equal to:

Currency	31/12/2021	31/12/2022
CHF	1,0337	0,9847
GBP	0,8397	0,8866
JPY	130,4400	140,7800
SEK	10,2568	11,1313
USD	1,1331	1,0683

2.4 Accounting judgements and estimates

The Group's parent company applies judgements or estimates in the treatment of:

- classification of financial instruments in the respective portfolios (Section 3.2) and their impairment (Section 3.3.4);
- determination of the fair value of certain financial instruments (Section 3,3.3);
- determination of the SPPI (solely payments of principal and interest) nature of certain financial instruments (Section 3.2.4.3);
- consideration of a current obligation for the recognition of provisions (Section 3.10);
- determination of value adjustments (CVA/DVA) of derivatives (Section 3.3.2.3);
- determination of the effectiveness of a hedging relationship (Section 3.2.2);
- determination of components related to construction-type tangible assets and their expected useful life (Section 3.6);
- actuarial assumptions used in the calculation of the defined-benefit obligation (Section 3.9.3).

3 INFORMATION ON THE GROUP'S MAIN ACCOUNTING POLICIES

3.1 Cash and sight accounts with central banks

Cash consists essentially of "Cash", the various banks' nostro accounts and cash with central banks.

This item also includes the minimum mandatory reserve funded to satisfy the reserve requirement imposed by the Banque centrale du Luxembourg (BCL). These funds are therefore not available to finance the Group's ordinary operations. The reserve basis is calculated on a monthly basis and is defined according to liability items on the balance sheet, according to Luxembourg accounting principles. The calculation of the basis that determines the reserve requirements is made by the BCL.

3.2 Classification and measurement of financial instruments

Since 1 January 2018, the Group has prepared its consolidated financial statements in accordance with IFRS 9 "Financial Instruments".

The measurement categories established by IFRS 9 are as follows: financial instruments held for trading, hedging derivatives, financial instruments mandatorily recognised at fair value through profit or loss, financial instruments recognised at amortised cost and financial instruments recognised at fair value through the revaluation reserve.

Off-balance sheet financial instruments include financial guarantees and unused loan commitments in particular. These are recorded in the balance sheet of the Group's parent company as soon as they are disbursed.

3.2.1 Assets and liabilities held for trading

Financial instruments held to make a profit from short-term price fluctuations are classified as assets or liabilities held for trading as appropriate. This category includes certain fixed-income securities, variable-income securities and short sales on these same financial instruments, as well as derivative financial instruments used for trading.

Since the concept of short-term is not defined by IFRS, the Group considers six months as the average duration for non-derivative financial instruments.

Financial Instruments held for trading are initially designated at fair value, with any subsequent gains and losses arising from changes in fair value recognised in the income statement under "Income from financial instruments held for trading". Accrued interest incurred and received is recognised in the income statement under "Interest income", and dividends are recognised under "Income from securities" from the time the right to payment becomes established.

3.2.2 Derivative financial instruments used for hedging purposes

The Group decided to continue to apply the hedging principles according to IAS 39 and therefore does not apply IFRS 9 in this regard. It thus uses derivative financial instruments to hedge interest rate, foreign exchange, credit and price risk such as stock market indices or share prices. The derivatives commonly used are interest rate swaps (IRS) and cross-currency interest rate swaps (CIRS) in standard plain vanilla hedging transactions. In addition to these standardised contracts, the Group uses swaps with structured components to specifically hedge structured "EMTN – Euro Medium Term Notes" issues and acquisitions of structured bonds included in the portfolio of fixed-income securities recognised at amortised cost and containing embedded derivatives. Only structures that are closely related are hedged in this way.

Derivatives are considered as being held for trading except where they are designated as hedging instruments. When entering into a contract, the Group may designate derivative financial instruments as hedging instruments in assets or liabilities on the balance sheet, if the transactions meet the criteria set out in IAS 39.

The Group classifies hedging instruments in the following categories:

- fair value hedge of an asset, a liability or a firm commitment;
- fair value hedge of a portfolio or a sub-portfolio of assets;
- cash flow hedge of future cash flows attributable to a specific asset or liability or future transaction.

The Group primarily uses fair value hedges and, secondarily, cash flow hedges.

Hedge accounting must comply with the following restrictive conditions set out in IAS 39:

- prior to being set up, the hedging relationship is formally designated and documented, including the entity's risk management objective and strategy for undertaking the hedge, identification of the hedging instrument, the hedged item, the nature of the risk being hedged, and how the entity will assess the hedging instrument's effectiveness;
- the hedging starts with the designation of the derivative instrument used for hedging and ends either at the derecognition of the hedged instrument or if the effectiveness of the hedge is no longer given;
- prospective effectiveness: as soon as the transaction is set up, it is expected to be highly effective in offsetting changes in fair value or cash flows attributable to the hedged risk during the hedging period. Prospective effectiveness is established when the main characteristics between hedged items and hedging items are substantially identical (par value, interest rate, maturity and currency) within the hedging period designated by the Group for the transaction;
- retrospective effectiveness: effectiveness is assessed retrospectively (results within a range of 80% to 125%) at each reporting date.

Changes in the fair value of derivatives designated as fair value hedges which meet the criteria for hedge accounting and have demonstrated their effectiveness relative to the hedged instrument are recognised in profit or loss under "Income from hedging transactions". At the same time, corresponding changes in the fair value of the hedged item are also recognised in profit or loss.

If the hedge no longer meets the criteria for hedge accounting at a given time, the fair value adjustment to the interest-bearing hedged item must be amortised to profit or loss over the remaining period to maturity as an adjustment to the return on the hedged item.

The ineffectiveness of the hedge is mainly due to:

- the difference in the timing of cash flows;
- the difference on the yield curve.

Changes in the fair value of derivatives designated as cash flow hedges, which meet the criteria for hedge accounting and have proven their effectiveness relative to the underlying instrument to be hedged, are recognised in equity under "Revaluation reserve – cash flow hedges".

If a hedging instrument expires or is sold, terminated, or exercised, or if the hedge no longer meets the hedge accounting criteria, the Group ceases to apply hedge accounting. Any adjustment in the book value of an interest-bearing hedged instrument is amortised through profit or loss and must be totally amortised at maturity. If the item is derecognised, i.e. removed from the balance sheet, the change in fair value is recognised immediately in profit or loss.

The Group's parent company applies fair value macro-hedging on fixed-rate loans in accordance with the principles of IAS 39 in its "carve-out" version for the European Union. The decrease in the interest-rate curve favoured the marketing of fixed-rate loans, primarily in the area of mortgage loans. Hedging is done exclusively using IRS derivative financial instruments.

3.2.3 Variable-income securities

The Group measures variable-income securities at fair value through the revaluation reserve with the recognition of dividends in the income statement and income on sales in a dedicated equity category, without reclassification through profit or loss.

Changes in own funds of equity-accounted associates are recognised on the assets side of the balance sheet under "Investments in associates accounted for using the equity method", as well as in shareholders' equity under "Equity method adjustment".

3.2.4 Fixed-income financial instruments

The classification of other fixed-income financial instruments is based on the business model and the SPPI test as described below.

3.2.4.1 Business models

The core business model of the Group's parent company provides for the holding of long-term assets, regardless of the product:

- The fixed-income securities acquired are held long term. IFRS 9 introduces the notion of the business model, which, for the bond portfolio held by the Group, is defined by the management method according to the criteria of the holding period of the securities and the type of income generated, i.e., interest income or income on sale. Combined with the SPPI test, which deals with coupon calculation and principal repayment, three types of portfolios are defined:

• **HTC (Hold to collect)** portfolio: the bond portfolio is eligible for the HTC classification, provided that it is held for the long term in order to collect cash flows based on coupons due and repayment of principal. According to IFRS 9, sales are permitted only in the following cases: (i) the impact is non-material, (ii) the impact is material and sales should therefore be infrequent, (iii) they are made as the instrument approaches maturity and (iv) they are related to exceptional circumstances such as a significant deterioration in the credit quality of the counterparty or legal or tax changes.

HTC portfolio bond positions that pass the SPPI test are classified in the portfolio of financial assets recognised at amortised cost and are included in the balance sheet item "fixed-income securities recognised at amortised cost".

• **HTCS (Hold to collect and sell)** portfolio: this involves holding long-term securities, but with the possibility of selling them based on opportunities in the financial markets.

Unlike the HTC portfolio, which is limited to securities held to maturity, the HTCS portfolio is based on management objectives. This portfolio consists of securities that meet the SPPI criteria but do not meet all the criteria defined for the HTC portfolio, provided that they are not considered as trading positions.

Bond positions in the HTCS portfolio are classified in the portfolio of financial assets recognised at fair value through the revaluation reserve.

• **FVTPL (Fair value through profit or loss)** portfolio with revaluation at fair value through profit or loss. For this business model, two different cases can occur:

a. Positions in the trading book are part of this portfolio. IFRS 9 defines trading as the intention to buy and sell securities for the purpose of realising a profit in the short term. These are securities generally held for less than 6 months. These instruments are included in the balance sheet category "financial instruments held for trading" without undergoing the SPPI test as explained in section 3.2.1;

b. This portfolio also includes positions in financial instruments held for the long term that do not undergo the SPPI test and must therefore be measured through profit or loss. Bond positions in the FVTPL portfolio that are not held for trading and do not pass the SPPI test are classified under the balance sheet item "Financial assets mandatorily recognised at fair value through profit or loss".

- Loans granted by the Group are not intended for a subsequent sale or a securitisation transaction but are retained on the asset side of the balance sheet until final repayment. The Group's parent company does not acquire loan portfolios already active.

The "lending" activity of the Group is therefore assigned to the HTC business model and is based on contractual data and on the principle that loans are granted and held for the purpose of collecting principal and interest until maturity.

Loans granted by the Group and passing the SPPI test are classified in the portfolio of financial assets measured at amortised cost and presented separately in the financial statements of the Group's parent company under "Loans and advances at amortised cost".

However, loans granted by the Group that do not pass the SPPI test are classified in the portfolio of financial assets mandatorily recognised at fair value through profit or loss and presented globally in the balance sheet under the heading "financial assets mandatorily recognised at fair value through profit or loss".

3.2.4.2 Monitoring of business model compliance

The thresholds for questioning the business model put in place by the Group's parent company disregard sales and capital gains realised on positions with a residual maturity of 6 months or less.

The threshold for impact has been set at 5% of net bank margin (NBM). The NBM considered is that of the previous financial year. If this threshold is exceeded, and if more than 10% of the outstanding amounts of a portfolio are sold per year, then the portfolio no longer meets the conditions of eligibility for the HTC classification with a measurement at amortised cost.

If the two cumulative thresholds are exceeded, this will launch a procedure to notify the Risk working group. These thresholds will be monitored on a monthly basis.

Beyond these thresholds, the Group's parent company has defined alert thresholds taking into account historical observations with the aim of anticipating the achievement of absolute thresholds:
- a number of 50 transactions;
- a cumulative nominal value of 2%;
- an NBM impact of 3%.

If any one of these thresholds is exceeded, the Risk working group will be notified, followed by a documented deliberation.

In terms of granting or managing loans, any modification of the existing business model as well as any definition of an additional business model must go through the various levels of governance, which are the ALM/Risk working groups, the ALM and Risk Management Committees, the Executive Committee, the Audit and Compliance/Risk Committees at the Board of Directors level, and the Board of Directors itself.

3.2.4.3 SPPI test

In order to undergo the SPPI test, financial instruments in the form of fixed-income securities must include only structures:

- considered non-speculative and/or unleveraged;
- whose return in the form of interest respects the time value of money;
- guaranteeing the payment of interest and repayment of the principal.

The classification of a security as SPPI-compliant or non-SPPI-compliant is reflected in its deal type. This qualitative information is included in the information systems of the Group's parent company and is subject to specific control procedures. When a bond can be assigned more than one deal type, a quantitative analysis is performed to measure the degree of leverage of the instrument compared with a fixed-rate instrument over the same period to determine the final deal type to be applied.

For loans, the SPPI test is based on the following two principles:

- the repayment of principal and interest must be contractually ensured. In principle, this criterion is always met as long as the loans do not contain any embedded derivatives that significantly alter cash flows other than caps/floors or significant early redemption penalties.
- the repayment must be based on the time value of money plus a margin that offsets the credit risk. This criterion implies that there is no leverage.

For SPPI tests on loans, the Group distinguishes two major categories, namely standard loans contracted on the basis of a model contract and "customised" loans involving special conditions and other obligations to be respected by the borrower.

The contracts on which all standard loans are based are subject to a prior compatibility review of their conditions with the SPPI criterion. A contract-by-contract review is not carried out for this type of contract. The contract data for each new loan type belonging to this loan category are subjected to an SPPI test on the basis of a list of specific pre-marketing criteria.

The contracts on which customised loans are based are reviewed individually to determine compliance with the SPPI criterion in accordance with the internal procedures including the criteria of the standard.

3.2.5 Financial liabilities designated at fair value through profit or loss

Financial liabilities designated at fair value through profit or loss include instruments with structures that are not closely related but are hedged economically with derivatives. With this designation for the financial liability, the Group offsets the impact of the accounting mismatch with the derivative financial instrument. Derivative financial instruments used for that purpose are exclusively IRS or CIRS instruments. The fair values are simply offset at the Group's profit or loss level under "Income from financial instruments held for trading" and "Income from financial instruments designated at fair value through profit or loss".

3.2.6 Non-current assets and disposal groups classified as held for sale

In accordance with IFRS 5, the Bank classifies its financial and non-financial assets as assets held for sale in the following cases:

- The asset must be available for immediate sale in its present condition;
- The sale must be highly probable;
- The carrying amount is recovered principally through a sale transaction rather than through continuing use.

Bank management must be committed to a plan to sell the asset, and an active programme to locate a buyer and complete the plan must be initiated. The sale generally takes place within 12 months of its initiation.

Assets in this category are measured at the lower of amortised cost or fair value less the cost of the sale.

Non-financial assets classified in this category are not subject to depreciation or amortisation. Financial assets continue to be measured in accordance with IFRS 9.

3.2.7 Other financial assets and liabilities

Other assets comprise short-term receivables. Other liabilities mainly consist of short-term payables, coupons due and other amounts payable on behalf of third parties, debts to preferential creditors and liabilities arising from leases.

3.2.8 Income and expenses relative to financial assets and liabilities

Interest income and expenses are recognised in profit or loss for all financial instruments measured at amortised cost, according to the effective interest rate method.

The effective interest rate is the rate that exactly discounts future cash disbursements or receipts over the expected life of the financial instrument in order to obtain the net book value of the financial asset or liability. The calculation includes transaction costs and income, premiums and discounts. Transaction costs and income that are an integral part of the contract's effective rate, such as loan administration fees for instance, can be treated as additional interest.

Financial instruments held for trading are recorded at their fair value. Changes in their fair value are recognised in the income statement under "Income from financial instruments held for trading". Similarly, financial instruments designated at fair value through profit or loss are recorded at fair value, and changes in fair value are recognised in profit or loss under "Income from financial instruments designated at fair value through profit or loss". Interest is recognised at the effective interest rate in "Interest income".

Dividends are recorded under "Income from securities", while interest is recorded under "Interest income".

The Group recognises fees that are not included in the calculation of the effective interest rate in accordance with IFRS 15, i.e. when the performance obligation is realised depending on whether it is realised at a given time or gradually. This mainly concerns the following fees:

- fees related to performance obligations fulfilled gradually, which are therefore spread over the corresponding period;
- fees related to service obligations fulfilled at a given time and therefore recognised in the income statement when the service is performed.

For certain operations relating to wholesale international customers, commitment and utilisation fees are determined based on a percentage of the credit line. These fees are integrated on a "prorata temporis" base over the life of the credit line, except if the fees should be integrated in the acquisition cost of the balance sheet exposure which may result from the credit line.

3.2.9 Netting financial assets and financial liabilities

For the netting of certain positions relating to repurchase and reverse repurchase agreements, the existence of a Global Master Repurchase Agreement (GMRA) is not a sufficient condition. The balance sheet netting of these agreements takes place only if the counterparties have agreed in advance and if the transactions meet the same maturity date and liquidation and payment system criteria.

3.3 Banking transactions

3.3.1 Initial valuation

Purchases and sales of financial assets and liabilities whose delivery or settlement is made after the transaction date are recognised on the balance sheet on the delivery or settlement date, respectively.

All financial instruments are recorded at fair value on initial recognition, plus any directly attributable costs when the financial instruments are not recognised at fair value through profit or loss. This initial fair value generally corresponds to the transaction price.

Transactions in financial instruments on the assets and liabilities side in the form of securities are recognised on the transaction date in off-balance sheet items and on the value date on the balance sheet.

Financial derivatives are recognised on the balance sheet at their fair value on the transaction date. The classification of derivative financial instruments on initial recognition depends on their characteristics and purpose. Therefore, they may be classified as "financial instruments held for trading" or as "hedging instruments".

Derivative financial instruments are recognised in assets when the fair value is positive, and in liabilities when it is negative. Fair value here means the "dirty price" of the instruments, i.e. including the accrued interest.

Derivative financial instruments embedded in financial liabilities are separated from the host contract and accounted for at fair value if the economic risks and characteristics of the embedded derivative are not closely related to those of the host contract, and the entire instrument is not classified as held for trading or has not been designated as measured at fair value through profit or loss. Embedded derivative financial instruments that have been separated from their host contract are recognised at fair value in the trading portfolio and changes in fair value are recognised through profit or loss.

Gains or losses on the sale of financial assets that are not subject to revaluation through profit or loss are calculated as the difference between the amount received net of transaction costs and the acquisition cost and amortised cost of the financial asset.

3.3.2 Subsequent measurement

The valuation methods are as follows: historical cost, amortised cost or fair value.

3.3.2.1 Historical cost

Financial assets and liabilities recognised at historical cost are valued at the initial recognition amount.

3.3.2.2 Amortised cost

The amortised cost corresponds to the amount initially recognised, net of repayments of capital where applicable, adjusted for premiums and discounts, calculated as the difference between the initial amount and the repayment amount on maturity, over the life of the asset, less impairment recognised through value adjustments.

3.3.2.3 Fair value

The fair value of the consideration received or tendered can usually be determined by reference to an active market or by using valuation techniques based chiefly on observable market inputs.

To determine a consistent valuation for the financial instruments measured at fair value, the Group uses the following methods and models:

- derivative financial instruments held for trading or hedging: the Bank uses the discounted cash flow (DCF) method for plain vanilla contracts and the Black & Scholes model for structured contracts. In addition to these fair value measurements, the Group calculates, after application of ISDA-CSA agreements, an adjustment for counterparty risk (or Credit Value Adjustment (CVA)) to account for the credit quality of the counterparty for derivative financial instruments recognised on the assets side of the balance sheet, and a Spuerkeess-specific adjustment for credit risk (or Debit Value Adjustment (DVA)) for derivative financial instruments recognised on the liabilities side of the balance sheet.
- financial assets:
  - fixed-income securities:
    - for assets quoted on an active market, the bid price published by an official quotation agent is used;
    - for assets quoted on a market considered inactive, the valuation price is calculated by the Bank's internal valuation model.
  - variable-income securities:
    - for assets quoted on an active market, the bid price published by an official quotation agent is used;

    - for unquoted securities or securities listed on an inactive market, Spuerkeess determines a measurement value according to a procedure detailed below in Section 3.3.3 "Valuation techniques for determining fair value and fair value hierarchy".

- financial liabilities:
    - EMTNs issued by the Group's parent company are classified at amortised cost. These transactions are designated as fair value hedges to avoid an accounting impact on the income statement due to hedging these issues with derivative financial instruments. Thus, the fair value measurement method applied to the issue and the measurement of its hedge are identical, namely the discounted cash flow and Black & Scholes method;
    - EMTNs issued by the Group's parent company designated at fair value through profit or loss: the fair value measurement method applied to the issue and the measurement of its hedge are identical, namely the discounted cash flow and Black & Scholes method.

3.3.3 Valuation techniques for determining fair value and fair value hierarchy

When the fair value of a financial instrument recognised in the balance sheet cannot be determined based on an active market, it is calculated using valuation techniques mostly based on mathematical models. Insofar as possible, the inputs to mathematical models come from market observations.

The Group uses valuation techniques based on observable and non-observable market data to determine fair value:

- observable data reflect market variations collected from independent sources and reflecting real transactions (e.g. a three-year swap rate);
- non-observable data reflect estimates and internal assumptions adopted by Spuerkeess relating to market variations (e.g. an estimation of the payment plan of an MBS).

A fair value hierarchy was established according to the type of observable and non-observable data:

- Level 1 fair value: Level 1 inputs are essentially quoted prices in active markets for identical financial instruments. This level includes equity securities and debt instruments listed on stock exchanges, as well as derivative financial instruments traded on a regulated market. Financial instruments not listed on a market but that were recently involved in a transaction are also included in Level 1.
- Level 2 fair value: Level 2 inputs are inputs other than quoted market prices included within Level 1 that are observable for the financial instruments, either directly or indirectly, i.e. derived from observable prices, such as implied volatilities of a share derived from observable prices of option contracts on this share. This level includes the majority of over-the-counter

derivative financial instruments and structured debt securities issued. These inputs, such as "EURIBOR" yield curves or credit spreads, are initially provided by specialised financial data providers.

- Level 3 fair value: This level includes equity instruments or debt securities for which significant parameters used in the valuation models are based on internal estimations and assumptions. The shareholdings of the Group's parent company in non-material unlisted companies are valued on the basis of net assets after taking into account any discount for illiquidity and/or for restrictions on the security, adjustments for structural losses, and/or the company's dividend on income for the last financial year audited, once the information is available. Material unlisted holdings are measured as follows:
    - in the event of a transaction (capital increase or sale transaction) during the last 12 months or if the parties to a future transaction agree on the price of the transaction, this transaction price constitutes the basis for the measurement value of the position, taking into consideration a discount, provided that the shareholding is deemed strategic for the Group's parent company and that no paragovernmental shareholders, such as the Group's parent company, participate in the transaction;
    - when this concerns a company that holds listed assets, the market price of these assets on the valuation date is used to calculate net asset value;
    - when the last capital transaction was more than 12 months ago, the measurement is made based on the stock market ratios of a peer group, meaning a sample of listed companies that are comparable, in terms of economic activity, asset size and/or financing structure, to the unlisted company, measured by the Group's parent company. This allows the fair value of the position held by the Group's parent company to be determined. A discount to the valuation of unlisted assets may be applied for illiquidity and/or for restrictions on the security;
    - The following ratios are documented for the unlisted company, owned by the Group's parent company, and for all listed companies of the peer group:
        - Enterprise Value to EBITDA (except insurance companies);
        - Price-to-Book, Price-to-Sales and Price-to-Earnings.
    - the data used in the valuation process are derived from the company accounts or are estimated based on the latest figures available. The peer group's market multiples, described in the previous paragraph, and the accounting data of the companies making up each peer group are taken from Bloomberg with reference to the closing price on the valuation day, i.e. 30 June or 31 December of the respective year;

- to supplement this market-multiples valuation, the Group's parent company may use multiples based on recent transactions in companies with the same characteristics as the unlisted company held by the Group's parent company.

A change in level may occur in the event that market characteristics change.

To determine this hierarchy of fair values, the Group reviewed all financial instruments measured at fair value to assess the importance of observable data directly or indirectly on the markets. Observable market data include:

- credit spread curves based on CDS prices;
- interbank interest rates or swap rates;
- foreign exchange rates;
- stock indices;
- counterparty credit spreads.

3.3.4 Impairment of financial assets

In accordance with the second phase of IFRS 9, the Group's parent company considers all HTC model products meeting the SPPI criterion as well as guarantees and certain commitments recognised off the balance sheet in the calculation of impairment of financial assets.

These exposures are classified according to three stages determining the calculation of the value adjustments:

- Stage 1 includes exposures whose credit risk has remained unchanged or has not deteriorated significantly since the loan was granted or the security was purchased ("at inception").
  ⇨ **Value adjustment is equal to a 1-year expected credit loss.**

- Stage 2 includes financial instruments whose credit risk has increased significantly since the loan was granted or the security was purchased, i.e. exposures that:
  - have had their internal rating downgraded by ≥ 3 notches (≥ 2 notches for exposures to individuals) since initial recognition and are not considered to be a low credit risk. The internal definition of low credit risk exemption (LCRE) was revised in 2022. Instead of applying the LCRE to all the exposures in the Group's parent company's portfolio classified as investment grade, since end-2022 the Group's parent company has applied the LCRE to exposures whose TTC PD is the closest to the 0,3% threshold. The LCRE has been eliminated for the Retail SME and Specialised Financing portfolios and remains unchanged for the bank, large company and sovereign portfolios;

- are "non-performing" but not in default under Article 178 of the CRR;
- have been restructured according to the definition introduced by the European Banking Authority (EBA) and adopted by the European Union in Regulation (EU) 2015/227;
- are manually assigned to Stage 2 to account for qualitative criteria not considered in the previous points;

⇨ **Value adjustment is equal to a lifetime expected credit loss.**

• Stage 3 includes exposures in default according to Article 178 of the CRR.

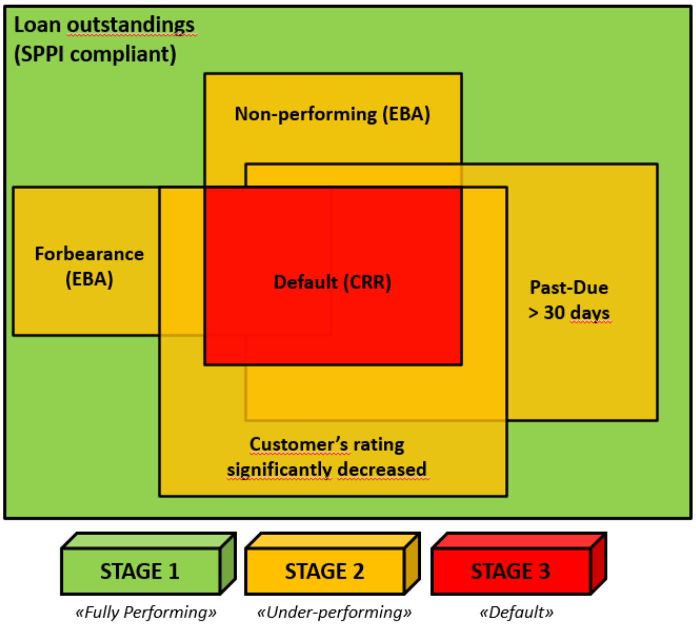
⇨ **Value adjustment is equal to a lifetime expected credit loss (with probability of default = 1)**

The table below details the rating scales excluding default:

Rating scales (excluding default)				
Individuals	**Retail SME**	**Medium-sized companies**	**Large companies/Banks /Sovereigns**	**Specialised financing**
0	01-AAA	01-AAA	01-AAA	
1	03-AA	02-AA+	02-AA+	01-Strong
		03-AA	03-AA	
		04-AA-	04-AA-	
2	06-A	05-A+	05-A+	
		06-A	06-A	
		07-A-	07-A-	05-Good
		08-BBB+	08-BBB+	
3	09-BBB	09-BBB	09-BBB	
4		10-BBB-	10-BBB-	
		11-BB+	11-BB+	
5	12-BB	12-BB	12-BB	10-Satisfactory
		13-BB-	13-BB-	
6		14-B	14-B	
	15-B	15-B+	15-B+	
7		16-B-	16-B-	
8 9 10 11	17-BBB	17-CCC	17-CCC	15-Weak

Low Credit Risk Exemption

The chart below details the consideration of the notions of the EBA in the various stages:



As the Group's parent company applies the definition of default at the debtor level, all the exposures of a customer in default are found in Stage 3. This "contagion" is not automatically applied for Stage 2. The same customer can therefore have commitments classified in Stage 1 and Stage 2.

The table below summarises the triggers for various events:

Notions	Explanations	IFRS 9 stage
1. "Default"	• No payment arrears, but "unlikeliness to pay" (ULP), in the sense of a serious doubt about the future ability to meet the commitments (e.g. bankruptcy). • The absolute threshold (a) and the relative threshold (b) have been exceeded for 90 consecutive days: a) absolute threshold: arrears > EUR 100 (retail) or EUR 500 (wholesale); b) relative threshold: amount of arrears relative to the total amount of exposures to the borrower on the Bank's balance sheet > 1% (retail and wholesale).	STAGE 3
2. "Non-Performing"	• Late > ½ monthly instalment for > 90 days, or • Overdraft > EUR 100 for 90 days.	STAGE 2
3. "Forbearance/renegotiated due to significant increase in credit risk" (IFRS 9 B.5.5.27)	• Restructuring measures granted to the customer during the term of the contract (deferment, extension of due date) and customer in financial difficulty.	STAGE 2
4. "Past-Due"	• Late payment > 30 days with certain materiality thresholds (EBA notion).	STAGE 2
5. Internal rating	• A downgrade of the internal rating by ≥ 3 notches (≥ 2 notches for Retail, exposures to individuals) since initial recognition and a sub-investment grade rating as at the reporting date are not considered to be low credit risk. This definition of low credit risk was changed in 2022 and since then has included exposures with a PD of less than 0,3%.	STAGE 2
6. Stage override	• Potential stage override to account for information not included in the above indicators	STAGE 2

Probationary periods:

Migration	Migration trigger	Probationary period	Conditions
Stage 2 to Stage 1	Forbearance	2 years	- significant amount repaid during the probationary period - investment grade rating - performing
	Wholesale rating	1 year	the variables considered for the Wholesale rating are based on the financial statements published annually: potential impact on the rating for 12 months
	Retail internal rating	6 months	the variables considered for the Retail rating are based on historical behaviour in the last 6 months: potential impact on the rating for 6 months
Stage 3 to Stage 2	Non-performing and forbearance	1 year	Parallel non-performing and forbearance status triggers the default. The customer exits non-performing and default if the forbearance start date ≥ 1 year. There is therefore a one-year probationary period for non-performing/default status.
	Automatic closure of the default (repayment of outstanding debts), but other ongoing Stage 2 event	min. 3 months	Payment of outstanding debts triggers a 3-month probationary period (or 12 months for forbearance status). After the probationary period, the customer moves from Stage 3 to Stage 2 (in the event of SICR)
	Manual closure of an unlikeliness to pay default, but other ongoing Stage 2 event	min. 3 months	When a default is closed manually, a 3-month probationary period (or 12 months for forbearance status) is also applied.
Stage 3 to Stage 1	Automatic closure of the default (repayment of outstanding debts)	min. 3 months	Payment of outstanding debts triggers a 3-month probationary period (no forbearance). After the probationary period, the customer moves from Stage 3 to Stage 1 (no SICR).
	Manual closure of an unlikeliness to pay default	min. 3 months	When a default is closed manually, a 3-month probationary period (no forbearance) is also applied.

Determination of "Expected Credit Loss": for each stage, the calculation method used is different:

Stage	Description	Formula	Explanation
1	Expected loss is calculated over a period of up to one year	$ECL = PD_{M,1} \cdot LGD_1 \cdot Exposures(t_0)$	- $PD_{M,1} = 1\text{-}(1\text{-}PD_1)^M$ and M the residual maturity in number of days/365,25 of the next year, - PD_1 = Probability of default for the first year, which takes into account the actual residual duration (Daily granularity), - LGD_1 = Loss given default during the next year, - Exposure (t_0) = Exposure at the beginning of the period
2	The expected loss is to be estimated over the entire remaining life of the contract (lifetime expected loss)	$ECL = \sum_{k=1}^{n} ECL_k = \sum_{k=1}^{n} PD_{M,k} \cdot \frac{(Exposition_{k-1} \cdot LGD_k)}{(1+i)^{k-1}}$	$PD_{M,k}$ takes into account the actual residual duration (Daily granularity) ECL is the sum of expected losses per year, discounted at the respective contractual rate i. The variable n represents the remaining duration of the exposure expressed in years.
3	The probability of default is 100% for these exposures; the expected loss is therefore a function of the current exposure and the loss rate (LGD), which takes into account the re-estimated future flows	$ECL = 100\% \cdot LGD_1 \cdot Exposures(t_0)$	- LGD_1 = Loss given default during the next year, - Exposure (t_0) = Exposure at the beginning of the period

The basic principles applied by the Group's parent company are given in the previous table, and the PD and LGD risk parameters are derived from the "through the cycle" (TTC) parameters used for the calculation of capital requirements. To take into account the point-in-time (PiT) and forward-looking aspects, the Group's parent company has applied a PiT Index allowing the TTC parameters to be transformed into PiT parameters and the parameters to be projected by considering four economic scenarios for financial year 2022, versus three for financial year 2021:

- optimistic,
- baseline,
- adverse, and
- severely adverse.

The severely adverse macroeconomic scenario supplements the three scenarios used in 2021. It was introduced in November 2022 by the Risk Management department (DRM) to simulate the impact of an even more adverse environment and account for current macroeconomic uncertainties.

The probabilities of default (PD) are determined using a projection of the PiT Index on the basis of a link function by exposure class or a table based on an appraiser assessment. The projection of the PiT Index depends on the projection of macroeconomic variables (i.e. Luxembourg GDP and Advanced Economies GDP) in the four macroeconomic scenarios. To align the link functions with the unique macroeconomic environment (very high inflation) and account for other methodological weaknesses, the underlying models for the PiT Index PDs were revised in 2022. The sign in the link functions for inflation (CPI) was negative in the previous model[1]. But, in a very high inflation context, a negative link between the default rate and the inflation rate was no longer appropriate. In the current context, the new link functions now take into account only GDP (Luxembourg and Advanced Economies).

Revising the model led to an approximately EUR 16 million increase in the total amount of ECLs. The new models are based on the following approaches:

- Exposures linked to the local economy: Vasicek approach (single factor model) with the GDP variable as the systemic factor and the correlation used for regulatory calculations;

- Exposures linked to banks and large international companies: linear regression function (determined on the basis of S&P historical defaults) with GDP as the explanatory variable and an autoregressive term of about 2.[2]

The parameter of the "Loss Given Default" (LGD) is determined from a decision tree based on the characteristics of the different products. The LGDs of exposures secured by property factor in the future change in the value of the properties defined in the respective macroeconomic scenario. In the baseline scenario, a 25% haircut[3] is then applied to the projected value of the properties to account for the costs

[1] Moderately high inflation (of about 2%-3%) is a sign that the economy is healthy and that defaults are infrequent. In a very high inflation context, this relationship is no longer accurate (e.g. additional defaults caused by the decline in household purchasing power).
[2] i.e. Autoregressive process of about 2 (written as AR (2)), meaning that the value is based on the two previous values.

[3] In the adverse scenario, a 43% haircut is applied, which corresponds to the 25% applied in the baseline scenario plus 18%, in line with the decline in prices between 2023 and 2025 included in this scenario. In the severely adverse scenario, we apply a 45% haircut (i.e. 25% from the baseline scenario plus 20% to account for the price decline in this scenario). The optimistic scenario applies a 20% haircut to account for the 25% applied in the baseline scenario and the 5% price increase anticipated in this scenario.

associated with debt recovery (e.g. forced sale or time value of future recovery flows). The model used to revalue residential properties utilises energy performance class as the model's explanatory variable. Based on historical price observations, the revaluation model applies a more favourable price indexation for properties with a high energy class. Climate risk (transition risk) can therefore be considered when calculating LTV and thus LGDs and provisions.

The amounts of allocations to and reversals of value adjustments are determined in accordance with the methodology described above.

The Group's parent company uses the scenarios with the following weightings:

	Scenario weightings			
	Optimistic	Baseline	Adverse	Severely adverse
2021	10%	50%	40%	N/A
2022	5%	50%	25%	20%

The weighting of the scenarios accounts for both the uncertain macroeconomic environment and the uncertainty as to how the health situation will unfold worldwide.

The scenarios are based on projections by national or international authorities, namely STATEC and the IMF. A decision is made about the source based on the availability of the information and its relevance for the Group's parent company, with the ECB's forecasts used as the adjustment factor. It should be noted that the ECB's forecasts are consistent with the expert judgements applied. In addition, these projections are adjusted to account for post-publication developments (see baseline scenario below) or supplemented with internal scenarios (see adverse and severely adverse scenarios below).

The baseline scenario was defined using the IMF's July projections for advanced economies. These projections have been adjusted (lower GDP and higher inflation) based on the ECB's forecasts published in September 2022[4]. Growth for advanced economies for 2023 has thus been revised downward by 0,5% (to +0,9%) compared with the IMF's projections. STATEC's forecasts from September were used for Luxembourg GDP (i.e. +2%) but were revised upward by 0,5% for 2023 – based on expert estimates – to account for the outcome of the Tripartite at end-September 2022.

The macroeconomic environment in the adverse scenario is that of stagflation, i.e. a combination of a lower GDP growth rate and higher inflation in 2023. This macroeconomic scenario assumes a significant worsening of the current economic trajectory due to a full cessation of Russian gas exports to

[4] The internal macroeconomic scenarios were defined in September 2022 as part of the budget forecasting process, so the most recent forecasts as at that date were used. However, there was no material difference between the IMF and ECB projections available on that date and the more recent forecasts.

European countries and the challenge of replacing the entire shortfall with other energy sources/supplies, as well as the emergence of more contagious Covid variants triggering additional lockdowns in Asia.

The severely adverse scenario defined by the Group's parent company (expert judgement based on the adverse scenario) presents a more unfavourable macroeconomic scenario than the adverse macroeconomic scenario. The severely adverse scenario projects, among others, a 1,5% decline in GDP in 2023 for advanced economies (including the United States, which is expected to have a smaller decline than the EU), along with a significant decrease in EU State revenues. In this scenario, Luxembourg is not immune to the severely adverse environment and GDP declines by 2,45% in 2023. This scenario is also characterised by a more significant rebound in GDP in 2025 due to the sharper decline in 2023 and 2024.

The results were reviewed and validated by the appropriate bodies of the Group's parent company.

- ECLs and sensitivity scenarios at 31/12/2021:

Type of scenario	Weighting	Macroeconomic variables	2022	2023	2024	Unweighted ECLs (in EURm)	Weighted ECLs (in EURm)
Baseline	50%	Luxembourg GDP	3,60%	3,00%	2,70%	108	140
		Luxembourg CPI	1,80%	1,90%	1,90%		
		Advanced economies GDP	4,40%	1,80%	1,60%		
		Advanced economies CPI	2,10%	1,80%	1,90%		
Adverse	40%	Luxembourg GDP	-1,30%	0,50%	3,60%	189	
		Luxembourg CPI	3,30%	2,40%	2,00%		
		Advanced economies GDP	-4,70%	1,00%	4,40%		
		Advanced economies CPI	3,60%	3,00%	2,50%		
Optimistic	10%	Luxembourg GDP	4,30%	3,00%	3,00%	101	
		Luxembourg CPI	2,15%	1,90%	2,11%		
		Advanced economies GDP	5,46%	2,00%	1,48%		
		Advanced economies CPI	2,61%	2,00%	1,76%		

- ECLs and sensitivity scenarios at 31/12/2022:

Type of scenario	Weighting	Macroeconomic variables	2023	2024	2025	Unweighted ECLs (in EURm)	Weighted ECLs (in EURm)
Optimistic	5%	Luxembourg GDP	3,50%	3,00%	3,00%	121	194
		Advanced economies GDP	2,30%	3,00%	3,00%		
Baseline	50%	Luxembourg GDP	2,50%	2,40%	2,10%	136	
		Advanced economies GDP	0,90%	1,50%	1,50%		
Adverse	25%	Luxembourg GDP	-0,45%	0,50%	0,50%	235	
		Advanced economies GDP	-0,50%	0,30%	0,30%		
Severe	20%	Luxembourg GDP	-2,45%	-0,50%	1,50%	303	
		Advanced economies GDP	-1,50%	-0,20%	1,00%		

In response to the current geopolitical crisis and its economic impacts (inflation, rising interest rates and slowing economic growth), the Group's parent company introduced the following provisions as management overlays in its IFRS 9 models.

The Group's parent company used a management overlay via the weightings of the four scenarios. Under the existing procedure, the weighting of the scenarios should have been calculated based on a quantitative[5] and qualitative[6] analysis. To address the uncertainties related to the macroeconomic environment, the Group's parent company therefore decided to override this approach, given the quantitative component's excessively backward-looking approach. The quantitative/qualitative approach (70% baseline/15% optimistic/15% for the two adverse and severely adverse scenarios) is therefore replaced by expert judgements based more on qualitative weightings, defined in the scenario weighting table.

Since end-November 2020, the Group's parent company has already downgraded Retail customers (i.e. individuals and SMEs) classified as "high risk" by a whole letter rating notch. Given the current context, the Group's parent company has taken the following approach:

- Retail SMEs active in a "high risk" sector: two-notch whole letter rating downgrade instead of one notch applied at end-2021;
- Corporates active in a "high risk" sector: one-notch downgrade;
- Individual Retail customers with a significant deterioration in repayment ability due to rising interest rates: two-notch downgrade on a 12-grade scale according to the rating scale table at the beginning of this section.

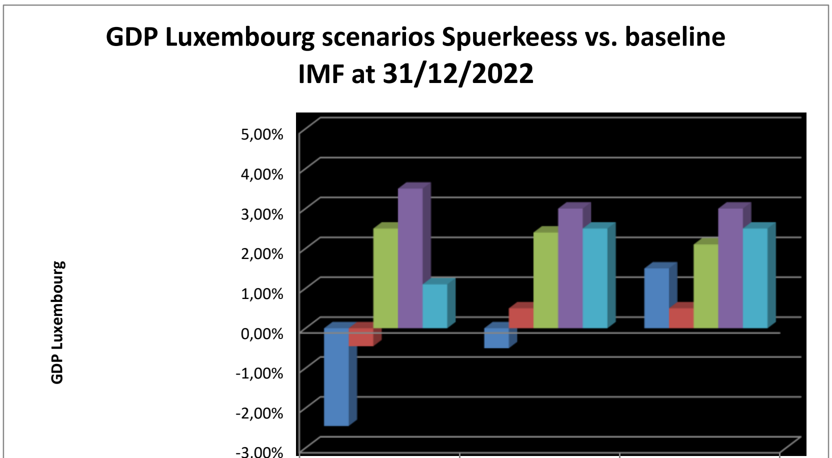
The sector risk classification is based on the Group's parent company's integrated strategy, which aims to assess each sector's risk in a given macroeconomic environment, such as how much energy the sector consumes. Each sector's climate and environmental risks are also taken into consideration in this integrated strategy.

Given households' higher cost of living and rising interest rates, the Group's parent company expects real estate prices to stagnate. It has therefore not factored a price increase in the coming years into the baseline scenario and has included only a 5% increase over three years in the optimistic scenario. The management overlay therefore consists of not accounting for the increase in real estate prices in the baseline macroeconomic scenario when calculating LTVs and consequently LGDs. Factoring in the higher prices projected would have led to lower LGDs.

[5] In the quantitative approach, the historical frequency of macroeconomic crises is used to determine the weightings.
[6] Qualitative approach based on an analytical report by a leading European asset manager.

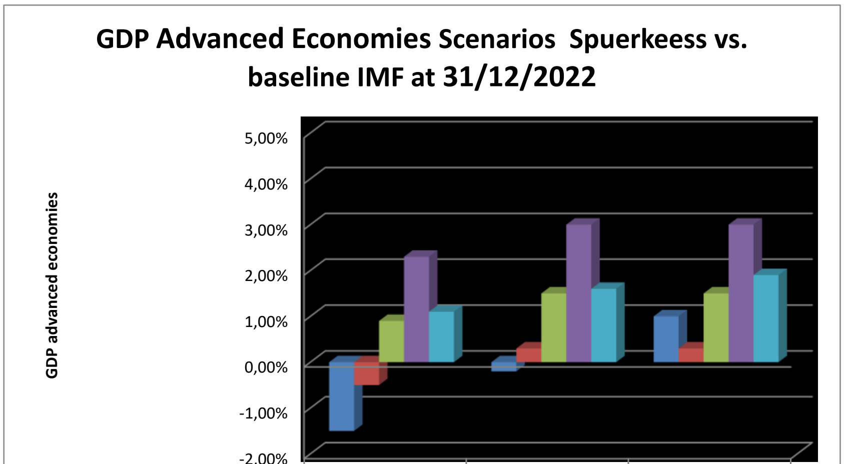
These three measures (downgrade, weighting adjustment, limitation on the increase in real estate prices) mean that provisions at 31 December 2022 increase by EUR 51 million, of which EUR 18 million from downgrades, EUR 31 million for the weighting adjustment and EUR 2 million for real estate prices.

The tables below compare the internal scenarios used with the IMF's baseline scenario. The Group's parent company's baseline scenario is more favourable than the IMF's because it accounts for the Luxembourg Tripartite's agreement in principle of 20 September 2022. These agreements provide for a more than EUR 1 billion anti-inflation "shield" by freezing electricity prices, capping the rise in gas prices and increasing energy assistance for SMEs.



	2023	2024	2025
Severely Adverse GDP Spuerkeess	-2,45%	-0,50%	1,50%
Adverse GDP Spuerkeess	-0,45%	0,50%	0,50%
Baseline GDP Spuerkeess	2,50%	2,40%	2,10%
Optimiste GDP Spuerkeess	3,50%	3,00%	3,00%
Baseline GDP FMI 2022/10	1,10%	2,50%	2,50%

Comparison of scenarios used at 31/12/2022 (Luxembourg)



	2023	2024	2025
Severely Adverse GDP Spuerkeess	-1,50%	-0,20%	1,00%
Adverse GDP Spuerkeess	-0,50%	0,30%	0,30%
Baseline GDP Spuerkeess	0,90%	1,50%	1,50%
Optimiste GDP Spuerkeess	2,30%	3,00%	3,00%
Baseline GDP FMI 2022/10	1,10%	1,60%	1,90%

Comparison of scenarios used at 31/12/2022 (Advanced Economies)

3.3.4.1 Write-off of receivables measured at amortised cost

Only Stage 3 assets can be the subject of a write-off of receivables.

The decision to write off a receivable is made by the parent company's Executive Committee based on its assessment that the probability of recovering such a debt is near zero.
If appropriate, the entirety of the targeted asset is written off.

3.3.5 Moratoria and public guarantees

The Group's parent company no longer has any moratoria associated with loans related to the Covid-19 crisis on its books (EBA guidelines EBA/GL/2020/02 and EBA/GL/2020/07).

Information on loans and advances at amortised cost, subject to moratoria:

Position as at 31 December 2022	Carrying amount		Maximum amount of the guarantees that can be considered	Carrying amount
		of which restructurings	Public guarantees received	Inflows to non-performing exposures
Newly originated loans and advances at amortised cost subject to the public guarantee principle	25.656.865	3.384.278	21.808.335	8.025.382
of which retail	93.012			-
of which with a mortgage	-			-
of which corporate	25.563.853	3.367.261	21.729.275	8.025.382
of which SMEs	*25.563.853*			*8.025.382*
of which with a commercial mortgage				-

Position as at 31 December 2021	Carrying amount		Maximum amount of the guarantees that can be considered	Carrying amount
		of which restructurings	Public guarantees received	Inflows to non-performing exposures
Newly originated loans and advances at amortised cost subject to the public guarantee principle	32.732.987	930.986	27.823.039	28.702
of which retail	516.558			-
of which with a mortgage	-			-
of which corporate	32.216.429	888.880	27.383.965	28.702
of which SMEs	*32.131.590*			*28.702*
of which with a commercial mortgage	*463.239*			-

The public guarantee covers 85% of the amount of loans originated under certain defined conditions. The term of the loans is limited to a maximum of six years.

The Group's parent company applies the private (non-legislative) moratorium for a period of six months pursuant to the memorandum signed on 16 April 2020 by several financial centre banks in accordance with the criteria established in the European Banking Authority's Guidelines of 2 April 2020 on legislative and non-legislative moratoria on loan repayments applied in the light of the Covid-19 crisis (EBA/GL/2020/02). Financial centre banks have decided not to extend the memorandum's validity period. Accordingly, moratoria granted to business customers since 1 October 2020 no longer fall under this programme.

3.3.6 Sector-based analysis

The Covid-19 pandemic has prompted the Group's parent company to categorise its commitments into different sectors based on the international GICS (Global Industry Classification Standard) system. This classification starts with 11 key sectors which are then subdivided into three levels (industry groups, industries and sub-industries). An integrated strategy was introduced in the third quarter of 2022 to cover the credit risk, ESG and specific vulnerability components. It replaced the previous concept of Covid-19 vulnerability. Each sub-industry is assigned a low, medium or high vulnerability.

Specific vulnerabilities refer to factors such as risks related to the Russia-Ukraine conflict, inflation and the shortage of certain commodities having a significant impact on certain sub-industries. The positive and negative effects of specific opportunities and vulnerabilities may influence the final sector view. Where applicable, counterparties that operate in a sub-industry classified as vulnerable will be subject to enhanced monitoring. Sub-industry vulnerability is incorporated into the calculation of sector-based credit limits and internal ratings and will ultimately have a direct impact on how the capital charge and exposure provisioning are determined.

The Group's parent company revised the internal rating for various business exposures to give priority to sectors categorised as high risk under the new approach and account for the importance of the borrowers for the national economy and the extent of their commitments to Spuerkeess. The projected sector impact was also reflected in the rating assigned to the customers in question.
Ratings were downgraded at 31 December 2022 versus June 2022 for 16,31% of exposures to customers active in the sectors most affected by the new integrated approach, confirmed for 70,05%, and upgraded for 10,83%. For 0,71% of commitments to new customers, the impact was considered when assigning the initial rating and in any reviews conducted during the year.

Sectors currently classified by the Group's parent company as high risk mainly include companies active in the following areas:

- Electric Utilities;
- Specialised Consumer Services;
- Homebuilding;
- Automotive Retail;
- Trucking.

At 31 December 2022, the combined exposures of professional customers classified as high risk represented EUR 3.141 million in outstandings (EUR 2.185 million at 30 June 2022) and the related expected credit losses recorded stood at EUR 42 million. The breakdown of provisions by IFRS stage is as follows:

- 39,3% of impairments come from Stage 1 (42,9% at 30 June 2022);
- 52,0% of impairments come from Stage 2 (22,8% at 30 June 2022);
- 8,7% of impairments come from Stage 3 (34,3% at 30 June 2022).

The Group's parent company also pays close attention to the commitments of customers indirectly affected by the high-risk sectors.

3.4 Repurchase and reverse repurchase agreements – Lending and borrowing of securities

3.4.1 Repurchases and reverse repurchases

Securities subject to a sale agreement with a repurchase commitment (sale/buyback transactions) for the same or substantially identical asset remain on the balance sheet. The amount owed to the counterparty is entered in liabilities under "Deposits at amortised cost".

In the main, the Group enters into firm repurchase agreements relating to the same or substantially identical assets.

By analogy, securities purchased subject to resale agreements (reverse repo) relating to the same or a substantially identical asset are not recorded in the balance sheet. The consideration for securities purchased under reverse repo agreements is entered under "Loans and advances at amortised cost". This type of instrument is part of an HTC business model and respects the characteristics of the SPPI test.

The Group carries out tri-party repo and tri-party reverse repo transactions with counterparties rated "A" or higher. The structure involves a third-party intermediary throughout the life of the tri-party repo to manage delivery versus payment, control the eligibility criteria of securities, calculate and manage margin calls and manage substitutions of securities. Maturity varies from overnight to 12 months.

Income and expenses from repurchase and reverse repurchase agreements are entered under "Interest income" in the income statement.

3.4.2 Lending and borrowing of securities

Securities lent remain on the balance sheet, while securities borrowed are not entered on the balance sheet.

3.5 Interbank market

3.5.1 Borrowings

Borrowings are initially recognised at fair value net of transaction costs. Subsequently, borrowings are recognised at amortised cost and any difference between the net amount received and the amount repaid is recorded in the income statement over the duration of the loan, using the effective interest rate method.

3.5.2 Issuance of debt securities

Debt issued by the Group is classified at amortised cost. However, as part of its EMTN programmes, the Group issues a large number of structured bonds containing embedded derivative financial instruments whose price fluctuations are hedged by swaps with a structure identical to that of the swap contained in the bond.

The Group has designated closely related transactions as fair value hedge relationships. This allows it to offset the impact of changes in market prices at the income statement level.

For transactions that are not closely related, the Group applies the fair value option by including them under "Financial liabilities designated at fair value through profit or loss". As the heading indicates, they are measured at fair value through profit of loss. Own credit risk is recorded in other items of comprehensive income; this risk is deemed immaterial for the Group's parent company.

3.6 Tangible assets

Tangible assets for own use as well as investment property are recorded at acquisition cost. Costs related directly to the acquisition are capitalised as an integral part of the acquisition cost.

Tangible assets for own use consist of land and buildings, facilities and installations, computer hardware and other equipment. They also include right-of-use assets whose underlyings are tangible assets.

Tangible assets are recognised at historical cost less accumulated amortisation and possible impairment. Costs related directly to the acquisition are capitalised and amortised as an integral part of the acquisition cost at the same pace as for the principal asset. The amortisable amount of these assets is calculated after deduction of their residual value. The Group applies the component approach to depreciation according to IAS 16 on tangible construction assets. Components related to tangible assets are amortised over their estimated useful life using the straight-line method. Land is recognised at cost.

Useful life for the main types of tangible assets:

- constructions:

-	Structural works components	30 - 50 years
-	Finishing component 1	30 years
-	Finishing component 2	10 years
-	Other components	10 - 20 years
- computer hardware:		4 years
- office fixtures, furniture and other equipment:		2 to 10 years
- vehicles:		4 years

Finishing component 1 includes, among other things, lightweight partitions, screeds, tiles and joinery, whereas finishing component 2 includes resilient floor coverings and paint. "Other" consists of, among others, electrical facilities, plumbing, and heating and air-conditioning facilities.

Investments on leased buildings are amortised over the remaining term of the lease. If the term is not fixed, amortisation takes place over 10 years.

Maintenance and repairs that do not increase the economic benefits of the tangible asset are accounted for in the income statement when incurred.

If the recoverable amount of an asset falls below its book value, an impairment must be recognised to adjust the book value on the balance sheet to the estimated recoverable amount.

Expenses incurred for the purpose of increasing the economic benefits generated by a tangible asset or real estate asset, or which extend its useful life, are recognised in assets on the balance sheet and amortised over the underlying asset's estimated useful life.

Gains or losses arising from the removal from active use or disposal of tangible assets are determined by the difference between the proceeds of the disposal and the residual value of the assets and are recognised in profit or loss under "Profit from non-current assets and disposal groups classified as held for sale and not qualifying as discontinued operations" as at the date of disposal or removal from active use.

The acquisition cost of equipment and furniture whose normal useful life is less than one year is recognised directly in profit or loss for the period under "Other general and administrative expenses".

Recognition under this heading of right-of-use assets under a lease is explained in section 3.8.1.

3.7 Intangible assets

The Group considers software, whether acquired or internally generated, as well as the related development and set-up expenses, as intangible assets. Software is amortised over a 3-year period using the straight-line method.

3.8 Lease agreements

Where a lessor assigns to a lessee the right to use an asset for a specified period under an agreement in exchange for payment(s), that agreement is considered a lease.

3.8.1 A Group entity is a lessee

IFRS 16 "Leases" replaced IAS 17 of the same name on 1 January 2019.

The Group has entered into leases mainly for buildings, car parks and S-BANK automated teller machines.

These leases led to the:

- recognition of a "right-of-use asset" on the assets side. The cost of the asset includes the initial amount of the lease liability as well as, where applicable, rent payments already made, initial direct costs and dismantling costs. This right of use is recognised under the asset item where the corresponding underlying assets would have been presented, i.e., the "tangible assets" item;
- recognition of a "lease liability" on the liabilities side: the lease liability represents the present value of the lease payments that have not yet been made. This lease liability is recognised on the liabilities side under "other liabilities". The Group has opted to recognise the undiscounted value of the lease payments given that the impact of this discounting would be immaterial. As a result, no interest expense is recognised on liabilities arising from leases;
- recognition in the income statement of "lease payments" and any "penalties" to be paid for early termination of a lease; penalties are recognised as expenses for the year in which the lease is terminated.

3.8.2 A Group entity is a lessor

When a Group entity is the lessor, a distinction must be made between finance leases and operating leases.

A lease agreement that transfers substantially all the risks and advantages incidental to ownership of an asset is a finance lease, otherwise it is an operating lease.

When a Group entity leases an asset within the framework of a finance lease, the net present value of the lease payments is recognised as a receivable under "Loans and advances at amortised cost" for customers or credit institutions respectively. The difference between the payments due and their present value is recognised as unrealised financial income under "Interest income" in the income statement. The lease payments and the arrangement costs for the lease are spread over the term of the agreement so that the income generates a constant effective interest rate.

When a Group entity leases an asset under an operating lease, the underlying asset is recognised on the balance sheet according to its nature. The Group's operating leases are for buildings and are recognised as investment property.

3.9 Employee benefits

Employee benefits are measured in accordance with IAS 19. The benefits granted to employees by the Group are divided into the three categories described hereafter.

3.9.1 Short-term benefits

Short-term benefits mainly comprise wages, annual holidays and bonuses paid within twelve months of the end of the financial year in respect of that financial year. They are recognised in the income statement under "Personnel expenses", including amounts remaining due on the reporting date.

3.9.2 Long-term benefits

Long-term benefits are benefits generally related to seniority, paid to active employees more than twelve months after the closing of the financial year. These commitments are provisioned based on the value on the reporting date. They are measured using the same actuarial method as that applied to post-employment benefits.
Long-term benefits include in particular the "Time Savings Account", set up by the Group's parent company on 1 October 2018. The time savings account allows the beneficiary to:

- accumulate a maximum of 8 hours per week and a total maximum of 1.800 hours,
- accumulate unused holidays beyond 25 days per year up to a maximum of 1.800 hours,
- use the accumulated hours as leave or, only upon definitive termination of the employment relationship, as compensation.

3.9.3 Post-employment benefits

The Group's parent company's staff members, whether civil servants or not, are entitled to the pension scheme for civil servants as applicable to them in accordance with the legal provisions based on their respective status and entry into service, pursuant to the Organic Law of 24 March 1989.

The amount of the benefit covered by the parent company for an agent who is not a civil servant is based on the difference between the amount of the said benefit as provided by the civil service pension scheme and the amount of the benefit under the pension scheme for private sector employees.

Pension supplements payable in this regard concern the following benefits:

- old age pension;
- disability pension;
- surviving spouse/partner pension;
- surviving orphan pension;
- three-month additional pension.

Pensions for employees who are classified as civil servants are also paid for by the Bank.

Thus, this scheme is inherently a defined-benefit plan which finances commitments relating to the first pillar.

Members of the Executive Committee are civil servants and are consequently eligible for the same pension scheme for civil servants as Spuerkeess's other staff members.

Because of their mandate as a director of Spuerkeess, members of the parent company's Board of Directors are not eligible for the pension scheme for civil servants or a pension supplement pursuant to the aforementioned Organic Law of 24 March 1989.

On 1 December 2009, the pension fund was outsourced to the BCEE sub-fund of the "Compagnie Luxembourgeoise de Pension (CLP)", established as a retirement saving association ("association d'épargne-pension" - ASSEP). Therefore, the amount entered in the balance sheet is the present value of the defined-benefit obligation as at the reporting date, net of plan assets and of adjustments related to unrecognised actuarial gains and losses and past services costs.

The defined benefit obligation is calculated each year by independent actuaries according to the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the future cash disbursements based on the interest rate of high-quality corporate bonds, denominated in the currency of the payment of the benefit, the term of which is close to the estimated average term of the post-employment benefit obligation.

The sum total of the following amounts represents the parent company's annual pension expenses:
- the current service cost;
- interest cost resulting from the application of the discount rate;
- the change in actuarial gains and losses;

these amounts are net of the expected return on plan assets.

Actuarial gains and losses and fair value gains and losses are systematically recognised under "Reserves" in equity.

The calculation of the defined-benefit obligation has, since 2015, been based on the DAV2004R generation tables which most closely resemble the longevity of Luxembourg's white-collar population. In prior years, the calculation of the defined-benefit obligation had been based on the IGSS (General Inspectorate of Social Security) mortality tables with an allowance made for a five-year improvement.

3.9.4 Investment policy of the Compagnie Luxembourgeoise de Pension (CLP)

The management objective of the "CLP-BCEE" sub-fund is threefold: to coordinate the various cash flows, to minimise the portfolio's volatility and thus the probability of an extraordinary contribution request, and to match the actual yield with the induced yield. To achieve these objectives, the "CLP-BCEE" sub-fund is authorised to invest in the following instruments:

- conventional financial instruments:
  - securities negotiable on the capital market:
    - shares in companies or other equivalent securities,
    - bonds and other debt securities,
  - money market instruments such as treasury bills, certificates of deposit, commercial paper and treasury notes,
  - shares and units in undertakings for collective investment, including Exchange Traded Funds.
- derivative financial instruments: options, futures, swaps, rate agreements and all other derivatives related to securities, money market instruments, undertakings for collective investment, currencies, interest rates, exchange rates, commodities, yields, other derivative financial instruments, financial indices or financial measures.
- liquidity: all forms of conventional sight and term deposits.
- other instruments: this category includes instruments that do not fall under one of the above-referenced categories, for example, but not limited to, units in investment or professional specialised investment funds, alternative investment funds, venture capital firms and unlisted Luxembourg public limited companies (SOPARFIs (financial holding companies) or others), as well as land and real estate.

The "CLP-BCEE" sub-fund invests a minimum of 50% of its gross assets in bonds, debt securities and money market financial instruments. "CLP-BCEE" may invest up to 50% of its assets in equities, equivalent securities and other instruments, but may not exceed the limit of 15% of gross assets for other instruments and units and shares of UCIs that do not have daily liquidity, that use leverage strategies or whose underlying assets are bonds or high-yield debt. There is an additional special restriction on high-yield bond debt UCIs, whose weight is limited to 7,5% of the sub-fund's gross assets.

For the purpose of diversification, investments made with the same issuer or counterparty may not exceed 25% of gross assets. The use of derivative financial instruments is permitted by the investment policy for the purpose of hedging and/or efficient management of the portfolio.

The CLP-BCEE sub-fund's investment policy authorises securities lending and repo transactions.

The CLP-BCEE sub-fund's investment strategy takes environmental, climate, social and governance factors into account, in line with Spuerkeess's general policy.

3.10 Provisions

According to IAS 37, a provision is a liability of uncertain timing or amount, but which represents an obligation towards a third party arising from past events and the settlement of which is more than 50% likely to result in an outflow of resources embodying economic benefits.

The Bank recognises a provision at the present value when a reliable estimate can be made of the amount of the obligation.

3.11 "Fonds de Garantie des Dépôts Luxembourg" (FGDL, Luxembourg deposit guarantee fund) and "Fonds de Résolution Luxembourg" (FRL, Luxembourg resolution fund)

On 18 December 2015, Luxembourg passed the law on the resolution, recovery and liquidation measures of credit institutions and some investment firms and on deposit guarantee and investor compensation schemes (the "Law"), transposing into Luxembourg law Directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investment firms, as well as Directive 2014/49/EU on deposit guarantee and investor compensation schemes.

The Law replaced Luxembourg's deposit guarantee and investor compensation scheme, implemented by the AGDL, with a contribution-based deposit guarantee and investor compensation scheme. This scheme covers all eligible deposits by a single depositor up to EUR 100.000 and investments up EUR 20.000. In addition, the Law requires that deposits arising from specific transactions, fulfilling a social objective, or relating to particular life events be covered above the limit of EUR 100.000 for a 12-month period.

The first target level of funding of the "Fonds de Garantie des Dépôts Luxembourg" (FGDL) was set at 0,8% of the covered deposits (as defined in Article 163(8) of the Law) of member institutions. In principle, this target was reached at the end of 2018 thanks to the annual contributions made in 2016 to 2018.

Between 2019 and 2026, Luxembourg credit institutions will continue to contribute annually to provide an additional cushion of 0,8% of covered deposits as defined in Article 163(8) of the Law.

By the end of 2024, the amount of financial resources of the "Fonds de résolution Luxembourg" (FRL, Luxembourg resolution fund) should reach at least 1% of the guaranteed deposits, as defined in article 1, number 36 of the Law, of all authorised credit institutions in all participating Member States. This amount is being collected from credit institutions through annual contributions during financial years 2015 to 2024.

Contributions to the FGDL and the FRL are made through the income statement in a dedicated line within general expenses.

3.12 Deferred taxes

Deferred tax assets and liabilities are recognised on temporary differences arising between the tax base of assets and liabilities and their book values or when there are adjustments related to the accounting framework of the subsidiaries. Deferred tax assets and liabilities are calculated using the comprehensive calculation method, which takes into account all temporary differences, regardless of the date on which the tax will become payable or recoverable.

The rates used and tax laws applied to calculate deferred taxes are those that will apply when the tax becomes payable or recoverable.

Deferred tax assets are recognised to the extent that it is probable that the entity will recover the asset within a given timeframe. Deferred taxes relating to unrealised gains or losses on variable-income securities recognised at fair value through the revaluation reserve and to changes in the value of derivative financial instruments designated as cash flow hedges are recognised in equity under "Revaluation reserve". Deferred taxes on actuarial gains and losses related to the Group's pension plan commitments are recognised in equity under "Other items of comprehensive income".

4 NOTES TO THE BALANCE SHEET[7]
(in euros)

4.1 Cash and sight accounts with central banks

Cash consists of cash, cash balances with central banks and other deposits at sight with banks. The minimum reserve requirement with the Banque centrale du Luxembourg is entered under "Deposits with central banks".

Headings*	31/12/2021	31/12/2022
Cash	69.498.015	75.845.803
Deposits with central banks	8.442.603.071	9.795.349.796
Other deposits at sight	1.261.631.168	976.570.100
Total	**9.773.732.255**	**10.847.765.699**
of which impairment of financial assets	*-1.161.034*	*-1.496.616*

Changes in impairments:

	Stage 1	Stage 2	Stage 3	Total
Position as at 1 January 2021	**3.218.286**	**-**	**-**	**3.218.286**
Changes	**-2.057.252**	**-**	**-**	**-2.057.252**
Increase due to acquisition and origination	691	-	-	691
Decrease due to repayment	-909	-	-	-909
Change related to credit risk	-2.073.321	-	-	-2.073.321
Other changes	16.287	-	-	16.287
Depreciation	-	-	-	-
Exchange gain or loss	-	-	-	-
Position as at 31 December 2021	**1.161.034**	**-**	**-**	**1.161.034**

Outstanding loan stage transfers	Stage 1	Stage 2	Stage 3	Total
Transfer from Stage 1	-	-	-	-
Transfer from Stage 2	-	-	-	-
Transfer from Stage 3	-	-	-	-

Impaired loans as at 31 December 2021	Stage 1	Stage 2	Stage 3	Total
Outstanding	9.774.893.289	-	-	9.774.893.289

[7] Minor differences between the figures in the notes to the consolidated financial statements and the figures in the different consolidated statements are rounding differences only.

	Stage 1	Stage 2	Stage 3	Total
Position as at 1 January 2022	**1.161.034**	**-**	**-**	**1.161.034**
Changes	**335.583**	**-**	**-**	**335.583**
Increase due to acquisition and origination	28	-	-	28
Decrease due to repayment	-100	-	-	-100
Change related to credit risk	-97.295	-	-	-97.295
Other changes	423.228	-	-	423.228
Depreciation	-	-	-	-
Exchange gain or loss	9.721	-	-	9.721
Position as at 31 December 2022	**1.496.616**	**-**	**-**	**1.496.616**

Outstanding loan stage transfers	Stage 1	Stage 2	Stage 3	Total
Transfer from Stage 1	-	-	-	-
Transfer from Stage 2	-	-	-	-
Transfer from Stage 3	-	-	-	-

Impaired loans as at 31 December 2022	Stage 1	Stage 2	Stage 3	Total
Outstanding	10.849.262.315	-	-	10.849.262.315

4.2 Loans and advances at amortised cost – Credit institutions

Headings	31/12/2021			31/12/2022		
	=< 1 year	> 1 year	Total	=< 1 year	> 1 year	Total
Interbank loans	788.746.206	198.934.306	987.680.512	1.128.198.657	70.806.606	1.199.005.263
Reverse repurchase/Repurchase agreements	292.459.557	26.637.058	319.096.615	198.438.996	36.968.560	235.407.555
Finance leases	25.791	156.664	182.455	144	99.392	99.536
Other	39.672.170	-	39.672.170	23.485.651	-	23.485.651
Total	**1.120.903.725**	**225.728.028**	**1.346.631.752**	**1.350.123.447**	**107.874.557**	**1.457.998.005**
of which impairment of financial assets	*-295.480*	*-245.746*	*-541.226*	*-511.347*	*-69.566*	*-580.913*
Undrawn confirmed credits			238.325.841			233.202.789

In the case of reverse repurchase transactions, the Group becomes the legal owner of the securities received as collateral and has the right to sell or collateralise these securities. In 2022 and 2021, the Group's parent company reused securities from reverse repurchase transactions.

Changes in impairments:

	Stage 1	Stage 2	Stage 3	Total
Position as at 1 January 2021	**1.606.885**	**3**	**-**	**1.606.888**
Changes	**-1.065.663**	**2**	**-**	**-1.065.661**
Increase due to acquisition and origination	1.534.811	-	-	1.534.811
Decrease due to repayment	-50.717	-	-	-50.717
Change related to credit risk	-2.550.292	2	-	-2.550.290
Other changes	-	-	-	-
Depreciation	-	-	-	-
Exchange gain or loss	535	-	-	535
Position as at 31 December 2021	**541.222**	**5**	**-**	**541.227**

Outstanding loan stage transfers	Stage 1	Stage 2	Stage 3	Total
Transfer from Stage 1	-	-	-	-
Transfer from Stage 2	-	-	-	-
Transfer from Stage 3	-	-	-	-

Impaired loans as at 31 December 2021	Stage 1	Stage 2	Stage 3	Total
Outstanding	1.347.172.383	595	-	1.347.172.979

	Stage 1	Stage 2	Stage 3	Total
Position as at 1 January 2022	**541.222**	**5**	**-**	**541.227**
Changes	**39.654**	**33**	**-**	**39.687**
Increase due to acquisition and origination	454.160	-	-	454.160
Decrease due to repayment	-12.299	-	-	-12.299
Change related to credit risk	-634.341	7	-	-634.334
Other changes	229.465	26	-	229.491
Depreciation	-	-	-	-
Exchange gain or loss	2.669	-	-	2.669
Position as at 31 December 2022	**580.875**	**39**	**-**	**580.913**

Outstanding loan stage transfers	Stage 1	Stage 2	Stage 3	Total
Transfer from Stage 1	-	-	-	-
Transfer from Stage 2	-	-	-	-
Transfer from Stage 3	-	-	-	-

Impaired loans as at 31 December 2022	Stage 1	Stage 2	Stage 3	Total
Outstanding	1.458.577.330	1.588	-	1.458.578.918

The Group does not include in this category of loans and advances outstanding loans that are defined as restructured loans according to the EBA.

4.3 Loans and advances at amortised cost – Customers

Headings	31/12/2021			31/12/2022		
	=< 1 year	> 1 year	Total	=< 1 year	> 1 year	Total
Retail customers	802.901.629	17.428.558.936	18.231.460.566	1.041.487.150	18.441.473.382	19.482.960.533
Corporate customers	1.717.289.661	4.073.855.472	5.791.145.133	1.900.975.976	4.019.946.798	5.920.922.773
Public sector	57.340.396	1.166.747.142	1.224.087.539	109.935.904	1.191.539.613	1.301.475.517
Total	**2.577.531.687**	**22.669.161.550**	**25.246.693.237**	**3.052.399.030**	**23.652.959.793**	**26.705.358.823**
of which finance leases	*11.185.815*	*143.544.017*	*154.729.832*	*13.483.068*	*150.921.084*	*164.404.152*
of which impairment of financial assets	*-34.246.169*	*-78.376.895*	*-112.623.064*	*-41.434.981*	*-113.967.586*	*-155.402.568*
Undrawn confirmed credits			6.306.627.249			6.178.159.623

Impairment of loans and advances – Customers

	Stage 1	Stage 2	Stage 3	Total
Position as at 1 January 2021	**38.831.454**	**34.657.441**	**50.076.206**	**123.565.101**
of which:				
Retail customers	*2.836.479*	*12.489.890*	*11.281.246*	*26.607.616*
Corporate customers	*35.860.177*	*22.167.552*	*38.794.959*	*96.822.688*
Public sector	*134.798*	*-*	*-*	*134.798*
Changes	**-9.059.104**	**-654.952**	**-1.227.982**	**-10.942.038**
Increase due to acquisition and origination	11.536.658	3.066.847	551.937	15.155.442
Decrease due to repayment	-1.674.545	-2.308.198	-1.872.320	-5.855.063
Change related to credit risk	-18.941.847	-1.521.474	1.514.511	-18.948.809
Other changes	-	107.872	350.124	457.996
Depreciation	-	-	-1.718.045	-1.718.045
Exchange gain or loss	20.630	1	-54.190	-33.559
Position as at 31 December 2021	**29.772.350**	**34.002.490**	**48.848.223**	**112.623.064**
of which:				
Retail customers	*4.299.761*	*17.507.256*	*10.626.887*	*32.433.904*
Corporate customers	*25.399.672*	*16.495.234*	*38.221.337*	*80.116.243*
Public sector	*72.917*	*-*	*-*	*72.917*

Outstanding loan stage transfers	Stage 1	Stage 2	Stage 3	Total
Retail customers	**-13.986.475**	**1.779.840**	**12.206.635**	**-**
Transfer from Stage 1	*-621.969.848*	*611.065.352*	*10.904.496*	-
Transfer from Stage 2	*600.459.931*	*-620.668.134*	*20.208.203*	-
Transfer from Stage 3	*7.523.442*	*11.382.622*	*-18.906.064*	-
Corporate customers	**14.930.648**	**-29.352.318**	**14.421.670**	**-**
Transfer from Stage 1	*-114.924.016*	*106.952.506*	*7.971.510*	-
Transfer from Stage 2	*129.500.692*	*-138.986.626*	*9.485.933*	-
Transfer from Stage 3	*353.972*	*2.681.801*	*-3.035.773*	-

Public sector	**-**	**-**	**-**	**-**
Transfer from Stage 1	-	-	-	-
Transfer from Stage 2	-	-	-	-
Transfer from Stage 3	-	-	-	-

Impaired loans as at 31 December 2021	Stage 1	Stage 2	Stage 3	Total
Retail customers	16.882.727.568	1.295.480.011	85.686.891	18.263.894.470
Corporate customers	5.231.986.175	482.214.358	157.060.842	5.871.261.375
Public sector	1.224.160.456	-	-	1.224.160.456

	Stage 1	Stage 2	Stage 3	Total
Position as at 1 January 2022	**29.772.350**	**34.002.490**	**48.848.223**	**112.623.064**
of which:				
Retail customers	*4.299.761*	*17.507.256*	*10.626.887*	*32.433.904*
Corporate customers	*25.399.672*	*16.495.234*	*38.221.337*	*80.116.243*
Public sector	*72.917*	*-*	*-*	*72.917*
Changes	**11.733.314**	**25.812.023**	**5.234.166**	**42.779.504**
Increase due to acquisition and origination	12.610.946	2.432.895	642.824	15.686.665
Decrease due to repayment	-524.427	-4.952.445	-267.369	-5.744.241
Change related to credit risk	-9.863.938	22.229.447	5.867.668	18.233.178
Other changes	9.499.754	6.100.342	62.981	15.663.076
Depreciation	-	-	-968.854	-968.854
Exchange gain or loss	10.980	1.784	-103.084	-90.320
Position as at 31 December 2022	**41.505.665**	**59.814.513**	**54.082.390**	**155.402.568**
of which:				
Retail customers	*11.597.338*	*26.393.141*	*15.985.185*	*53.975.664*
Corporate customers	*29.849.764*	*33.312.073*	*38.097.205*	*101.259.041*
Public sector	*58.564*	*109.299*	*-*	*167.863*

Outstanding loan stage transfers	Stage 1	Stage 2	Stage 3	Total
Retail customers	**72.067.532**	**-95.527.611**	**23.460.079**	**-**
Transfer from Stage 1	*-813.286.710*	*798.964.551*	*14.322.159*	-
Transfer from Stage 2	*883.065.374*	*-904.363.009*	*21.297.635*	-
Transfer from Stage 3	*2.288.868*	*9.870.847*	*-12.159.715*	-
Corporate customers	**-546.835.778**	**542.410.435**	**4.425.343**	**-**
Transfer from Stage 1	*-616.455.187*	*595.607.249*	*20.847.938*	-
Transfer from Stage 2	*67.561.340*	*-88.023.402*	*20.462.062*	-
Transfer from Stage 3	*2.058.069*	*34.826.588*	*-36.884.657*	-
Public sector	**-5.174.638**	**5.174.638**	**-**	**-**
Transfer from Stage 1	*-5.174.638*	*5.174.638*	-	-
Transfer from Stage 2	-	-	-	-
Transfer from Stage 3	-	-	-	-

Impaired loans as at 31 December 2022	Stage 1	Stage 2	Stage 3	Total
Retail customers	18.074.209.654	1.366.819.539	95.907.003	19.536.936.197
Corporate customers	4.877.594.195	1.023.308.159	121.279.460	6.022.181.814
Public sector	1.296.468.741	5.174.638	-	1.301.643.380

"Other changes" in the previous tables reflect changes in methodology.

In addition to information on impairments of loans and advances at amortised cost – Customers, the Group reports restructured loans by type of customer. Financial restructurings follow the EBA's definition and are characterised by a deterioration in financial position due to the customer's financial difficulties and the fact that new financing conditions are granted to the customer, including in the form of an extension of the final maturity by more than six months or the partial or total deferment of payment beyond the concessions the Group would have been willing to accept for a customer under normal circumstances.

as at 31/12/2021	Performing restructured loans		Non-performing restructured loans		Total restructured loans	
	Outstanding	Impairment	Outstanding	Impairment	Outstanding	Impairment
Retail customers	113.844.005	427.278	23.841.506	1.176.609	137.685.511	1.603.887
Corporate customers	90.167.985	3.840.454	113.047.835	13.696.264	203.215.820	17.536.718
Total	**204.011.990**	**4.267.732**	**136.889.341**	**14.872.873**	**340.901.331**	**19.140.605**

as at 31/12/2022	Performing restructured loans		Non-performing restructured loans		Total restructured loans	
	Outstanding	Impairment	Outstanding	Impairment	Outstanding	Impairment
Retail customers	107.555.057	1.304.243	27.642.743	2.244.345	135.197.801	3.548.588
Corporate customers	132.746.295	3.566.522	65.575.310	11.545.505	198.321.605	15.112.027
Total	**240.301.352**	**4.870.765**	**93.218.053**	**13.789.849**	**333.519.406**	**18.660.614**

4.4 Assets and liabilities held for trading

Financial instruments held for trading are analysed by counterparty and type, differentiating between the instruments with a residual maturity of up to one year and those with a residual maturity of more than one year.

Assets		31/12/2021			31/12/2022	
	=< 1 year	> 1 year	Total	=< 1 year	> 1 year	Total
Non-derivative financial instruments	-	-	-	-	-	-
Derivative financial instruments (note 4.12)	178.066.602	57.176.033	235.242.636	75.175.729	56.900.000	132.075.729
Total	**178.066.602**	**57.176.033**	**235.242.636**	**75.175.729**	**56.900.000**	**132.075.729**
Liabilities		**31/12/2021**			**31/12/2022**	
Non-derivative financial instruments	-	-	-	-	-	-
Derivative financial instruments (note 4.12)	67.185.355	62.750.584	129.935.939	222.949.082	71.916.098	294.865.180
Total	**67.185.355**	**62.750.584**	**129.935.939**	**222.949.082**	**71.916.098**	**294.865.180**

4.5 Financial assets mandatorily recognised at fair value through profit or loss

Headings	31/12/2021			31/12/2022		
	=< 1 year	> 1 year	Total	=< 1 year	> 1 year	Total
Debt instruments	**199.394.529**	**403.400.083**	**602.794.612**	**200.975.660**	**260.929.883**	**461.905.543**
Public sector	*10.049.038*	*139.386.110*	*149.435.148*	*89.697.959*	*43.949.818*	*133.647.777*
Credit institutions	*19.360.749*	*221.569.720*	*240.930.469*	*12.399.214*	*197.291.155*	*209.690.369*
Corporate customers	*169.984.742*	*42.444.253*	*212.428.995*	*98.878.488*	*19.688.909*	*118.567.396*
Loans and advances	**-**	**29.661.322**	**29.661.322**	**-**	**28.781.367**	**28.781.367**
Public sector	-	-	-	-	-	-
Credit institutions	-	-	-	-	-	-
Corporate customers	-	*29.661.322*	*29.661.322*	-	*28.781.367*	*28.781.367*
Total	**199.394.529**	**433.061.405**	**632.455.934**	**200.975.660**	**289.711.249**	**490.686.910**
of which unrealised valuation	*12.760.464*	*-5.173.664*	*7.586.800*	*-3.037.849*	*-21.804.478*	*-24.842.327*

This item includes financial instruments that, according to IFRS 9, do not pass the SPPI test and are therefore to be measured at fair value through profit or loss.

Breakdown of changes in carrying amount of debt instruments:

Debt instruments	2021	2022
Position as at 1 January	**790.393.984**	**602.794.611**
Acquisitions	87.415.093	8.438.647
Sales	-687.896	-239.181
Repayments	-284.246.503	-117.264.577
Realised profit/(loss)	-495.320	-2.835.380
Pro-rata interest	-758.641	-676.965
Unrealised valuations	10.400.964	-28.333.435
Exchange gain or loss	772.930	21.823
Position as at 31 December	**602.794.611**	**461.905.543**

4.6 Fixed-income securities recognised at amortised cost

Headings	31/12/2021			31/12/2022		
	=< 1 year	> 1 year	Total	=< 1 year	> 1 year	Total
Debt instruments						
Public sector	*207.504.153*	*2.760.984.834*	*2.968.488.987*	*600.847.047*	*2.177.272.393*	*2.778.119.441*
Credit institutions	*1.351.008.951*	*4.566.284.620*	*5.917.293.571*	*2.006.601.728*	*3.930.655.142*	*5.937.256.870*
Corporate customers	*528.404.967*	*4.407.740.831*	*4.936.145.798*	*739.306.751*	*4.131.524.920*	*4.870.831.671*
Total	**2.086.918.071**	**11.735.010.285**	**13.821.928.357**	**3.346.755.527**	**10.239.452.455**	**13.586.207.982**
of which unrealised valuation (interest-rate component) for the purposes of hedge accounting	*3.871.884*	*49.494.323*	*53.366.207*	*- 21.631.992*	*- 777.107.454*	*- 798.739.447*
of which impairment of financial assets	*-866.250*	*-8.233.940*	*-9.100.190*	*-1.781.357*	*-9.043.585*	*-10.824.942*

Breakdown of changes in carrying amount:

Debt instruments	2021	2022
Position as at 1 January	**14.033.530.474**	**13.821.928.357**
Acquisitions	2.927.064.279	2.781.599.281
Sales	-10.005.500	-
Repayments	-3.021.326.820	-2.177.642.987
Realised profit/(loss)	1.277.739	67.364
Pro-rata interest	-27.149.990	-34.758.507
Unrealised valuations of hedges	-202.450.163	-852.173.018
Impairment	11.888.659	-1.724.752
Exchange gain or loss	109.099.679	48.912.244
Position as at 31 December	**13.821.928.357**	**13.586.207.982**

Table detailing the provisioning:

	Stage 1	Stage 2	Stage 3	Total
Position as at 1 January 2021	**19.796.781**	**988.758**	**203.310**	**20.988.849**
of which:				
Public sector	*1.076.874*	-	-	*1.076.874*
Credit institutions	*10.065.718*	-	-	*10.065.718*
Corporate customers	*8.654.189*	*988.758*	*203.310*	*9.846.257*
Changes	**-11.395.443**	**-493.202**	**-14**	**-11.888.659**
Increase due to acquisition and origination	2.842.526	-	-	2.842.526
Decrease due to repayment	-195.750	-	-	-195.750
Change related to credit risk	-14.079.671	-493.202	-14	-14.572.887
Other net changes	-	-	-	-
Depreciation	-	-	-	-
Exchange gain or loss	37.452	-	-	37.452
Position as at 31 December 2021	**8.401.338**	**495.556**	**203.296**	**9.100.190**
of which				
Public sector	*760.685*	-	-	*760.685*
Credit institutions	*4.219.731*	-	-	*4.219.731*
Corporate customers	*3.420.923*	*495.556*	*203.296*	*4.119.775*

Outstanding loan stage transfers	Stage 1	Stage 2	Stage 3	Total
Public sector	-	-	-	-
Credit institutions	-	-	-	-
Corporate customers	**-5.164.207**	**5.164.207**	-	-
Transfer from Stage 1	-5.164.207	5.164.207	-	-
Transfer from Stage 2	-	-	-	-
Transfer from Stage 3	-	-	-	-

Impaired loans as at 31 December 2021	Stage 1	Stage 2	Stage 3	Total
Public sector	2.969.249.672	-	-	2.969.249.672
Credit institutions	5.921.513.302	-	-	5.921.513.302
Corporate customers	4.900.871.591	39.190.685	203.296	4.940.265.572

	Stage 1	Stage 2	Stage 3	Total
Position as at 1 January 2022	**8.401.338**	**495.556**	**203.296**	**9.100.190**
of which:				
Public sector	*760.685*	-	-	*760.685*
Credit institutions	*4.219.731*	-	-	*4.219.731*
Corporate customers	*3.420.923*	*495.556*	*203.296*	*4.119.775*
Changes	**1.810.353**	**-86.439**	**838**	**1.724.752**
Increase due to acquisition and origination	2.214.346	-	-	2.214.346
Decrease due to repayment	-81.861	-747	-	-82.609
Change related to credit risk	-3.039.460	-189.638	838	-3.228.260
Other net changes	2.697.345	103.946	-	2.801.292
Depreciation	-	-	-	-
Exchange gain or loss	19.983	-	-	19.983
Position as at 31 December 2022	**10.211.691**	**409.117**	**204.134**	**10.824.942**
of which				
Public sector	*1.011.249*	-	-	*1.011.249*
Credit institutions	*4.947.711*	-	-	*4.947.711*
Corporate customers	*4.252.731*	*409.117*	*204.134*	*4.865.982*

Outstanding loan stage transfers	Stage 1	Stage 2	Stage 3	Total
Public sector	**-**	**-**	**-**	**-**
Transfer from Stage 1	-	-	-	-
Transfer from Stage 2	-	-	-	-
Transfer from Stage 3	-	-	-	-
Credit institutions	**-**	**-**	**-**	**-**
Transfer from Stage 1	-	-	-	-
Transfer from Stage 2	-	-	-	-
Transfer from Stage 3	-	-	-	-
Corporate customers	**-21.718.772**	**21.718.772**	**-**	**-**
Transfer from Stage 1	-24.564.836	24.564.836	-	-
Transfer from Stage 2	*2.846.063*	*-2.846.063*	-	-
Transfer from Stage 3	-	-	-	-

Impaired loans as at 31 December 2022	Stage 1	Stage 2	Stage 3	Total
Public sector	2.779.130.689	-	-	2.779.130.689
Credit institutions	5.942.204.581	-	-	5.942.204.581
Corporate customers	4.820.997.379	54.496.140	204.134	4.875.697.653

"Other net changes" in the previous tables reflect changes in methodology.

4.7 Fixed-income securities recognised at fair value through the revaluation reserve

This item includes debt instruments in the form of floating rate, fixed-rate and other interest-rate bonds subject to compliance with the SPPI criterion in the context of the hold-to-collect-and-sell (HTC&S) business model.

Headings	31/12/2021			31/12/2022		
	=< 1 year	> 1 year	Total	=< 1 year	> 1 year	Total
Debt instruments						
Public sector	-	*17.534.900*	*17.534.900*	-	*25.146.780*	*25.146.780*
Credit institutions	-	-	-	-	*4.479.600*	*4.479.600*
Corporate customers	-	-	-	-	-	-
Total	**-**	**17.534.900**	**17.534.900**	**-**	**29.626.380**	**29.626.380**
of which unrealised valuation at the reporting date	-	*18.260*	*18.260*	-	*-3.947.350*	*-3.947.350*

The amount shown in equity items for unrealised valuation is net of taxes and comes to -EUR 2.956.580 for financial year 2022 and EUR 15.006 for the previous financial year.

Breakdown of changes in carrying amount:

Debt instruments	2021	2022
Position as at 1 January	**18.042.494**	**17.534.900**
Acquisitions	-	15.948.070
Realised profit/(loss)	-	-1.944
Pro-rata interest	-7.798	110.964
Unrealised valuations	-499.796	-3.965.610
Position as at 31 December	**17.534.900**	**29.626.380**

4.8 Variable-income securities recognised at fair value through the revaluation reserve

Headings	31/12/2021	31/12/2022
Equity instruments		
Credit institutions	*6.502.040*	*7.894.054*
Corporate customers	*1.118.543.948*	*884.773.675*
Total	**1.125.045.988**	**892.667.729**
of which unrealised valuation through the revaluation reserve	*841.675.375*	*606.425.744*
Dividends received during the period	22.229.900	35.333.027
of which dividends from positions sold during the period	*206.315*	-
Gains/losses on sales in equity	20.391.135	-101

The amount shown in equity items in relation to the unrealised valuation of variable-income securities recognised at fair value through the revaluation reserve is net of taxes and comes to EUR 609.237.755 for financial year 2022 and EUR 844.771.939 for the previous financial year.

Breakdown of changes in carrying amount:

Equity instruments	2021	2022
Position as at 1 January	**858.764.091**	**1.125.045.988**
Acquisitions	2.726.193	-
Sales	-22.887.231	-26.416
Transfers to non-current assets and disposal groups classified as held for sale	-815.634	-
Profit/(loss) realised through own funds	20.391.135	-101
Unrealised valuations	263.148.401	-235.249.530
Exchange gain or loss	3.719.032	2.897.789
Position as at 31 December	**1.125.045.988**	**892.667.729**

4.9 Investments in associates accounted for using the equity method

	31/12/2021	31/12/2022
Acquisition value on 1 January	**53.838.552**	**60.657.983**
Establishment	6.858.995	6.630.000
Disposals	-39.563	-5.652.108
Total (as acquisition value)	**60.657.983**	**61.635.875**

List of associates:

Associates	% of capital held	Acquisition value	Equity-accounted value 2022
Société Nationale de Circulation Automobile S.à r.l.	20,00	24.789	9.357.920
i-Hub S.A.	20,00	6.630.000	1.026.951
Luxair S.A.	21,81	14.830.609	384.292.382
Société de la Bourse de Luxembourg S.A.	25,35	6.979.907	70.049.065
Europay Luxembourg S.C.	30,10	188.114	969.731
LuxHub S.A.	32,50	3.705.000	1.923.181
Visalux S.C.	35,36	373.071	4.627.383
Lalux Group S.A.	40,00	28.904.385	215.531.991
Total		**61.635.875**	**687.778.605**

Associates	% of capital held	Acquisition value	Equity-accounted value 2021
Société Nationale de Circulation Automobile S.à r.l.	20,00	24.789	8.885.220
Luxair S.A.	21,81	14.830.609	251.275.986
Société de la Bourse de Luxembourg S.A.	25,35	6.979.907	33.127.925
Europay Luxembourg S.C.	30,10	188.114	921.826
European Fund Administration S.A.	31,51	5.652.108	5.134.048
LuxHub S.A.	32,50	3.705.000	2.158.214
Visalux S.C.	35,36	373.071	4.517.070
Lalux Group S.A.	40,00	28.904.385	265.495.168
Total		**60.657.983**	**571.515.457**

With one exception, the financial statements of associates have been restated to comply with IFRS 9. That exception is the Lalux Group S.A. entity, which refers to Regulation (EU) 2017/1988 published in the official journal on 9 November 2017, concerning amendments to IFRS 4 *Insurance Contracts*. This regulation introduces certain exemptions for entities that operate in the insurance sector and are consolidated in the financial statements of financial conglomerates under IFRS 9 up to and including financial year 2022.

In financial year 2022, Spuerkeess acquired a 20% stake in i-Hub S.A. and sold its entire interest in European Fund Administration S.A.

Pursuant to the provisions of IFRS 12 Disclosure of Interests in Other Entities, the Group considers all interests in other companies to be immaterial and therefore provides the following information:

Associates	2022			
	Net income from continuing operations	Net income after tax from discontinued operations	Other items of comprehensive income	Total comprehensive income
Direct interests				
Société Nationale de Circulation Automobile S.à r.l.	476.295	-	-3.595	472.700
i-Hub S.A.	-1.433.818	-	-4.169.231	-5.603.049
Luxair S.A.	113.428.109	-	19.588.287	133.016.396
Société de la Bourse de Luxembourg S.A.	-6.728.830	-	45.087.750	38.358.920
Europay Luxembourg S.C.	5.675	-	42.230	47.905
European Fund Administration S.A.	-	-	518.060	518.060
LuxHub S.A.	-240.401	-	5.368	-235.033
Visalux S.C.	64.500	-	45.813	110.313
Lalux Group S.A.	36.649.210	-	-68.612.387	-31.963.177
Total	**142.220.740**		**-7.497.705**	**134.723.035**

Associates	2021			
	Net income from continuing operations	Net income after tax from discontinued operations	Other items of comprehensive income	Total comprehensive income
Direct interests				
Société Nationale de Circulation Automobile S.à r.l.	531.516	-	-18.573	512.943
Luxair S.A.	90.612.491	-	12.631.152	103.243.643
Société de la Bourse de Luxembourg S.A.	2.854.568	-	-3.823.281	-968.713
Europay Luxembourg S.C.	7.687	-	44.611	52.298
European Fund Administration S.A.	549.738	-	225	549.963
LuxHub S.A.	-156.997	-	73.207	-83.790
Visalux S.C.	63.016	-	-2.055.631	-1.992.615
Lalux Group S.A.	26.693.273	-	4.940.599	31.633.872
Total	**121.155.292**		**11.792.309**	**132.947.601**

4.10 Securities collateralised

- Securities collateralised in the framework of repurchase agreements

Headings	31/12/2021	31/12/2022
Debt instruments issued by the public sector	106.494.613	101.736.165
Debt instruments issued by credit institutions	100.864.180	93.550.066
Debt instruments issued - other	106.482.665	161.575.334
Total	**313.841.458**	**356.861.565**

The debt instruments issued are primarily "fixed-income securities recognised at amortised cost".

The increase observed in other debt instruments stems from the higher number of collateral security agreements as at 31 December 2022.

- Securities lent and other collateral

Headings	31/12/2021	31/12/2022
Securities lending		
Debt instruments issued by the public sector	531.834.490	333.806.228
Debt instruments issued by credit institutions	-	-
Debt instruments issued - other	81.903.436	5.229.854
Total	**613.737.926**	**339.036.082**

4.11 Convertible bonds included in the different portfolios

The Group did not hold any convertible bonds as at 31 December 2022 or 31 December 2021.

4.12 Derivative instruments

With regard to financial derivatives, the Group distinguishes between financial instruments held for trading and hedging derivatives. Financial derivatives held for trading are held exclusively against transactions (economic hedging) and not for speculative purposes. Hedging derivatives should be separated into:

- Fair value hedges: the Group's fair value hedging consists in hedging against changes in the fair value of the interest rate component of debt instruments. Hedged items consist of loans, securities and issues of EMTN at fixed rates. Loans can be micro- or macro-hedged. The revaluation of fair value for interest rate risk of these hedged instruments impacts the income statement. This hedging is achieved through the use of IRS.

- Cash flow hedges: cash flow hedging applies to two types of risks. On the one hand, the Group applies this type of hedge to freeze the cash flows of variable-rate loans. On the other hand, it applies to fixed-rate bonds in foreign currencies for which the Group deems it necessary to hedge foreign exchange risk. This hedging is achieved through the use of IRS and CIRS. Revaluation of the fair value of these derivatives impacts comprehensive income through the cash flow hedging reserve.

The measurement of the effectiveness of fair value and cash flow hedging is described in paragraph 3.2.2.

Categories as at 31/12/2022	Assets	Liabilities	Notional
Derivative financial instruments held for trading	**132.075.729**	**294.865.180**	**21.218.813.373**
Operations linked to exchange rates	95.941.566	240.929.951	13.285.291.750
- Foreign exchange swaps and forward exchange contracts	*95.728.944*	*238.426.173*	*13.255.318.884*
- CCIS	*212.622*	*2.503.777*	*29.972.866*
- other	-	-	-
Operations linked to interest rates	36.134.163	53.935.229	7.933.521.623
- IRS	*36.134.163*	*53.935.229*	*7.933.521.623*
- other	-		
Operations linked to equity	-	-	-
- Equity and index options	-	-	-
Fair value micro-hedges	**735.387.874**	**300.490.923**	**11.966.992.484**
Operations linked to exchange rates	99.734.446	123.391.648	2.440.066.168
- CCIS	*99.734.446*	*123.391.648*	*2.440.066.168*
Operations linked to interest rates	635.653.428	177.099.275	9.526.926.316
- IRS	*635.653.428*	*177.099.275*	*9.526.926.316*
Fair value macro-hedges	**725.963.579**	**4.070.839**	**4.271.199.907**
Operations linked to interest rates	725.963.579	4.070.839	4.271.199.907
- IRS	*725.963.579*	*4.070.839*	*4.271.199.907*
Cash flow hedging derivatives	**1.192.678**	**2.619.678**	**121.604.920**
Operations linked to exchange rates	1.138.575	2.619.678	111.704.920
- CCIS	*1.138.575*	*2.619.678*	*111.704.920*
Operations linked to interest rates	54.103	-	9.900.000
- IRS	*54.103*	-	*9.900.000*

Categories as at 31/12/2021	Assets	Liabilities	Notional
Derivative financial instruments held for trading	**235.242.636**	**129.935.939**	**16.053.773.594**
Operations linked to exchange rates	179.171.805	72.393.846	14.941.716.202
- Foreign exchange swaps and forward exchange contracts	*178.720.366*	*70.370.571*	*14.907.947.024*
- CCIS	*451.439*	*2.023.276*	*33.769.178*
- other	-	-	-
Operations linked to interest rates	56.070.831	57.542.093	1.112.057.392
- IRS	*56.070.831*	*57.211.750*	*1.108.582.066*
- other	-	*330.343*	*3.475.326*
Fair value micro-hedges	**59.488.017**	**598.771.617**	**10.542.855.840**
Operations linked to exchange rates	25.497.492	236.300.114	2.275.312.909
- CCIS	*25.497.492*	*236.300.114*	*2.275.312.909*
Operations linked to interest rates	33.990.525	362.471.503	8.267.542.932
- IRS	*33.990.525*	*362.471.503*	*8.267.542.932*
Fair value macro-hedges	**28.618.629**	**224.026.873**	**3.303.471.808**
Operations linked to interest rates	28.618.629	224.026.873	3.303.471.808
- IRS	*28.618.629*	*224.026.873*	*3.303.471.808*
Cash flow hedging derivatives	**2.088.394**	**4.879.779**	**116.944.118**
Operations linked to exchange rates	1.058.407	4.879.779	102.544.118
- CCIS	*1.058.407*	*4.879.779*	*102.544.118*
Operations linked to interest rates	1.029.987	-	14.400.000
- IRS	*1.029.987*	-	*14.400.000*

Fair value hedges at 31/12/2022	Balance sheet categories	Type of hedge	Fair value of hedged instruments	Change in fair value of hedging instruments	Change in fair value of hedged instruments	Ineffectiveness	Effectiveness rate
Interest rate risk							
Fixed-rate asset instruments	Fixed-income securities recognised at amortised cost, Loans and advances at amortised cost – Customers, Change in fair value of a portfolio of financial instruments hedged against interest rate risk	Micro-hedge	-715.247.694	833.894.714	-837.542.429	-3.647.715	100,44%
		Macro-hedge	-740.135.506	905.976.623	-907.289.664	-1.313.041	100,14%
Fixed-rate liability instruments	Issuance of debt securities	Micro-hedge	77.100.748	-83.427.056	83.862.002	434.946	100,52%
Currency risk							
Fixed-rate asset instruments	Fixed-income securities recognised at amortised cost, Loans and advances at amortised cost – Customers	Micro-hedge	-187.317.007	203.685.939	-205.546.036	-1.860.098	100,91%
Fixed-rate liability instruments	Issuance of debt securities	Micro-hedge	-434.144	-527.000	509.572	-17.429	96,69%

Cash flow hedges at 31/12/2022	Balance sheet categories	Change in fair value of hedging instruments	Change in fair value of hedged instruments	Cash flow hedging reserve	
				Continuity of hedging	Termination of hedging
Interest rate risk					
Fixed-rate asset instruments	Loans and advances at amortised cost – Customers	-973.760	-	54.334	-
Currency risk					
Fixed-rate asset instruments	Fixed-income securities recognised at amortised cost	-81.286	-	-48.861	-

Fair value hedges at 31/12/2021	Balance sheet categories	Type of hedge	Fair value of hedged instruments	Change in fair value of hedging instruments	Change in fair value of hedged instruments	Ineffectiveness	Effectiveness rate
Interest rate risk							
Fixed-rate asset instruments	Fixed-income securities recognised at amortised cost, Loans and advances at amortised cost – Customers,	Micro-hedge	122.558.653	181.984.928	-183.106.203	-1.121.275	100,62%
	Change in fair value of a portfolio of financial instruments hedged against interest rate risk	Macro-hedge	169.696.251	217.239.017	-215.654.849	1.584.168	99,27%
Fixed-rate liability instruments	Issuance of debt securities	Micro-hedge	-6.761.254	-14.768.733	14.818.147	49.414	100,33%
Currency risk							
Fixed-rate asset instruments	Fixed-income securities recognised at amortised cost, Loans and advances at amortised cost – Customers	Micro-hedge	17.965.112	69.349.513	-69.472.736	-123.223	100,18%
Fixed-rate liability instruments	Issuance of debt securities	Micro-hedge	-943.716	1.308.248	-1.299.804	8.444	99,35%

Cash flow hedges at 31/12/2021	Balance sheet categories	Change in fair value of hedging instruments	Change in fair value of hedged instruments	Cash flow hedging reserve	
				Continuity of hedging	Termination of hedging
Interest rate risk					
Fixed-rate asset instruments	Loans and advances at amortised cost – Customers	799.619	-	-1.028.094	-
Currency risk					
Fixed-rate asset instruments	Fixed-income securities recognised at amortised cost	-2.500.651	-	-32.425	-

The amount shown in equity items for cash flow hedges is net of taxes and comes to EUR 4.107 for financial year 2022 and EUR 796.025 for the previous financial year.

Income on hedging activities recognised in net income and other comprehensive income at 31/12/2022	Net income or other comprehensive income
Fair value hedges (micro + macro hedges)	**-6.403.337**
gains (losses) on hedging instruments	1.869.849.028
gains (losses) on hedged instruments related to the hedged risk	-1.866.006.555
ineffective part	-10.245.809
Cash flow hedges	**-1.055.046**
ineffective part	-
effective part	-1.055.046
reclassified in profit or loss over the period	-

Reconciliation of the equity component at 31/12/2022	Cash flow hedges recognised in revaluation reserve
Balance at 1 January 2022	**1.060.518**
Change in fair value related to hedging of:	-1.055.046
interest rate risk	*-973.760*
foreign exchange risk	*-81.286*
Amount reclassified to profit or loss related to hedging of:	-
interest rate risk	-
foreign exchange risk	-
Balance at 31 December 2022	**5.472**

Income on hedging activities recognised in net income and other comprehensive income at 31/12/2021	Net income or other comprehensive income
Fair value hedges (micro + macro hedges)	**397.528**
gains (losses) on hedging instruments	455.189.934
gains (losses) on hedged instruments related to the hedged risk	-454.715.444
ineffective part	-76.961
Cash flow hedges	**-1.701.032**
ineffective part	-
effective part	-1.701.032
reclassified in profit or loss over the period	-

Reconciliation of the equity component at 31/12/2021	Cash flow hedges recognised in revaluation reserve
Balance at 1 January 2021	**-640.514**
Change in fair value related to hedging of:	1.701.032
interest rate risk	*-799.619*
foreign exchange risk	*2.500.651*
Amount reclassified to profit or loss related to hedging of:	-
interest rate risk	-
foreign exchange risk	-
Balance at 31 December 2021	**1.060.518**

4.13 Change in fair value of a portfolio of financial instruments hedged against interest rate risk

Headings	31/12/2021	31/12/2022
Assets: Change in fair value of a portfolio of financial instruments hedged against interest rate risk	156.504.244	-
Liabilities: Change in fair value of a portfolio of financial instruments hedged against interest rate risk	-	752.334.874

This item includes the fair value of the "Loans and advances at amortised cost - Customers" portfolios hedged against interest rate risk using a fair value macro-hedging strategy. The hedging relates solely to a portfolio of fixed-rate loans hedged by IRS derivative financial instruments.

The change in this item between 2021 and 2022 is due primarily to the change in the interest-rate curves used to determine fair value.

4.14 Tangible assets for own use

	Land and buildings			
	Property for own use	Right-of-use assets arising from leases	Other equipment and furniture	Total
Position as at 1 January 2021	**388.958.977**	**17.735.016**	**64.870.258**	**471.564.252**
Increase	2.999.302	983.899	5.950.408	9.933.609
Exceptional transfers	8.971	-	-	8.971
Decrease	-2.916.928	-	-10.039.487	-12.956.415
Position as at 31 December 2021	**389.050.322**	**18.718.915**	**60.781.179**	**468.550.417**
Accumulated depreciation				
Position as at 1 January 2021	**156.845.242**	**6.502.839**	**35.005.219**	**198.353.300**
Depreciation	-2.711.984	-	-9.491.322	-12.203.306
Depreciation expense	11.834.152	2.987.153	10.421.669	25.242.974
Position as at 31 December 2021	**165.967.409**	**9.489.991**	**35.935.566**	**211.392.966**
Net book value				
Position as at 1 January 2021	**232.113.735**	**11.232.177**	**29.865.039**	**273.210.952**
Position as at 31 December 2021	**223.082.913**	**9.228.924**	**24.845.613**	**257.157.451**

	Land and buildings			
	Property for own use	Right-of-use assets arising from leases	Other equipment and furniture	Total
Position as at 1 January 2022	**389.050.322**	**18.718.915**	**60.781.179**	**468.550.416**
Increase	1.503.249	2.391.971	5.872.356	9.767.575
Exceptional transfers	-8.915.658	-	-	-8.915.658
Decrease	-3.462.177	-	-10.424.711	-13.886.889
Position as at 31 December 2022	**378.175.736**	**21.110.886**	**56.228.823**	**455.515.445**
Accumulated depreciation				
Position as at 1 January 2022	**165.967.409**	**9.489.991**	**35.935.566**	**211.392.967**
Depreciation	-3.019.739	-	-10.884.920	-13.904.659
Exceptional transfers	-7.885.069	-	-	-7.885.069
Depreciation expense	11.835.003	3.060.442	9.959.425	24.854.870
Position as at 31 December 2022	**166.897.605**	**12.550.433**	**35.010.071**	**214.458.110**
Net book value				
Position as at 1 January 2022	**223.082.913**	**9.228.924**	**24.845.613**	**257.157.449**
Position as at 31 December 2022	**211.278.131**	**8.560.453**	**21.218.752**	**241.057.335**

4.15 Investment property

Position as at 1 January 2021	**23.044.912**
Increase (acquisitions)	-
Increase (investment expenditure)	-
Exceptional transfers	-8.971
Decrease	-
Position as at 31 December 2021	**23.035.942**
Accumulated depreciation	
Position as at 1 January 2021	**11.806.662**
Depreciation	-
Exceptional transfers	-
Depreciation expense	798.615
Position as at 31 December 2021	**12.605.278**
Net book value	
Position as at 1 January 2021	**11.238.250**
Position as at 31 December 2021	**10.430.664**
Position as at 1 January 2022	**23.035.942**
Increase (acquisitions)	-
Increase (investment expenditure)	797.443
Exceptional transfers	8.915.659
Decrease	-1.819.939
Position as at 31 December 2022	**30.929.104**
Accumulated depreciation	
Position as at 1 January 2022	**12.605.278**
Depreciation	-1.346.747
Exceptional transfers	7.885.072
Depreciation expense	441.534
Position as at 31 December 2022	**19.585.137**
Net book value	
Position as at 1 January 2022	**10.430.664**
Position as at 31 December 2022	**11.343.968**

Rental income from rented investment property amounted to EUR 3.287.849 for the 2022 financial year, versus EUR 3.054.100 in the prior year. Maintenance costs related to investment property were EUR 207.093 in 2022, compared with EUR 264.065 one year earlier.

The fair value of investment property stood at EUR 91.137.213 at year-end 2022, compared with EUR 88.823.215 at end-2021. This fair value measurement is categorised as Level 2 in the fair value hierarchy.

This fair value is estimated by a Spuerkeess appraiser according to the following criteria:

- geographical location of the buildings;
- general condition of the building;
- use for residential or commercial purposes;
- surface area of the object.

Investment properties are exclusively located on the national territory.

4.16 Intangible assets

Position as at 1 January 2021	**69.323.287**
Increase	22.604.546
Decrease	-12.112.475
Position as at 31 December 2021	**79.815.358**
Accumulated depreciation	
Position as at 1 January 2021	**37.046.541**
Depreciation	-12.112.475
Depreciation expense	20.681.257
Position as at 31 December 2021	**45.615.323**
Net book value	
Position as at 1 January 2021	**32.276.746**
Position as at 31 December 2021	**34.200.035**

Position as at 1 January 2022	**79.815.358**
Increase	27.685.471
Decrease	-20.336.648
Position as at 31 December 2022	**87.164.182**
Accumulated depreciation	
Position as at 1 January 2022	**45.615.323**
Depreciation	-20.336.648
Depreciation expense	20.890.297
Position as at 31 December 2022	**46.168.973**
Net book value	
Position as at 1 January 2022	**34.200.035**
Position as at 31 December 2022	**40.995.209**

The depreciation expense related to intangible assets is recognised under "Depreciation allowances for tangible and intangible assets" in the income statement.

4.17 Non-current assets and disposal groups classified as held for sale

The Group recognises tangible assets and financial assets held for sale in the near term under this heading.
Shareholdings classified as held for sale at 30 June of financial years 2021 and 2022 were sold in the second half of their respective financial years.

	2021	2022
Position as at 1 January	-	-
Sales	-815.634	-6.985.620
Transfers	815.634	6.985.620
Profit/(loss) realised through own funds	4.322.048	14.529.966
Unrealised valuations	-4.322.048	-14.529.966
Exchange gain or loss	-	-
Position as at 31 December	**-**	**-**

4.18 Taxes: Tax assets and liabilities

Whereas current tax is a current liability, deferred taxes are the amounts of income taxes that may be payable in the future in respect of taxable temporary differences.

The Group posted a net current tax liability of EUR 78.491.337 as at 31 December 2022 versus EUR 70.166.184 in the previous year.

As no tax law incorporating IFRS standards has been passed in Luxembourg, the Group calculates the tax liability payable based on the change in net assets of the balance sheet items valued through profit or loss and in income from the sale of securities not reclassified in the income statement. The overall tax burden of corporations at the nominal tax rate has been 24,94% since financial year 2019.

As at 31 December 2022, the Group posted a deferred tax asset of EUR 59.897.657, and a deferred tax liability of EUR 86.632.411.

The following table gives a breakdown of the changes to deferred tax assets and liabilities, depending on whether the changes relate to items that are charged or credited to equity, or relate to items that are charged or credited to the income statement:

Headings	01/01/2021	Movements in equity	Movements in income statement	31/12/2021
Deferred tax assets	148.617.197	1.838.353	-9.816.145	140.639.406
Deferred tax liabilities	-123.283.681	-5.617.578	14.319.719	-114.581.540
Net deferred tax assets/liabilities	**25.333.516**	**-3.779.225**	**4.503.574**	**26.057.865**

Headings	01/01/2022	Movements in equity	Movements in income statement	31/12/2022
Deferred tax assets	140.639.406	-81.010.343	268.594	59.897.657
Deferred tax liabilities	-114.581.540	16.711.166	11.237.964	-86.632.411
Net deferred tax assets/liabilities	**26.057.865**	**-64.299.178**	**11.506.558**	**-26.734.754**

4.18.1 Tax assets

Headings	31/12/2021	31/12/2022
Current taxes	70.166.184	78.491.337
Income tax	*9.735.348*	*8.996.980*
Municipal business tax	*60.451.701*	*69.515.222*
Wealth tax	*-20.865*	*-20.865*
Deferred taxes	140.639.406	59.897.657
Tax assets	**210.805.590**	**138.388.994**

Breakdown of deferred tax assets according to origin:

Headings	31/12/2021	31/12/2022
Derivative financial instruments - application of fair value	1.415	36.398
Debt instruments - application of fair value	6.682	1.250.970
Equity instruments - application of fair value	55.464	746.188
Actuarial gains/losses relating to employee benefits	140.575.845	57.864.101
Deferred tax assets	**140.639.406**	**59.897.657**

4.18.2 Tax liabilities

Breakdown of deferred tax liabilities according to origin:

Headings	31/12/2021	31/12/2022
Derivative financial instruments - application of fair value	265.908	37.763
Debt instruments - application of fair value	4.496.709	224.096
Equity instruments - application of fair value	541.472	2.459.727
Regulatory and other provisions	92.006.136	83.910.825
Actuarial gains/losses relating to employee benefits	17.271.316	-
Deferred tax liabilities	**114.581.542**	**86.632.411**

4.19 Other assets

Headings	31/12/2021	31/12/2022
Operational outstandings	9.105.526	9.075.980
Preferential or secured borrowers	84.050	109.823
Other	183.424	1.076.297
Total	**9.373.000**	**10.262.100**

4.20 Deposits at amortised cost – Credit institutions

Headings	31/12/2021			31/12/2022		
	=< 1 year	> 1 year	Total	=< 1 year	> 1 year	Total
Interbank deposits	3.114.522.866	3.476.593.570	6.591.116.436	4.834.193.743	301.071.340	5.135.265.084
of which central bank deposits	*84.334.403*	*3.431.606.944*	*3.515.941.347*	*1.200.251.625*	*250.000.000*	1.450.251.625
Repurchase/Reverse repurchase agreements	274.918.033	-	274.918.033	373.059.026	-	373.059.026
Other financial liabilities	68.677.529	-	68.677.529	174.061.418	-	174.061.418
Total	**3.458.118.428**	**3.476.593.570**	**6.934.711.998**	**5.381.314.187**	**301.071.340**	**5.682.385.528**

The Group's parent company participated in the European Central Bank's Targeted Longer-Term Refinancing Operations (TLTRO) in 2020 and 2021.

The Group's parent company borrowed a notional amount of EUR 3,2 billion under the fourth tranche of TLTRO III for the three-year period from 24 June 2020 to 28 June 2023 with an early repayment option as from September 2021, as well as a notional amount of EUR 250 million under the eighth tranche of TLTRO III for the three-year period from 24 June 2021 to 28 June 2024 with an early repayment option as from September 2022.

With TLTRO III, the ECB modified its conditions and introduced optional special reference periods, along with special conditions regarding the growth rates required in the targeted loan categories and the return on the notional amount borrowed by the banks.

For the two special reference periods, and in view of compliance with the conditions related to growth in the targeted loan categories, the Group's parent company was able to apply a return of 100 basis points when calculating the amortised cost of these deposits.
In light of the ECB's retroactive changes to the conditions of the TLTRO III, the Group's parent company made an initial repayment on 23 November 2022 for a nominal amount of EUR 1.250 million and a second repayment on 21 December 2022 for a nominal amount of EUR 750 million.

The Group's parent company is providing this additional information while also noting that it does not consider the TLTRO to be a direct subsidy instrument but rather a supplemental instrument that provides access to liquidity.

The amounts of the TLTRO III deposits included in "Deposits at amortised cost – Credit institutions" are EUR 1.423.517.205. The Group's parent company has calculated net interest in the amount of EUR 23.508.705, included on the 2022 income statement under interest income.

4.21 Deposits at amortised cost – Customers

Headings		31/12/2021			31/12/2022	
	=< 1 year	> 1 year	Total	=< 1 year	> 1 year	Total
Private sector	**29.970.562.262**	**311.944.686**	**30.282.506.948**	**32.517.079.067**	**266.512.791**	**32.783.591.858**
- Demand deposit and notice accounts	*14.930.291.692*	*-*	*14.930.291.692*	*14.716.587.693*	*-*	*14.716.587.693*
- Time deposit accounts	*1.161.359.211*	*311.944.686*	*1.473.303.896*	*4.525.406.632*	*266.512.791*	*4.791.919.423*
- Savings	*13.878.911.359*	*-*	*13.878.911.359*	*13.275.084.743*	*-*	*13.275.084.743*
- Repurchase/Reverse repurchase agreements	*-*	*-*	*-*	*-*	*-*	*-*
Public sector	**5.381.260.797**	**1.242.862.952**	**6.624.123.748**	**7.166.246.114**	**1.176.449.262**	**8.342.695.376**
Total	**35.351.823.058**	**1.554.807.637**	**36.906.630.696**	**39.683.325.181**	**1.442.962.053**	**41.126.287.235**

4.22 Financial liabilities designated at fair value through profit or loss

Headings		31/12/2021			31/12/2022	
	=< 1 year	> 1 year	Total	=< 1 year	> 1 year	Total
Issues	-	165.001.798	165.001.798	-	131.633.032	131.633.032
Total	**-**	**165.001.798**	**165.001.798**	**-**	**131.633.032**	**131.633.032**
of which unrealised valuation	-	*6.047.038*	*6.047.038*	-	*-29.000.583*	*-29.000.583*

This item includes financial instruments which, depending on their characteristics, incorporate derivative components that are not directly related and are therefore not eligible for measurement at fair value through the revaluation reserve.

Breakdown of changes in carrying amount:

Issues	2021	2022
Position as at 1 January	**172.175.873**	**165.001.798**
Pro-rata interest	1.920.577	1.960.394
Unrealised valuations	-8.979.320	-35.047.621
Exchange gain or loss	-115.331	-281.539
Position as at 31 December	**165.001.798**	**131.633.032**

4.23 Issuance of debt securities

Headings	31/12/2021			31/12/2022		
	=< 1 year	> 1 year	Total	=< 1 year	> 1 year	Total
Certificates of deposit	17.008.026	8.819.370	25.827.396	14.596.670	4.664.706	19.261.376
Commercial paper	2.304.743.639	-	2.304.743.639	2.022.188.043	-	2.022.188.043
Medium Term Notes and other securities issued	55.037.492	407.861.412	462.898.904	-	637.629.532	637.629.532
Total	**2.376.789.157**	**416.680.782**	**2.793.469.939**	**2.036.784.713**	**642.294.238**	**2.679.078.951**
of which subordinated notes	*49.997.126*	-	*49.997.126*	-	-	-

"Medium Term Notes" issues are exclusively listed on the Luxembourg Stock Exchange.
Since 2015, certificates of deposit are no longer marketed and are managed in run-off mode.

The Group's parent company no longer has any subordinated notes, in contrast to 2021.

Breakdown of changes in carrying amount of medium-term notes:

Issues	2021	2022
Position as at 1 January	**459.145.114**	**462.898.903**
Issues	100.306.000	315.000.000
Repayments/redemptions	-82.760.000	-54.935.000
Realised profit/(loss)	-	-
Pro-rata interest	510.386	951.668
Unrealised valuations	-13.518.343	-84.371.574
Exchange gain or loss	-784.254	-1.914.466
Position as at 31 December	**462.898.903**	**637.629.532**

4.24 Provisions

This item comprises two main types of provisions: provisions to be established under IAS 37 and provisions on Group off-balance sheet commitments according to IFRS 9.

Changes during the financial year:

	Provisions			
	Risks and charges	Time savings account	IFRS 9	Total
Position as at 1 January 2021	**4.690.112**	**17.629.738**	**28.885.603**	**51.205.454**
Additions	6.041.051	-	5.683.967	11.725.018
Reversals	-499.830	-	-18.218.053	-18.717.884
Use	-1.539.300	-	388	-1.538.913
Expense included in personnel expenses	-	5.429.381	-	5.429.381
Position as at 31 December 2021	**8.692.032**	**23.059.119**	**16.351.906**	**48.103.057**
Position as at 1 January 2022	**8.692.032**	**23.059.119**	**16.351.906**	**48.103.057**
Additions	8.727.237	-	13.175.863	21.903.101
Reversals	-1.417.499	-	-4.252.859	-5.670.358
Use	-5.775.656	-	-	-5.775.656
Exchange gain or loss	-	-	21	21
Expense included in personnel expenses	-	5.646.384	-	5.646.384
Position as at 31 December 2022	**10.226.115**	**28.705.503**	**25.274.931**	**64.206.549**

The provisions established under IAS 37 are provisions for risks and charges and include provisions for risks related to disputes and provisions for charges on personnel costs not covered by other standards.

Details of IFRS 9 provisioning:

	Stage 1	Stage 2	Stage 3	Total
Position as at 1 January 2021	**21.626.764**	**5.425.825**	**1.833.015**	**28.885.603**
Changes	**-10.407.048**	**-1.935.438**	**-191.211**	**-12.533.697**
Increase due to acquisition and origination	4.908.182	53.482	722.304	5.683.967
Decrease due to repayment	-4.657.123	-623.201	-1.066.158	-6.346.483
Change related to credit risk	-10.658.456	-1.365.757	151.646	-11.872.566
Other changes	-	-	997	997
Exchange gain or loss	350	38	-	388
Position as at 31 December 2021	**11.219.717**	**3.490.387**	**1.641.804**	**16.351.906**
Outstanding loan stage transfers	**Stage 1**	**Stage 2**	**Stage 3**	**Total**
Transfer from Stage 1	-52.856.043	51.459.010	1.397.033	-
Transfer from Stage 2	40.898.213	-41.352.169	453.955	-
Transfer from Stage 3	478.690	109.076	-587.766	-
Impaired loans as at 31 December 2021	**Stage 1**	**Stage 2**	**Stage 3**	**Total**
Outstanding	7.368.599.476	242.422.160	11.435.513	7.622.457.148
Position as at 1 January 2022	**11.219.717**	**3.490.387**	**1.641.804**	**16.351.906**
Changes	**5.597.920**	**3.756.358**	**-431.253**	**8.923.025**
Increase due to acquisition and origination	6.581.442	592.079	14.579	7.188.101
Decrease due to repayment	-2.679.590	-414.625	-1.158.644	-4.252.859
Change related to credit risk	-2.413.961	3.009.625	712.813	1.308.477
Other changes	4.110.038	569.249	-	4.679.286
Exchange gain or loss	-9	30	-	21
Position as at 31 December 2022	**16.817.637**	**7.246.744**	**1.210.551**	**25.274.931**
Outstanding loan stage transfers	**Stage 1**	**Stage 2**	**Stage 3**	**Total**
Transfer from Stage 1	-172.926.541	172.061.142	865.399	-
Transfer from Stage 2	46.749.362	-47.363.322	613.961	-
Transfer from Stage 3	525.778	2.550.338	-3.076.117	-
Impaired loans as at 31 December 2022	**Stage 1**	**Stage 2**	**Stage 3**	**Total**
Outstanding	6.904.105.775	573.945.331	7.041.833	7.485.092.939

4.25 Other liabilities

Headings	31/12/2021	31/12/2022
Operational outstandings	2.059.389	2.473.035
Privileged or guaranteed creditors	19.860.534	24.733.687
Liabilities arising from leases	9.228.924	8.560.453
Other	2.833.511	2.595.187
Total	**33.982.358**	**38.362.362**

4.26 Provisions for employee benefits – Defined-benefit pension plan

Main estimates used to determine provisions for employee benefits:

Variables	31/12/2021	31/12/2022
Discount rate for active employees	1,10%	3,50%
Discount rate for beneficiaries	0,95%	3,60%
Salary increases (including indexation)	3,25%	3,25%
Pension increases (including indexation)	2,25%	2,25%
Induced yield	1,03%	3,56%

The induced yield of 3,56% in 2022 corresponds to the weighted average of the discount rates for working people and for annuitants as fixed at the end of the 2022 financial year.

Net provisions for employee benefits entered under "Personnel expenses" in the income statement:

Components	31/12/2021	31/12/2022
Current service cost	15.574.371	15.922.348
Interest cost	6.526.110	9.234.007
Induced yield	-3.807.037	-5.458.728
Total	**18.293.444**	**19.697.627**

Pension commitments:

	2021	2022
Commitments on 1 January	**871.804.452**	**899.980.920**
Current service cost	15.574.371	15.922.348
Interest cost	6.526.110	9.234.007
Benefits paid	-14.260.407	-14.821.663
Actuarial gains or losses	20.336.394	-354.042.806
Commitments on 31 December	**899.980.920**	**556.272.806**

Civil servants' pension payments are initially made directly by the State to civil servants. Spuerkeess only recognises the payments when the amounts are repaid to the State. Hence, "Benefits paid" amounting to EUR 14.821.663 include the repayments to the Luxembourg State of civil servants' pensions in respect of the 2021 financial year.

Breakdown of actuarial gains and losses:

	2021	2022
Actuarial gains and losses arising from changes in actuarial assumptions		
- financial assumptions	*-61.211.648*	*-356.558.811*
- demographic assumptions	-	-
Actuarial gains and losses arising from experience adjustments	81.548.042	2.516.005
Total actuarial gains and losses:	**20.336.394**	**-354.042.806**

Sensitivity analysis of pension commitments:

Impact of changes in actuarial assumptions on the pension commitment as at 31/12/2022	Decrease	Increase
Change in average actuarial rate (-/+ 50 bps)	52.019.149	-45.299.052
Change in wage increase rate (-/+ 50 bps)	-37.220.939	42.118.603
Change in pension increase rate (-/+ 25 bps)	-19.862.394	21.021.377
Change in mortality tables (-/+ 1 year)	14.159.786	-14.180.115

Impact of changes in actuarial assumptions on the pension commitment on 31/12/2021	Decrease	Increase
Change in average actuarial rate (-/+ 50 bps)	112.366.137	-95.095.558
Change in wage increase rate (-/+ 50 bps)	-80.474.801	93.041.507
Change in pension increase rate (-/+ 25 bps)	-40.710.914	43.496.781
Change in mortality tables (-/+ 1 year)	31.819.707	-31.265.546

Maturity analysis of pension commitments:

	31/12/2021	31/12/2022
Average duration of the pension commitment	**23,13 years**	**17,76 years**
Analysis of maturities of commitments to be paid	**899.980.920**	**556.272.808**
pensions outstanding for the year	7.751.221	8.210.362
commitments to be paid within 12 months	21.749.372	14.659.352
commitments to be paid in 1-3 years	34.383.882	30.224.532
commitments to be paid in 3-6 years	56.872.291	49.419.400
commitments to be paid in 6-11 years	106.622.507	86.692.276
commitments to be paid in 11-16 years	112.739.779	82.432.273
commitments to be paid after 16 years	559.861.868	284.634.612

The average duration of the pension commitment declined sharply from 2021 to 2022, due to the increase in actuarial rates.

Pension plan assets:

	2021	2022
Assets on 1 January	**508.571.172**	**532.028.042**
Benefits paid	-14.260.407	-14.821.663
Contribution	11.850.216	29.005.954
Induced yield	3.807.037	5.458.728
Fair value gain / loss	22.060.024	-91.651.357
Assets on 31 December	**532.028.042**	**460.019.704**

In 2022, Spuerkeess made an annual contribution of EUR 29.005.954 versus an annual contribution of EUR 11.850.216 in the previous year.

Pension plan investments:

2022	Credit institutions	Public sector	Corporate	Total
Fixed-income securities	42.744.214	129.934.910	52.967.921	225.647.045
Variable-income securities	-	-	197.904.556	197.904.556
Real estate investment	-	-	14.696.000	14.696.000
Other assets (primarily deposits)	21.772.103	-	-	21.772.103
Total	**64.516.317**	**129.934.910**	**265.568.477**	**460.019.704**

2021	Credit institutions	Public sector	Corporate	Total
Fixed-income securities	75.017.042	147.714.039	48.670.047	271.401.128
Variable-income securities	-	-	221.453.429	221.453.429
Real estate investment	-	-	12.990.000	12.990.000
Other assets (primarily deposits)	26.183.485	-	-	26.183.485
Total	**101.200.527**	**147.714.039**	**283.113.476**	**532.028.042**

Net pension commitments:

	2020	2021	2022
Pension commitments	871.804.452	899.980.920	556.272.806
Plan assets measured at fair value	-508.571.172	-532.028.042	-460.019.704
Unfinanced commitments	**363.233.281**	**367.952.878**	**96.253.102**

Stock of actuarial gains and losses:

Stock as at 1 January 2021	**496.128.311**
2021 net change	-1.723.630
Stock as at 31 December 2021	**494.404.681**

Stock as at 1 January 2022	**494.404.681**
2022 net change	-262.391.449
Stock as at 31 December 2022	**232.013.232**

The amount shown in equity items is net of taxes and comes to EUR 174.149.136 for financial year 2022 and EUR 371.100.157 for the previous financial year.

Spuerkeess's estimated total contribution to provisions for employee benefits for 2023 is EUR 31.127.300.

4.27 Gains or losses on disposals of variable-income securities recognised at fair value

This heading under other items of other comprehensive income within equity includes the gains or losses on financial instrument transactions measured at fair value through the revaluation reserve.

Headings	31/12/2021	31/12/2022
Variable-income securities recognised at fair value through the revaluation reserve	20.391.134	-108
Shares in associates and subsidiaries	13.193	1.528
Non-current assets and disposal groups classified as held for sale	4.322.048	14.529.966
Total	**24.726.375**	**14.531.386**

The amount shown in equity items is net of taxes and comes to EUR 14.531.312 for financial year 2022 and EUR 27.349.601 for the previous financial year.

4.28 Related-party transactions

The related parties of the Group's parent company are equity-accounted associates, governmental institutions and the Group's key management personnel.

All transactions with related parties are completed under market conditions.

4.28.1 Relationships between the group's parent company and equity-accounted associates

	31/12/2021	31/12/2022
Deposits from associates	198.991.874	320.498.495
Total	**198.991.874**	**320.498.495**

	31/12/2021	31/12/2022
Loans from associates	33.717.677	13.279.587
Total	**33.717.677**	**13.279.587**

4.28.2 Government institutions

The Group's parent company, established by the law of 21 February 1856 and governed by the organic law of 24 March 1989, is a self-governing public law institution endowed with legal personality. Ultimate responsibility for the institution lies with the Government Minister with responsibility for the Treasury.

Therefore, the Luxembourg State controls the Group and the Group must, as a result, comply with the requirements of IAS 24.

The Group makes the following disclosures concerning its commercial relationship with the Luxembourg State and other governmental institutions while applying the provisions of paragraph 25 of IAS 24:

ASSETS	31/12/2021	31/12/2022
Loans and advances at amortised cost	1.221.754.276	1.316.707.717
Fixed-income securities recognised at amortised cost	685.116.872	588.616.141
Fixed-income securities recognised at fair value through the revaluation reserve	12.493.250	20.494.980
Other	642.069	-
TOTAL ASSETS	**1.920.006.467**	**1.925.818.837**

LIABILITIES	31/12/2021	31/12/2022
Deposits at amortised cost	5.744.859.908	6.350.806.619
TOTAL LIABILITIES	**5.744.859.908**	**6.350.806.619**

4.28.3 Compensation paid to the members of the management and administrative bodies

Compensation paid for offices held within the Group's parent company breaks down as follows:

	31/12/2021	31/12/2022
Board of Directors (ten members)	469.500	540.000
Executive Board (five members)	1.084.394	1.013.167
Total	**1.553.894**	**1.553.167**

The directors' fees for the Board of Directors for financial year 2022 include EUR 38.000 for services provided in financial year 2021 and paid in 2022. The levels and terms of the compensation paid to members of the Board of Directors and its specialised committees did not change in 2022.

4.28.4 Loans and advances granted to members of the Group's management and administrative bodies

Loans and advances granted to members of the Group's management and administrative bodies are as follows:

	31/12/2021	31/12/2022
Board of Directors (ten members)	5.771.315	4.442.127
Executive Board (five members)	40.246	43.340
Total	**5.811.561**	**4.485.467**

4.29 Statutory Auditor's fees

	2021	2022
Statutory audit of the company and consolidated annual financial statements	706.026	759.997
Other audit services	185.102	325.580
Total	**891.128**	**1.085.577**

The amounts included in the above item are exclusive of VAT.

4.30 Direct fees and contributions related to the instruments and mechanisms put in place by the European Banking Union

Headings	2021	2022
European Central Bank supervision charges[(1)]	1.681.051	1.773.417
CSSF supervision charges	499.000	585.000
Single Resolution Board charges	181.805	229.486
Total	**2.361.856**	**2.587.903**
FGDL contribution	20.780.741	15.881.346
FRL contribution	21.351.826	25.857.126
Total	**42.132.567**	**41.738.472**

(1) The Group's parent company paid the invoice for 2021 in 2022.

4.31 Off-balance sheet items

Type of guarantees issued

Headings	31/12/2021	31/12/2022
Completion bonds	490.596.629	385.941.047
Letters of credit	92.675.362	102.977.116
Counter-guarantees	437.305.139	497.708.187
Other	29.262.164	59.423.353
Total	**1.049.839.294**	**1.046.049.703**

Commitments

Headings	31/12/2021	31/12/2022
Amounts subscribed and unpaid on securities, equity interests and shares in affiliated companies	12.564.764	12.580.824
Undrawn confirmed credits	6.544.953.090	6.411.362.412
Financing	*3.659.754.908*	*3.322.360.445*
Current accounts	*2.264.636.988*	*2.500.613.655*
Other	*620.561.194*	*588.388.313*
Documentary credits	15.100.000	15.100.000
Total	**6.572.617.854**	**6.439.043.236**

An amount of EUR 25.274.931 related to the calculation of expected credit losses was recorded in "Provisions" for financial year 2022, versus EUR 16.351.908 for the previous year.

Management of third-party assets

The Group provides management and representation services to third parties, particularly asset management services, custody and administration of securities, hire of safe deposit boxes, fiduciary representation and agent functions.

5 NOTES TO THE INCOME STATEMENT [8]
(in euros)

5.1 Interest income

Interest received and similar income	2021	2022
Financial assets held for trading	90.647.515	237.350.386
Financial assets mandatorily measured at fair value through profit or loss	3.474.216	6.714.398
Financial assets recognised at fair value through the revaluation reserve	8.322	158.640
Fixed-income securities recognised at amortised cost	93.892.473	104.656.770
Loans and advances at amortised cost	384.505.890	499.513.077
Derivatives - Hedge accounting, interest rate risk	95.684.553	167.585.948
Other assets	1.432.880	6.250.975
Interest received on liability instruments	85.174.211	44.959.296
Total	**754.820.060**	**1.067.189.490**
of which interest calculated based on the effective interest rate	*698.970.762*	*1.025.037.038*

Interest paid and similar expenses	2021	2022
Financial liabilities held for trading	-36.512.292	-108.718.003
Financial liabilities designated at fair value through profit or loss	-2.787.186	-2.827.004
Liabilities at amortised cost - Deposits	-12.295.652	-108.945.252
Liabilities at amortised cost - Debt certificates	-8.772.663	-50.381.336
Liabilities at amortised cost - Subordinated loans	-6.768	-2
Derivatives - Hedge accounting, interest rate risk	-255.754.546	-273.339.093
Other liabilities	-59.769	-9.526
Interest paid on asset instruments	-39.467.239	-34.721.402
Total	**-355.656.115**	**-578.941.617**
of which interest calculated based on the effective interest rate	*-323.279.324*	*-525.551.210*

Interest income	399.163.945	488.247.873
Total interest received and similar income not recognised at fair value through the income statement	479.831.243	655.380.118
Total interest paid and similar expenses not recognised at fair value through the income statement	-21.134.852	-194.057.517

[8] Minor differences between the figures in the notes to the annual financial statements and the figures in the different annual statements are rounding differences only

5.2 Income from securities

Headings	2021	2022
Variable-income securities recognised at fair value through the revaluation reserve	23.095.100	35.996.778
Income from securities	**23.095.100**	**35.996.778**

5.3 Fee and commission income

Headings	2021	2022
Loan activities	64.978.035	61.886.951
Asset management	66.546.012	70.458.246
Investment fund activities	58.965.774	60.874.698
Demand deposit accounts and related activities	37.454.424	40.493.567
Insurance premiums	2.589.507	2.600.441
Other (*)	11.963.926	7.718.202
Total commissions received	**242.497.678**	**244.032.105**
Loan activities	-3.982.644	-4.634.467
Asset management	-20.912.925	-13.924.546
Investment fund activities	-9.829.499	-10.595.658
Demand deposit accounts and related activities	-7.727.106	-8.732.631
Other (*)	-4.356.036	-5.406.132
Total commissions paid	**-46.808.210**	**-43.293.434**
Total commissions	**195.689.468**	**200.738.671**

(*) mostly fees on derivative financial instruments.

5.4 Income from financial instruments not recognised at fair value through profit or loss

Headings	2021	2022
Fixed-income securities recognised at amortised cost	1.277.738	67.364
Fixed-income securities recognised at fair value through the revaluation reserve	-	-1.944
Loans and advances at amortised cost	185.046	-2.977
Financial liabilities at amortised cost	-5.051	-
Total	**1.457.733**	**62.443**

5.5 Income from financial instruments held for trading

Headings	2021	2022
Equity instruments and related derivatives	-401.361	82
Foreign exchange instruments and related derivatives	-1.571.223	1.695.861
Interest rate instruments and related derivatives	-5.167.863	-22.479.982
Total	**-7.140.447**	**-20.784.039**

5.6 Income from financial instruments designated at fair value through profit or loss

Headings	2021	2022
Financial liabilities designated at fair value through profit or loss	8.979.320	35.047.621
Total	**8.979.320**	**35.047.621**

5.7 Income from financial instruments mandatorily measured at fair value through profit or loss

Headings	2021	2022
Fixed-income securities	-1.286.065	-17.859.507
UCI units	10.696.390	-13.485.639
Loans and advances	205.053	-1.260.312
Total	**9.615.378**	**-32.605.458**

5.8 Income from hedging transactions

Headings	2021	2022
Fair value hedges		
Debt instruments (assets) hedged by derivative financial instruments	-97.364	-7.701.445
Debt issues hedged by derivative financial instruments	57.858	417.517
Loans hedged by derivative financial instruments	437.034	880.591
Total	**397.528**	**-6.403.337**
Value adjustment on hedged instruments	-454.715.444	-1.866.006.555
Value adjustment on hedging instruments	455.112.973	1.859.603.219
Total	**397.528**	**-6.403.337**

Market risk hedging operations are highly efficient. Loans are hedged by derivative financial instruments in the form of micro-hedging or macro-hedging transactions, in accordance with IAS 39.

Information on the effectiveness rate is included in Note 4.12.

5.9 Foreign exchange income

Headings	2021	2022
Foreign exchange income	29.187.465	27.414.868
Total	**29.187.465**	**27.414.868**

5.10 Income from derecognition of non-financial assets

Headings	2021	2022
Income from derecognition of non-financial assets	234.774	8.065.407
Total	**234.774**	**8.065.407**

5.11 Other net operating income

Headings	2021	2022
Other operating income	10.810.701	14.214.396
Other operating expenditure	-3.098.081	-2.940.934
Other net operating income	**7.712.620**	**11.273.462**

"Other operating income and expenses" mainly include:

- the rent from property rented and miscellaneous advances from tenants,
- VAT repayments relating to previous financial years,
- income on amortised loans.

Income on amortised loans stood at EUR 941.846 for 2022 and at EUR 408.075 for 2021.

5.12 Personnel expenses

Headings	2021	2022
Remuneration	200.156.673	208.071.129
Social security charges	7.478.408	7.345.756
Pensions and similar expenses	15.622.327	15.688.135
Provisions for employee benefits	18.293.444	19.697.627
Other personnel expenses	5.167.632	5.394.615
Total	**246.718.484**	**256.197.262**

5.13 Other general and administrative expenses

Headings	2021	2022
Expenses related to property and furniture	26.558.874	23.015.061
Rents and maintenance of software	32.934.565	36.205.914
Operating expenditure related to the banking business	33.573.659	36.259.970
Other	7.858.133	8.269.253
Total	**100.925.231**	**103.750.198**

5.14 Cash contributions to resolution funds and deposit guarantee systems

Headings	2021	2022
FGDL contribution	20.780.741	15.881.346
FRL contribution	21.351.826	25.857.126
Total	**42.132.567**	**41.738.472**

5.15 Depreciation allowances for tangible assets

- **Depreciation expense**

Headings	2021	2022
Depreciation expense - buildings	11.834.152	11.835.003
Depreciation expense - equipment and furniture	10.421.864	9.959.425
Depreciation expense - right-of-use assets in relation to leases	2.757.105	2.747.810
Depreciation expense for tangible assets	**25.013.121**	**24.542.238**

- **Impairment**

No impairment of tangible assets according to IAS 36 was recognised by the Group in 2022 or 2021.

5.16 Allowances for impairment of investment properties

- **Depreciation expense**

Headings	2021	2022
Depreciation expense	798.615	441.534
Depreciation expense for investment property	**798.615**	**441.534**

- **Impairment**

No impairment of investment properties according to IAS 36 was recognised by the Group in 2022 or 2021.

5.17 Allowances for impairment of intangible assets

- Depreciation expense

Headings	2021	2022
Depreciation expense	20.681.257	20.890.492
Depreciation expense for intangible assets	**20.681.257**	**20.890.492**

- Impairment

No impairment of intangible assets according to IAS 36 was recognised by the Group in 2022 or 2021.

5.18 Net allowances for impairment of credit risks

	2021			2022		
	Additions	Reversals	Total	Additions	Reversals	Total
Fixed-income securities recognised at amortised cost	-1.848.585	13.782.738	11.934.152	-4.227.983	2.523.192	-1.704.791
Fixed-income securities recognised at fair value through the revaluation reserve	-	744	744	-6.702	41	-6.661
Loans and advances	-40.152.983	52.503.885	12.350.902	-84.153.811	39.972.515	-44.181.296
Total	**-42.001.568**	**66.287.367**	**24.285.799**	**-88.388.496**	**42.495.748**	**-45.892.748**

	2021	2022
Interest on impaired loans and advances	3.058.657	4.054.216
Total	**3.058.657**	**4.054.216**

5.19 Provisions

Headings	2021	2022
Provisions	-15.077.004	-26.287.288
Reversal of provisions	22.069.860	10.054.548
Total	**6.992.856**	**-16.232.740**

5.20 Share in the profit of equity-accounted associates

Equity-accounted associates	2021	2022
Société Nationale de Circulation Automobile S.à r.l.	531.516	476.295
I-Hub S.A.	-	-1.433.818
Luxair S.A.	90.612.491	113.428.109
Société de la Bourse de Luxembourg S.A.	2.854.568	-6.728.830
Europay Luxembourg S.C.	7.687	5.675
European Fund Administration S.A.	549.738	-
LuxHub S.A.	-156.997	-240.401
Visalux S.C.	63.016	64.500
Lalux Group S.A.	26.693.273	36.649.210
Total	**121.155.292**	**142.220.740**

The significant contribution from Luxair Group S.A. stems mainly from the inclusion in the scope of consolidation of its 35,1% interest in Cargolux S.A.

5.21 Tax expense

Headings	2021	2022
Tax on income from continuing operations	-57.892.450	-56.026.836
Deferred taxes	4.503.574	11.506.558
Tax on profit/(loss) for the period	**-53.388.876**	**-44.520.278**

The nominal tax rate applicable in Luxembourg was 24,94% as at 31 December 2022 and 31 December 2021. The Group's effective tax rate was 11,7% in 2022 and 13,8% in the prior year, given the differences between the Luxembourg tax base and the accounting principles for annual consolidated financial statements in force in Luxembourg.

The difference between these two rates may be analysed as follows:

	2021	2022
Income before tax	384.557.558	379.589.346
Tax rate	24,94%	24,94%
Theoretical tax at the standard rate	95.908.655	94.669.583
Tax impact of non-deductible expenses	117.093	152.882
Tax impact of non-taxable income	-5.580.660	-8.865.937
Share in the income of equity-accounted associates	-30.216.130	-35.469.853
Tax rebates and reductions	-12.171.042	-7.560.456
Minority interests	-527.538	-551.553
IFRS 9 FTA impact	2.642.994	-
Other	3.215.504	2.145.611
Tax on profit/(loss) for the period	**53.388.876**	**44.520.277**

The tax impact of non-taxable income largely stems from the collection of dividends from the Group's strategic shareholdings in resident companies, fully subject to tax, which enable it to apply the principle of parent companies and subsidiaries in accordance with Article 166 LIR (Income Tax Act) in order to avoid double economic taxation of such income. Excluding this non-taxable income for the Group, the Group's effective tax rate would be 14,1% in 2022, versus 15,3% in 2021.

5.22 Return on assets

In accordance with Article 38-4 of the Law on the Financial Sector, the Group reported its return on assets, which stood at 0,59% for financial year 2022 versus 0,62% in the prior year.

6 RISK MANAGEMENT[9]

6.1 General rules for managing risk

Traditionally, the Group's parent company has pursued a prudent and conservative risk management policy.
The Group's parent company has thus opted for a "defensive" risk profile, defined in the Risk Appetite Framework (RAF). The RAF includes indicators of the Group's major risk categories and enables the Executive Committee and the Board of Directors to regularly monitor the Group's parent company's overall situation in detail. Risk appetite is defined as the level of risk that the Group's parent company is willing and able to bear in the pursuit of its strategic objectives. The levels of risk to which the Group's parent company is exposed are measured through a set of strategic indicators, operational metrics, and macroeconomic indicators. Risk appetite is expressed through the surveillance levels set by the Group's parent company for these indicators.

Risk appetite is transposed into a set of limits intended to manage and control the Group's various risks. These limits are indicated in the Group's Limit Handbook.

6.1.1 Role of the Board of Directors

Pursuant to the Organic Law of 1989 and to legal obligations or obligations arising from applicable national or European regulations, the Board of Directors defines the Group's parent company's general policy and the main risk management policies, including the Risk Appetite Framework, proposed by the Group's parent company's Executive Committee. To do so, the Board considers the liquidity and solvency of the parent company as well as the medium- and long-term sustainability of the parent company's business models.
In this context, the Board defines the overall strategy of the Group's parent company, on the basis of proposals from the Executive Committee, and oversees the implementation of the related objectives, as well as the administrative, functional and risk management structure resulting from implementation of the strategy. The ICAAP and ILAAP processes are incorporated into these oversight functions to evaluate the strategy and business development in terms of impacts on the Group's parent company's liquidity and solvency.
The various risks identified in the Group's parent company's risk mapping are subject to a materiality and likelihood of occurrence assessment, and a supervisory framework is developed to manage them.

[9] Minor differences between the figures in the notes to the annual financial statements and the figures in the different annual statements are rounding differences only.

6.1.2 Role of the Audit and Compliance Committee

The Audit and Compliance Committee advises the Board of Directors in its supervisory mission and thus prepares the decisions to be adopted by the Board. In particular, it assists the Board in the areas of financial reporting, regulatory compliance, internal control including internal audit, and control exercised by the statutory auditor.

The Audit and Compliance Committee thus facilitates the implementation of a sound internal governance framework.

The Audit and Compliance Committee consists of five members of the Board of Directors, including a majority of members considered independent within the meaning of the applicable laws and regulations.

The Chief Executive Officer, Deputy Chief Executive Officer, Chief Risk Officer and Chief Internal Auditor are invited to all meetings of the Audit and Compliance Committee. The audit firm responsible for the statutory audit of the Group's parent company's financial statements may be invited to Audit and Compliance Committee meetings at the request of this Committee.

6.1.3 Role of the Risk Committee

The Risk Committee advises the Board of Directors in its supervisory function and thus prepares the decisions to be adopted by the Board of Directors. It provides support in the specific areas relating to the multiple aspects of risks incurred by the Group's parent company that are inherent in the execution of its business model, in its strategic objectives, in legal, regulatory and technological changes and in changes in the social, commercial and competitive environment in which the Group operates.

It thus facilitates the implementation of a sound internal governance framework.

It consists of four members of the Board of Directors, including a majority of members considered independent within the meaning of the applicable laws and regulations.

The Chief Executive Officer, Deputy Chief Executive Officer, Chief Risk Officer and Chief Internal Auditor are invited to all meetings of the Risk Committee.

6.1.4 Role of the Appointment and Compensation Committee

The Appointment and Compensation Committee consists of four members of the Board of Directors considered independent within the meaning of the applicable laws and regulations. For specific matters relevant to aspects of compensation for staff at the Group's parent company, this committee meets as the Compensation Committee and is joined, as members of this Compensation Committee, by the two members of the Board of Directors who represent the Group's parent company's staff.

6.1.5 Role of the Executive Committee

Pursuant to the Organic Law of 1989 and in accordance with the general policy of the Group's parent company and the Group's overall economic strategy defined by the Board of Directors on a proposal from the Committee, all administrative acts and measures necessary or relevant to Spuerkeess's purpose fall within the responsibility of the Executive Committee.

The Executive Committee is responsible for the effective, sound and prudent management of activities and the risks inherent to them. This management is done in keeping with the strategies and guiding principles established by the Board of Directors and applicable European and national laws and regulations. The Executive Committee thus makes concrete proposals to the Board of Directors to enable it to define the overall risk strategy, including the Group's risk appetite and risk management framework.

In 2022, the Group's parent company established Extended Management ("Direction élargie"), made up of members of the Executive Committee and 10 Senior Vice Presidents. This is a cross-functional decision-making body that develops opinions and proposals for structured monitoring of the Group's parent company and for the strategy and overall organisation of the Group's parent company. Effective cross-functional coordination is needed to develop and take action on these issues. Extended Management therefore addresses strategic and cross-functional issues previously handled by Executive Committee sub-committees.

6.1.6 Responsibilities of the Risk Management department

From an organisational point of view, the risk control function is delegated to the Risk Management department. This function reports to the Executive Committee and operates independently from all commercial and operational activities within Spuerkeess. The Risk Management department is therefore part of the second line of defence. The Chief Risk Officer also has a reporting relationship with the Board of Directors and, as such, may communicate directly and at his or her own initiative with the Chairman of the Audit and Compliance Committee, the Chairman of the Risk Committee and the Chairman of the Board of Directors.

The Group's parent company has a set of risk monitoring committees made up of the heads of various units at the operational level of the Group's parent company.

To fulfil its duties, the Risk Management department is tasked mainly with:

- Defining and updating the risk management policies and the Risk Appetite Framework;
- Identifying and assessing Spuerkeess's risks;
- Monitoring, from a macro perspective, changes in the quality of the credit risk of all of Spuerkeess's portfolios;
- Performing stress tests;
- Challenging the first line of defence by performing second-level controls, among others;
- Monitoring other financial risks such as interest rate risk and liquidity risk;
- Developing the internal models used to manage risks (Enterprise Risk Management unit);
- Providing independent validation of the internal models (Non-Financial Risk Management unit);
- Monitoring and analysing operational incidents;
- Monitoring the Cyber Protection Plan implemented by the first line of defence;
- Overseeing Spuerkeess's IT security;
- Drafting opinions for new products and other strategic changes to help the management bodies in their decision-making;
- Implementing and using the ICAAP and ILAAP processes;
- Coordinating the work related to the recovery plan and the resolution plan.

6.1.7 Responsibilities of the Compliance department

Compliance risk – also called non-conformity risk – generally refers to the risk of loss stemming from activities not carried out in accordance with current standards and regulations.

The Compliance department is part of the second line of defence, together with the Risk Management department. It reports to the Executive Committee. The Chief Compliance Officer also has a reporting relationship with the Board of Directors and, as such, may communicate directly and at his or her own initiative with the Chairman of the Audit and Compliance Committee, the Chairman of the Risk Committee and the Chairman of the Board of Directors. The Compliance function operates independently from all commercial and operational activities within the Bank.

The areas and responsibilities of the Compliance department are mainly:

- anti-money laundering and counter-terrorist financing activities;
- the prevention of market abuse and the integrity of financial instrument markets;
- the protection of the interests of customers and investors;
- the application of regulations on the protection of personal data;
- the prevention and management of conflicts of interests;
- the identification and monitoring of the standards to which Spuerkeess is subject in the course of its activities.

In addition to the Compliance department, the Compliance function also consists of the Compliance Committee and the Acceptance Committee. The Compliance Committee is responsible for cross-business compliance issues affecting several units/activities. The Acceptance Committee is responsible for starting new business relationships and ending others for various reasons.

6.1.8 Responsibilities of the Internal Audit department

The "Internal Audit" department is responsible for periodically assessing the proper functioning and adequacy of the Group's parent company's internal control system.

The Internal Audit department is the third line of defence and the Chief Internal Auditor is accountable to the Executive Committee and to the Board of Directors for the performance of his or her duties. The Chief Internal Auditor thus also has a reporting relationship with the Board of Directors and may communicate directly and at his or her own initiative with the Chairman of the Audit and Compliance Committee, the Chairman of the Risk Committee and the Chairman of the Board of Directors and even with the supervisor of the Group's parent company.

The objectives are the following:

- preserve the assets of Banque et Caisse d'Epargne de l'Etat, Luxembourg;
- promote the efficiency and effectiveness of the implemented resources in order to ensure the quality of services;
- ensure the protection, integrity, reliability, and rapid dissemination of operational and financial information;
- ensure the correct application of internal procedures, instructions, Luxembourg's laws and regulations, as well as the regulator's prudential requirements;
- ensure compliance with the objectives set by the decision-making bodies of Banque et Caisse d'Epargne de l'Etat, Luxembourg;
- ensure the adequacy of the segregation of duties and the execution of operations;

- ensure compliance with the procedures governing the adequacy of capital and internal liquidity reserves;
- guarantee the adequacy of risk management;
- ensure the operation and effectiveness of the compliance and risk control functions.

Audit missions are carried out on the basis of a multi-year audit plan drawn up by the Internal Audit department and approved by the Audit and Compliance Committee and the Board of Directors.

The Chief Internal Auditor (CIA) guarantees application of the international standards of the Institute of Internal Auditors and compliance with the regulatory requirements by the Internal Audit department.

6.1.9 Responsibilities of the Loan and Credit Management department

From an organisational point of view, credit risk is managed by the Loan and Credit Management department (DAG), a unit that operates independently from all commercial activities. It is responsible for:

- establishing a consistent framework to analyse credit risks, performing the analysis itself and continuously monitoring this risk,
- approving or rejecting applications from commercial entities and escalating cases to the Executive Committee that involve transactions whose outstanding amounts are above a limit set for processing by the Credit Committee, which reports to the Executive Committee.

Accordingly, the "Professional Loans" and "Retail Loans" units monitor both credit risk and counterparty risk. This involves analysing loan applications from all commercial entities and performing analyses in order to set ex ante limits.

6.1.10 Systems for measuring and tracking limits

6.1.10.1 Credit risk

The Loan and Credit Management department continuously monitors the quality of all borrowers.

The credit quality of retail commitments is monitored on the basis of internal ratings that include a behavioural analysis. National companies are also rated using a rating model that takes into account an analysis of their financial statements and, for medium-sized companies, a behavioural component. The quality of the wholesale portfolio is monitored through rating agency assessments.

The Credit Process Management (CPM) unit within the DAG department deals with cross-business operational topics relating to personal and business loans/credit facilities. The activity also encompasses regulatory aspects and optimisation of the credit process.

The Loan and Credit Management department reports to Senior Management on a continuous basis on changes in the quality of borrowers. The Risk Management department conducts a detailed quarterly analysis of the changes in credit quality for all portfolios and submits the results to Senior Management.

The positions held by the trading room are subject to daily ex post monitoring to ensure compliance with the credit limits set by Senior Management. Traders have real-time access to these limits.

In addition to counterparty limits, the Group's parent company has set up a system of limits by sector and region to monitor concentration risk.

6.1.10.2 Market risk

Market risk is generally the risk of the Group's parent company suffering financial loss on the instruments it holds as a result of unfavourable developments in market parameters, such as interest rates, foreign exchange rates, share prices, etc.
The greatest market risks are those arising from the Group's parent company's business model and include interest rate risk and price risk on its strategic holdings. Section 6.4 provides information about market risk monitoring and management at the parent company.

6.1.10.3 Counterparty risk stemming from derivative financial instrument transactions

The Group's parent company has negotiated International Swaps and Derivatives Association Inc. (ISDA) framework agreements including Credit Support Annexes (CSAs) designed to limit counterparty risk on derivative financial instrument trades with a positive mark-to-market valuation. At end-2022, 87,2% of derivative financial instrument transaction outstandings were covered by such agreements.

Alongside the ISDA-CSA framework agreements, the Group's parent company makes use of central counterparties (CCPs) to limit counterparty risk. At end-2022, 12,0% of outstanding amounts of derivative transactions were liquidated through these CCPs.

6.1.10.4 Liquidity risk

Liquidity risk results from a problem in recognition of financial inflows and outflows on a specific date. The risk for a financial institution is that it may be unable to meet its payment obligations at a given point in time as a result of having insufficient liquid assets relative to its maturing liabilities. By virtue of its financial structure, the Group is generally in a position of excess liquidity.

The Group constantly monitors liquidity risk on the basis of maturities. This monitoring includes both very detailed reconciliation of cash inflows and outflows over a six-month horizon and a medium- and long-term assessment of structural funding requirements. Short-time financing needs in the main currencies are subject to specific limits.

The Group conducted the stress tests required by circular CSSF 09/403 in 2022 on at least a monthly basis to show that it would have sufficient liquid assets to cope with unexpected large-scale withdrawals over an extended period.

Under normal circumstances, the Group has stable and diversified liabilities, notably in the form of a very solid customer deposit base and Euro Commercial Paper (ECP), US Commercial Paper (USCP) and Euro Medium Term Note (EMTN) refinancing programmes, which ensure a comfortable liquidity position. Furthermore, due to its high-quality fixed-income securities portfolio, the Group would be able, if necessary, to access the repo market or participate in the ECB's money-market operations.

In the event of an urgent need for large amounts of liquidity, Spuerkeess has an intraday and overnight credit line with the Banque centrale du Luxembourg (BCL) secured by pledges of eligible securities. To this end, Spuerkeess aims to continually have an immediately available minimum BCL liquidity reserve of EUR 3 billion. This reserve may consist of pledged securities and cash available with the BCL. The pledged securities component must represent at least EUR 2 billion at all times. On 31 December 2022, the amount of the liquidity reserve immediately available with the BCL was EUR 12,75 billion, of which EUR 9,75 billion in cash. At year-end 2022, the amount of the portfolio of assets eligible for refinancing with the BCL (excluding BCL cash) or usable on the interbank market exceeded EUR 9 billion.

Amended CSSF Circular 07/301, § II.1. "Risk identification" explicitly mentions the securitisation risk of which the credit institution is the originator or sponsor. Securitisation is one of the techniques used to manage liquidity, since it allows a bank to remove assets from the balance sheet to raise funds. The Group's parent company did not participate as originator or sponsor in such a transaction during the 2022 financial year.

The Group's parent company is an indirect member of the CLS (Continuous-Linked Settlement) foreign exchange transaction settlement system. The overwhelming majority of foreign-exchange transactions are now handled by the CLS. Transaction date flows of overnight transactions are not processed through CLS. For these transactions, the settlement of initial flows, i.e. those that took place on the transaction date, is done in the conventional manner through correspondent banks. Maturity date flows for these same transactions are in principle settled through CLS.

Membership in the CLS system virtually eliminates counterparty risk (settlement risk) arising from foreign-exchange transactions through the payment-versus-payment principle and reduces the Group's liquidity risk by netting transactions, which considerably reduces settlement volumes.

6.2 Operational risk

The Group defines operational risk as "the risk of losses resulting from an inadequacy or a failure of processes, personnel, internal systems, or external events, including legal risk", in accordance with article 4/point 52 of EU Regulation no. 575/2013 ("Capital Requirements Regulation", CRR).

6.2.1 Governance of operational risk management

To ensure effective management of operational risk at all levels, the Group has implemented governance based on the concept of the three lines of defence.
The roles and responsibilities of the control functions as well as the first line of defence are clearly highlighted in the Internal Control Charter and the Operational Risk Management Policy.
Operational risk management is supervised by various committees, including the Risk Management Committee at the Executive Committee level and the Risk Committee at the Board of Directors level. The guidelines as well as the ultimate supervision and definition of operational risk appetite come directly from the Board of Directors, and implementation is ensured by the Executive Committee.

6.2.2 Operational risk management culture

Proper management of operational risk requires the promotion of a strong risk control culture. The establishment of such a culture comes from the Group's parent company's general management ("Tone from the Top").

The Group's parent company thus:

- ensures that employees respect the values and rules of professional ethics. The Group's parent company defines these standards in the staff code of conduct;
- ensures that employees have the necessary information and knowledge at the end of the training courses organised at regular intervals;
- ensures that the Group's parent company's employees do not have incentives to behave in a manner not in line with the Group's parent company's risk culture.

In addition, the Group's parent company applies several key principles:

- The principle of segregation of duties within the meaning of Article 71 of CSSF Circular 12/552: tasks and responsibilities are assigned so as to ensure that their performance by the same person is not incompatible in order to avoid potential conflicts of interest.
- Four eyes validation principle: actions requiring a decision, validation, or approval are taken according to the "four eyes" principle in order to avoid errors and irregularities.

6.2.3 Operational risk management approach

The operational risk management approach includes an assessment of risk levels to determine whether they are acceptable or tolerable and to assist in the decision-making and operational risk management process.

Operational risk monitoring is based on risk monitoring resources and tools as well as the reporting system.

The identification, analysis, assessment, and monitoring of operational risks within the Group's parent company constitute an integrated set of activities and methods that help the Group's parent company to measure and manage operational risk. The activities are implemented in a structured, diligent, dynamic, and iterative manner. The choice whether to implement them results from a consistent approach and is based on exposure to the various risks incurred ("risk-based"). The various methods and practices of operational risk management can implement a dual dynamic: ex-ante (e.g. through Key Risk Indicators) or ex-post (e.g. through the collection of incident data).
The various information is used in the determination of the economic capital allocation performed as part of the Internal Capital Adequacy Assessment Process (ICAAP). Regarding the calculation of regulatory capital requirements, the Group adopts the standard approach.

Process and control improvements are actions taken to strengthen the control environment and therefore implement measures to reduce the operational risks inherent in the processes. A treatment measure may be initiated by the first line of defence as part of its responsibility for day-to-day management of inherent risks. A treatment measure may also be initiated following a decision of Senior Management on the treatment of the risk (accept, reduce, avoid, transfer).

The Group's parent company ensures that it has solid continuity plans, in particular the Business Continuity Plan (BCP), which aims to ensure the continuity of critical activities in the event of a major operational incident (involving property, computers, etc.), and the Disaster Recovery Plan (DRP), which aims to ensure the continued operation of critical information systems, supporting the critical processes of the BCP or their timely recovery in the event of a major IT incident.

6.3 IT and cyber risk

The Group's parent company defines IT and cyber risk as the risk of loss arising from an inadequate information system organisation, an information system malfunction or insufficient information system security.

6.3.1 IT and cyber risk management governance

IT and cyber risk governance is closely tied to the governance in place for operational risks. This includes the three lines of defence concept as well as the decision-making bodies, such as the Risk Management Committee.

A "Security Policy" defines the different roles and responsibilities as well as the guidelines applicable to oversight of IT and cyber risk management.

This "Security Policy" is further supplemented by a set of security standards that details the specific requirements applicable to the areas and sub-areas within the IT scope.

6.3.2 IT and cyber risk management approach

The practices used to identify and assess IT and cyber risks are also incorporated into and compatible with the entire operational risk supervision and management system.

The Group's parent company has established processes for identifying and assessing IT and cyber risks in the event of changes or the introduction of new products. These practices are further supplemented by an annual risk assessment and control process covering the IT activities scope.

The various information gathered through IT and cyber risk identification and assessment practices is used in the determination of the economic capital allocation performed as part of the Internal Capital Adequacy Assessment Process (ICAAP).

The Risk Management team responsible for supervising IT and cyber risks also monitors the action plans that aim to improve the Group's parent company's protection system.
IT and cyber scenarios have been incorporated into the Group's parent company's Business Continuity Plan (BCP), and the Risk Appetite Framework also contains IT- and cyber-specific limits and indicators.

6.3.3 IT and cyber risk control culture

Each member of the Group's parent company's staff is regularly informed of and trained on IT and cyber best practices through an awareness process overseen by the Risk Management team.

6.4 Exposure to credit and counterparty risk

6.4.1 Objectives and management of credit and counterparty risk

Each Group commitment giving rise to a credit risk is subject to prior analysis by the Loan and Credit Management department.

For loans granted to the domestic economy recognised in the balance sheet under "Loans and advances at amortised cost - Customers", the decision-making structure is hierarchically organised into a number of credit committees, depending on the customer's overall outstanding amount. From a specified threshold, cases must be decided on by the Group's parent company's Executive Committee. The portfolio structures consist of residential mortgage loans for over half of the outstanding amount. Credit risk relating to residential mortgage loans is covered by the process of assessing customers' ability to repay loans and the existence of collateral. The Group's parent company follows rigorous procedures for analysing loan applications and obtaining the related collateral for corporate loans and advances. The methodology put in place under the Basel regulation allows the Group to continuously monitor credit risk trends across all portfolios.

Other than the changes implemented due to the current crisis, the Group's parent company did not change its credit risk management policy in the 2022 financial year.

For interbank markets and international loans, contracts are recognised in the balance sheet under "Loans and advances at amortised cost - Credit institutions", "Loans and advances at amortised cost - Customers", "Fixed-income securities recognised at amortised cost" and "Financial assets mandatorily recognised at fair value through profit or loss"; a large majority of counterparties consist of banking and financial institutions. The Group pursued its prudent investment policy in 2022, resulting in:

- a large proportion of investments in covered bonds, which offer more security than senior unsecured bonds,
- investments in debt issued or guaranteed by the European Union or some of its member States.

With regard to international loans to non-financial entities recognised in the balance sheet under "Loans and advances at amortised cost - Customers", "Fixed-income securities recognised at amortised cost" and "Financial assets mandatorily recognised at fair value through profit or loss", priority is given to commitments in OECD countries rated as at least Investment Grade.

Outstanding amounts are subject to counterparty risk monitoring and to regular checks based on updated financial analyses and proposed adjustments to limits per counterparty. The Group also applies a country limit system for all countries in which it has commitments. These limits are reviewed at least annually.
Investments in derivative financial instruments are heavily regulated through the use of industry standard ISDA agreements that include compensation clauses in the event of default by either party. The Group has also adopted an additional risk mitigation mechanism by negotiating the CSA to ISDA agreements with the largest counterparties in respect of off-balance sheet transactions.
The CSA specifies the type of collateral permitted, in the form of cash or first-class securities, on the basis of periodic reassessments of bilateral positions when the net value of agreements involves a counterparty risk for the Group.

6.4.2 Credit and concentration risk

Concentration risk is the risk resulting from an excessive exposure with regard to one single borrower, a group of borrowers, an economic sector or a country. To avoid this risk, the Group's parent company has implemented a set of procedures to efficiently manage the limits set. Concentration risk can be measured either from the commitment point of view or from the point of view of the resources of the Group's parent company. In the latter case, the risk is correlated with liquidity risk.

The Group's parent company reviews at least annually the different types of limits affecting the components of concentration risk.
It has therefore invested in appropriate risk management tools in line with the range of risk profiles and different financing techniques.

In addition to counterparty limits, the Group's parent company has set up a system of limits by country and sector to contain concentration risk.

Generally speaking, commitments are concentrated in high credit ratings (AAA, AA and A) to limit exposure to risk and volatility, systematically avoiding riskier segments of the market.

Maximum exposure to credit risk	31/12/2021	31/12/2022
Cash and sight accounts with central banks	9.773.732.257	10.847.765.699
Loans and advances at amortised cost – Credit institutions	1.346.631.751	1.457.998.005
Loans and advances at amortised cost – Customers	25.246.693.237	26.705.358.823
Financial instruments held for trading	235.242.636	132.075.729
Hedging derivative financial instruments	90.195.038	1.462.544.131
Financial assets mandatorily recognised at fair value through profit or loss	632.455.934	490.686.909
Fixed-income securities recognised at amortised cost	13.821.928.357	13.586.207.982
Fixed-income securities recognised at fair value through the revaluation reserve	17.534.901	29.626.380
Change in fair value of a portfolio of financial instruments hedged against interest rate risk	156.504.244	-
Exposure of balance sheet commitments	**51.320.918.355**	**54.712.263.657**
Completion bonds	490.596.629	385.941.047
Letters of credit	92.675.362	102.977.116
Counter-guarantees	437.305.139	497.708.187
Other	29.262.164	59.423.353
Undrawn confirmed credits	6.544.953.090	6.411.362.412
Documentary credits	15.100.000	15.100.000
Exposure of off-balance sheet commitments	**7.609.892.384**	**7.472.512.115**
Total exposure	**58.930.810.739**	**62.184.775.773**

The Group uses the following standard techniques to mitigate credit and counterparty risk:

- collateral:

Breakdown by type of collateral	2021	2022
Mortgages	19.703.718.877	21.087.402.283
Reverse repurchase agreements	358.393.324	235.110.707
Pledge through cash or securities deposits	72.653.758	111.101.459

- personal guarantees: these stood at EUR 619.462.646 at year-end 2022, compared with EUR 565.668.522 one year earlier,
- ISDA – CSA contracts,

- Global Master Repurchase Agreements (GMRA).

Financial assets that are the subject of a legally enforceable netting framework agreement or a similar agreement:

31/12/2022	Financial assets that are the subject of netting			Potential netting not recognised on the balance sheet		Financial assets after taking potential netting into account
	Financial assets before balance sheet netting	Balance sheet netting with financial liabilities	Financial assets recorded on the balance sheet	Financial liabilities	Collateral received	
Reverse repurchase/ Repurchase agreements	235.409.659	-	235.409.659	2.501.802	231.315.739	1.592.118
Derivatives	1.474.403.358	-	1.474.403.358	214.731.724	1.206.771.746	52.899.888
Total assets	**1.709.813.017**	**-**	**1.709.813.017**	**217.233.526**	**1.438.087.485**	**54.492.006**

31/12/2021	Financial assets that are the subject of netting			Potential netting not recognised on the balance sheet		Financial assets after taking potential netting into account
	Financial assets before balance sheet netting	Balance sheet netting with financial liabilities	Financial assets recorded on the balance sheet	Financial liabilities	Collateral received	
Reverse repurchase/ Repurchase agreements	319.094.536	-	319.094.536	16.968.278	301.102.185	1.024.074
Derivatives	170.594.979	-	170.594.979	58.292.732	107.819.199	4.483.048
Total assets	**489.689.515**	**-**	**489.689.515**	**75.261.010**	**408.921.383**	**5.507.121**

Financial liabilities that are the subject of a legally enforceable netting framework agreement or a similar agreement:

31/12/2022	Financial liabilities that are the subject of netting			Potential netting not recognised on the balance sheet		Financial liabilities after taking potential netting into account
	Financial liabilities before balance sheet netting	Balance sheet netting with financial assets	Financial liabilities recorded on the balance sheet	Financial assets	Collateral given	
Repurchase/ Reverse repurchase agreements	370.557.224	-	370.557.224	-	368.306.310	2.250.914
Derivatives	378.697.438	-	378.697.438	108.769.340	252.672.524	17.255.575
Total liabilities	**749.254.662**	**-**	**749.254.662**	**108.769.340**	**620.978.834**	**19.506.489**

31/12/2021	Financial liabilities that are the subject of netting			Potential netting not recognised on the balance sheet		Financial liabilities after taking potential netting into account
	Financial liabilities before balance sheet netting	Balance sheet netting with financial assets	Financial liabilities recorded on the balance sheet	Financial assets	Collateral given	
Repurchase/ Reverse repurchase agreements	297.246.463	39.300.859	257.945.604	-	256.484.372	1.461.232
Derivatives	890.276.316	-	890.276.316	138.286.619	741.276.975	10.712.723
Total liabilities	**1.187.522.780**	**39.300.859**	**1.148.221.920**	**138.286.619**	**997.761.347**	**12.173.955**

6.4.3 Analysis of credit risk relating to financial assets

Pursuant to IFRS standards, the Group assesses its exposure to financial asset credit risk as the book value.

In the "Quantitative tables of exposures and concentrations" section, exposure to credit risk is indicated at book value before collateralisation. Collateralisation is a technique for reducing the risk of the underlying asset.

Credit risk is shown according to exposures:

- by geography,
- by counterparty category,
- by risk class (internal ratings).

Exposure by geographical area:

Geographical area as at 31/12/2022 (in thousands of euros)	European Union and Switzerland	Other European countries	North America	Asia and Oceania	Supra-national	Other	Total
Cash and sight accounts with central banks	10.636.859	161.334	25.716	23.857	-	-	10.847.766
Loans and advances at amortised cost	27.985.305	115.570	11.928	43.873	123	6.559	28.163.357
Financial instruments held for trading and hedging derivative instruments	1.104.737	469.599	20.284	-	-	-	1.594.620
Financial assets mandatorily recognised at fair value through profit or loss	426.262	18.246	9.088	-	37.092	-	490.687
Fixed-income securities recognised at amortised cost	7.650.800	1.425.174	2.363.294	1.344.670	802.270	-	13.586.208
Financial instruments recognised at fair value through the revaluation reserve	922.294	-	-	-	-	-	922.294
Investments in associates accounted for using the equity method	687.779	-	-	-	-	-	687.779
Other	382.150	-	-	-	-	-	382.150
Total	**49.796.185**	**2.189.922**	**2.430.309**	**1.412.400**	**839.485**	**6.559**	**56.674.860**

Geographical area as at 31/12/2021 (in thousands of euros)	European Union and Switzerland	Other European countries	North America	Asia and Oceania	Supra-national	Other	Total
Cash and sight accounts with central banks	9.146.402	501.416	109.136	5.878	70	10.829	9.773.732
Loans and advances at amortised cost	26.183.947	122.374	13.635	259.951	41	13.377	26.593.325
Financial instruments held for trading and hedging derivative instruments	256.157	60.122	8.645	506	-	8	325.438
Financial assets mandatorily recognised at fair value through profit or loss	482.284	19.944	86.601	-	43.624	2	632.456
Fixed-income securities recognised at amortised cost	7.790.252	1.493.891	2.442.025	1.150.611	747.128	198.022	13.821.928
Financial instruments recognised at fair value through the revaluation reserve	1.142.581	-	-	-	-	-	1.142.581
Investments in associates accounted for using the equity method	571.515	-	-	-	-	-	571.515
Other	563.889	-	-	-	-	-	563.889
Total	**46.137.029**	**2.197.747**	**2.660.043**	**1.416.946**	**790.863**	**222.237**	**53.424.865**

In the following table, to meet the requirements of IFRS 7 "Financial Instruments: Disclosures", exposure to credit risk as at 31 December 2022 and 2021 is presented according to internal ratings.

The average collateralisation ratio recorded is defined as the ratio of collateral received to outstanding amounts.

Exposure by counterparty category and risk class:

	2021			2022		
	Outstanding excluding impairment	Outstanding including impairment	Average collateralisation ratio	Outstanding excluding impairment	Outstanding including impairment	Average collateralisation ratio
Cash and sight accounts with central banks						
High grade	8.902.828.409	8.902.532.192	-	449.166.450	448.638.663	-
Standard grade	872.064.879	871.200.063	-	147.201.958	146.908.935	-
Sub-standard grade	-	-	-	-	-	-
Default	-	-	-	-	-	-
Not rated	-	-	-	10.252.893.907	10.252.218.101	-
Total of categories	**9.774.893.289**	**9.773.732.255**		**10.849.262.315**	**10.847.765.699**	
Loans and advances at amortised cost						
Banks						
High grade	699.658.902	699.455.813	11,44%	1.206.492.770	1.206.119.411	19,49%
Standard grade	614.710.655	614.372.564	45,32%	206.679.113	206.474.286	0,00%
Sub-standard grade	3.350	3.304	-	-	-	-
Past due not in default	-	-	-	-	-	-
Default	-	-	-	-	-	-
Not rated	32.800.072	32.800.072	-	45.407.035	45.404.308	-
Corporates						
High grade	2.464.830.827	2.456.141.250	60,49%	1.953.120.631	1.941.731.105	76,81%
Standard grade	1.850.910.749	1.845.083.572	41,20%	1.406.698.895	1.394.860.516	54,22%
Sub-standard grade	1.316.206.384	1.289.344.519	45,90%	1.528.909.198	1.490.118.814	54,14%
Past due not in default	37.608.858	37.208.065	88,13%	60.793.016	60.365.989	57,62%
Default	156.983.538	118.762.156	89,46%	121.198.327	83.101.122	85,18%
Not rated	44.705.028	44.589.580	0,00%	951.461.747	950.745.227	-
Sovereigns						
High grade	1.217.008.198	1.216.949.950	0,07%	519.002.032	518.978.134	-
Standard grade	5.682.171	5.667.575	-	5.493.307	5.383.869	-
Sub-standard grade	100	99	-	-	-	-
Past due not in default	1.469.987	1.469.915	-	17.526.534	17.525.734	-
Default	-	-	-	-	-	-
Not rated	-	-	-	759.621.506	759.587.780	0,04%
Retail						
High grade	15.088.807.493	15.086.673.181	92,60%	19.205.471.532	19.175.051.553	92,91%
Standard grade	1.783.952.686	1.781.291.381	90,69%	140.767.107	135.122.026	60,39%
Sub-standard grade	1.270.019.626	1.253.360.402	89,99%	14.082.037	13.694.675	85,05%
Past due not in default	35.552.441	35.200.266	78,97%	74.793.484	73.255.704	84,24%
Default	85.578.213	74.951.327	77,47%	95.788.461	79.803.276	84,64%
Not rated	0	0	-	6.033.575	6.033.299	-
Total of categories	**26.706.489.279**	**26.593.324.989**		**28.319.340.309**	**28.163.356.828**	

	2021			2022		
	Outstanding excluding impairment	Outstanding including impairment	Average collateralisation ratio	Outstanding excluding impairment	Outstanding including impairment	Average collateralisation ratio
Financial instruments held for trading and hedging derivative instruments						
Banks						
High grade	85.394.739	85.394.739	35,32%	141.590.351	141.590.351	9,20%
Standard grade	209.554.395	209.554.395	36,04%	59.974.825	59.974.825	50,55%
Sub-standard grade	-	-	-	-	-	-
Default	-	-	-	-	-	-
Not rated	-	-	-	1.359.813.890	1.359.813.890	58,60%
Corporates						
High grade	20.849	20.849	100,00%	-	-	-
Standard grade	8.026.182	8.026.182	6,73%	11.409.705	11.409.705	11,99%
Sub-standard grade	11.842.150	11.842.150	-	5.199.823	5.199.823	-
Default	-	-	-	-	-	-
Not rated	10.085.109	10.085.109	67,65%	16.567.039	16.567.039	13,46%
Sovereigns						
High grade	-	-	-	-	-	-
Standard grade	-	-	-	-	-	-
Sub-standard grade	-	-	-	-	-	-
Default	-	-	-	-	-	-
Not rated	-	-	-	-	-	-
Retail						
High grade	12.368	12.368	-	8.493	8.493	-
Standard grade	-	-	-	-	-	-
Sub-standard grade	445.344	445.344	-	-	-	-
Default	56.536	56.536	-	55.734	55.734	-
Not rated	-	-	-	-	-	-
Total of categories	**325.437.673**	**325.437.673**		**1.594.619.859**	**1.594.619.859**	
Financial assets mandatorily recognised at fair value through profit or loss						
Banks						
High grade	85.373.861	85.373.861	-	206.863.327	206.863.327	-
Standard grade	155.556.607	155.556.607	-	2.827.043	2.827.043	-
Sub-standard grade	-	-	-	-	-	-
Default	-	-	-	-	-	-
Not rated	-	-	-	-	-	-
Corporates						
High grade	104.259.670	104.259.670	-	-	-	-
Standard grade	113.634.140	113.634.140	-	61.604.398	61.604.398	-
Sub-standard grade	18.984.777	18.984.777	-	12.042.492	12.042.492	-
Default	4.457.562	4.457.562	-	5.947	5.947	-
Not rated	749.335	749.335	-	73.648.702	73.648.702	-
Sovereigns						
High grade	149.435.149	149.435.149	-	133.647.777	133.647.777	-
Standard grade	-	-	-	-	-	-
Sub-standard grade	-	-	-	-	-	-
Default	-	-	-	-	-	-
Not rated	-	-	-	-	-	-
Securitisation						
High grade	-	-	-	-	-	-
Standard grade	-	-	-	-	-	-
Sub-standard grade	2.672	2.672	-	33.441	33.441	-
Default	2.160	2.160	-	13.783	13.783	-
Not rated	-	-	-	-	-	-
Total of categories	**632.455.934**	**632.455.934**		**490.686.909**	**490.686.909**	

	2021			2022		
	Outstanding excluding impairment	Outstanding including impairment	Average collateralisation ratio	Outstanding excluding impairment	Outstanding including impairment	Average collateralisation ratio
Fixed-income securities recognised at amortised cost						
Banks						
High grade	3.918.614.572	3.916.808.796	-	4.935.404.616	4.931.818.355	-
Standard grade	2.002.898.730	2.000.484.776	-	983.861.950	982.523.069	-
Sub-standard grade	-	-	-	-	-	-
Default	-	-	-	-	-	-
Not rated	-	-	-	22.938.014	22.915.446	-
Corporates						
High grade	1.617.695.818	1.617.142.744	-	1.731.533.152	1.730.228.975	-
Standard grade	3.229.546.406	3.227.098.718	-	2.908.585.490	2.906.092.026	-
Sub-standard grade	41.748.415	41.239.207	-	58.447.666	58.009.062	-
Default	-	-	-	-	-	-
Not rated	-	-	-	132.624.742	132.551.770	-
Sovereigns						
High grade	2.368.659.947	2.368.276.809	-	1.720.787.340	1.720.539.869	-
Standard grade	600.589.725	600.212.179	-	881.366.781	880.716.011	-
Sub-standard grade	-	-	-	-	-	-
Default	-	-	-	-	-	-
Not rated	-	-	-	176.976.568	176.863.561	-
Securitisation						
High grade	42.384.717	42.047.352	-	38.162.897	37.859.136	-
Standard grade	8.686.923	8.617.778	-	6.139.571	6.090.703	-
Sub-standard grade	203.296	-	-	204.134	-	-
Default	-	-	-	-	-	-
Not rated	-	-	-	-	-	-
Total of categories	**13.831.028.548**	**13.821.928.358**		**13.597.032.924**	**13.586.207.982**	

	2021			2022		
	Outstanding excluding impairment	Outstanding including impairment	Average collateralisation ratio	Outstanding excluding impairment	Outstanding including impairment	Average collateralisation ratio
Financial instruments recognised at fair value through the revaluation reserve and investments in associates accounted for using the equity method						
Banks						
High grade	6.502.040	6.502.040	-	4.479.600	4.479.600	-
Standard grade	-	-	-	-	-	-
Sub-standard grade	-	-	-	-	-	-
Default	-	-	-	-	-	-
Not rated	-	-	-	7.894.054	7.894.054	-
Corporates						
High grade	53.720.899	53.720.899	-	127.210.587	127.210.587	-
Standard grade	1.376.137.159	1.376.137.159	-	685.303.887	685.303.887	-
Sub-standard grade	260.201.345	260.201.345	-	385.795.682	385.795.682	-
Default	-	-	-	-	-	-
Not rated	-	-	-	374.242.124	374.242.124	-
Sovereigns						
High grade	17.534.900	17.534.900	-	20.494.980	20.494.980	-
Standard grade	-	-	-	4.651.800	4.651.800	-
Sub-standard grade	-	-	-	-	-	-
Default	-	-	-	-	-	-
Not rated	-	-	-	-	-	-
Total of categories	**1.714.096.344**	**1.714.096.344**		**1.610.072.714**	**1.610.072.714**	
Other (*)	563.889.445	563.889.445	-	382.149.948	382.149.948	-
Total of categories	**563.889.445**	**563.889.445**		**382.149.948**	**382.149.948**	
Total	**53.548.290.512**	**53.424.864.998**		**56.843.164.977**	**56.674.859.938**	

(*) The "Other" item comprises "Change in fair value of a portfolio of financial instruments hedged against interest rate risk", "Tangible assets for own use", "Investment property", "Intangible assets", "Current taxes", "Deferred taxes" and "Other assets".

The changes in the "Not rated" and other items between 2021 and 2022 relate to the Group's shift from an IRB approach to the standard approach based on external ratings.

The Group enters outstanding amounts where the contractual payment due date has passed by at least one day on the line "Past due not in default" under "Loans and advances at amortised cost". In "Fixed-income securities recognised at amortised cost", the Group does not record any items in the "Past due not in default" line and uses objective evidence of impairment to determine individual impairments.

The average collateralisation ratio gives the average hedging ratio of outstanding amounts by collateral held.

An indication of the level of impairment is provided in the columns "Outstanding amount excluding impairment" and "Outstanding amount including impairment".

Banks, Corporates, Sovereigns and Retail:

The grouping according to internal risk category corresponds, for example with the following Standard & Poor's (S&P) equivalents:

High grade	: from AAA to A+
Standard grade	: from A to BBB-
Sub-standard grade	: from BB+ to BB-

Outstanding amounts described as "Default" relate to outstanding amounts showing objective impairment evidence and whose internal risk category (internal rating) is equal to or lower than a B+ rating.

Securitisation:

The grouping according to internal risk category corresponds, for example with the following "S&P" equivalents:

High grade	: from AAA to A+
Standard grade	: from A to BBB-

Outstanding amounts described as "Default" relate to outstanding amounts showing objective impairment evidence and whose internal risk category (internal rating) is equal to or lower than a BB+ rating.

6.5 Market risk

The purpose of risk management is to ensure that the risk incurred matches the Bank's risk appetite. To that end, the parent company has introduced several market risk indicators subject to limits that reflect risk appetite.

The Global Markets department and, more specifically, the Financial Markets (FIM) and Asset and Liability Management (ALM) units are responsible for operational management of market risks. First-level controls are carried out by the Support, Reporting and Financial Valuation (SRF) unit, which was created in 2020 and is part of the Global Markets department.

This unit verifies compliance with a number of procedures and limits relating to the activities of each trading floor desk (open positions, counterparty risk, money-market limits, etc.). Automated control reports have been developed to that end, and their results are archived and communicated to management every night.

The ALM and Money Market units take note of these reports, along with the reports they can access independently. If a limit is exceeded, these two units provide an explanation of the situation, take appropriate management actions or suggest a change in the limit framework.

For ALM, whenever thresholds are exceeded or management actions are taken, the details are included in the monthly ALM report.

Second-line controls are carried out by the Risk Management department (RIM), which monitors every instance of a threshold being exceeded through the Risk working group, the Executive Committee and the Risk Committee.

6.5.1 Interest rate risk

Spuerkeess takes a day-to-day integrated approach to managing interest rate risk for its entire banking book. This integrated approach can also be broken down into the money-market and ALM scopes. The money-market scope covers the trading floor positions with an initial rate term of less than two years, while the ALM scope covers all other positions sensitive to interest rate risk. This new tool gives the Bank a more accurate view of the nature of its interest rate risk and provides a breakdown of its various components, namely:

- maturity transformation risk;
- options risk (automatic options such as caps/floors, and behavioural options such as early repayments and outflows of liabilities with no maturity).

The indicators produced by the tool to analyse interest rate risk sensitivity are as follows:

- rate schedule grouped according to different time buckets;
- the impact of different rate scenarios on the economic value of the banking book positions sensitive to interest rate risk (delta EVE);
- the impact of different rate scenarios on net interest margin (delta NII).

Delta EVE, for standard stress tests, i.e., a 200-basis-point increase, is as follows:

Date	Scope	Scenario	Delta EVE	Delta EVE/Equity
31/12/2022	Entire banking book excluding equity	+200 bp	-155.662.307	-2,96%
31/12/2021	Entire banking book excluding equity	+200 bp	-251.550.304	-5,00%

6.5.2 Price risk on variable-income securities

The VaR method remained in effect in 2022 and 2021 to manage the liquid portion of the Group's parent company's equity portfolio, while observing the corresponding limit.

6.5.3 Foreign exchange risk

The parent company's foreign exchange risk is very low. It is subject to open position limits by foreign currency group.
In addition to open position limits, foreign exchange risk is subject to a VaR limit.

6.5.4 Analysis of the fair value of financial instruments

The following table presents the comparison by category of the carrying amounts and fair values of the Group's financial instruments included in the consolidated financial statements.

Categories as at 31/12/2022	Carrying amount	Fair value	Unrealised valuation	Level 1	Level 2	Level 3
Financial assets						
Cash and sight accounts with central banks	10.847.765.699	10.847.765.699	-	-	-	-
Loans and advances at amortised cost	28.163.356.828	25.947.556.668	-2.215.800.160	-	100,00%	-
of which measured at fair value for hedging purposes	*1.041.425.865*	*1.041.425.865*	-	-	-	-
Financial instruments held for trading	132.075.729	132.075.729	-	-	-	-
Hedging derivative financial instruments	1.462.544.131	1.462.544.131	-	-	-	-
Financial assets mandatorily recognised at fair value through profit or loss	490.686.909	490.686.909	-	-	-	-
Fixed-income securities recognised at amortised cost	13.586.207.982	13.348.826.009	-237.381.973	76,95%	23,05%	-
of which measured at fair value for hedging purposes	*9.500.754.376*	*9.500.754.376*	-	-	-	-
Fixed-income securities recognised at fair value through the revaluation reserve	29.626.380	29.626.380	-	-	-	-
Variable-income securities recognised at fair value through the revaluation reserve	892.667.729	892.667.729	-	-	-	-
Investments in associates accounted for using the equity method	687.778.605	687.778.605	-	-	-	-
TOTAL	**56.292.709.992**	**53.839.527.859**	**-2.453.182.133**			
Financial liabilities						
Deposits at amortised cost	46.808.672.763	45.566.472.302	-1.242.200.460	-	100,00%	-
Financial instruments held for trading	294.865.180	294.865.180	-	-	-	-
Hedging derivative financial instruments	307.181.440	307.181.440	-	-	-	-
Financial liabilities designated at fair value through profit or loss	131.633.032	131.633.032	-	-	-	-
Debt securities in issue	2.679.078.951	2.650.576.722	-28.502.229	-	100,00%	-
of which measured at fair value for hedging purposes	*637.629.532*	*637.629.532*	-	-	-	-
Change in fair value of a portfolio of financial instruments hedged against interest rate risk	752.334.874	752.334.874	-	-	-	-
TOTAL	**50.973.766.240**	**49.703.063.551**	**-1.270.702.689**			

Categories as at 31/12/2021	Carrying amount	Fair value	Unrealised valuation	Level 1	Level 2	Level 3
Financial assets						
Cash and sight accounts with central banks	9.773.732.257	9.773.732.257	-	-	-	-
Loans and advances at amortised cost	26.593.324.988	26.740.784.991	147.460.003	-	100,0%	-
of which measured at fair value for hedging purposes	*1.196.048.047*	*1.196.048.047*	-	-	-	-
Financial instruments held for trading	235.242.636	235.242.636	-	-	-	-
Hedging derivative financial instruments	90.195.038	90.195.038	-	-	-	-
Financial assets mandatorily recognised at fair value through profit or loss	632.455.934	632.455.934	-	-	-	-
Fixed-income securities recognised at amortised cost	13.821.928.357	13.856.974.974	35.046.617	79,6%	20,4%	-
of which measured at fair value for hedging purposes	*9.377.782.321*	*9.377.782.321*	-	-	-	-
Fixed-income securities recognised at fair value through the revaluation reserve	17.534.901	17.534.901	-	-	-	-
Variable-income securities recognised at fair value through the revaluation reserve	1.125.045.988	1.125.045.988	-	-	-	-
Investments in associates accounted for using the equity method	571.515.457	571.515.457	-	-	-	-
Change in fair value of a portfolio of financial instruments hedged against interest rate risk	156.504.244	156.504.244	-	-	-	-
TOTAL	**53.017.479.800**	**53.199.986.420**	**182.506.620**			
Financial liabilities						
Deposits at amortised cost	43.841.342.694	43.947.987.600	106.644.906	-	100,0%	
Financial instruments held for trading	129.935.940	129.935.940	-	-	-	-
Hedging derivative financial instruments	827.678.271	827.678.271	-	-	-	-
Financial liabilities designated at fair value through profit or loss	165.001.798	165.001.798	-	-	-	-
Debt securities in issue	2.793.469.938	2.792.741.929	-728.009	-	100,0%	-
of which measured at fair value for hedging purposes	*412.901.778*	*412.901.778*	-	-	-	-
TOTAL	**47.757.428.641**	**47.863.345.538**	**105.916.897**			

The fair value of financial instruments not recognised at fair value in the balance sheet is determined according to the methods and estimates described below.

The fair value measurements in "Loans and advances at amortised cost - Customers", "Securities recognised at amortised cost", "Deposits at amortised cost" and "Debt securities in issue" are categorised as Levels 1 and 2 in the fair value hierarchy.

Assets and liabilities at amortised cost in the balance sheet with a fair value close to the book value

In respect of financial assets and liabilities with a maturity date of 6 months or less, the Group estimates their fair value as very close to their carrying amount. The credit risk is considered to be immaterial due to the Group's prudent policy and the imminent maturity. The low residual duration also means that the rate risk is immaterial.

Similarly, the fair value of assets collateralised is very close to their book value, since the credit risk is hedged. These are essentially repurchase agreements, secured loans and equipment loans.

Financial assets and liabilities at amortised cost in the balance sheet with a fair value different from the carrying amount

For the purpose of the fair value calculation, the Group distinguishes between:

- Financial assets and liabilities in the form of deposits and loans: Spuerkeess calculates fair value using the modelled discounted cash flow method;

- Financial instruments included in the portfolio of fixed-income securities recognised at amortised cost and categorised as Level 1 of the fair value hierarchy: these instruments are measured at their market price;

- Financial instruments included in the portfolio of fixed-income securities recognised at amortised cost and categorised as Level 2 of the fair value hierarchy: these instruments are measured at fair value using the discounted cash flow method based on:
    a. credit risk data such as the customer's risk classification, probability of default and loss given default. These criteria were established based on historical observations of defaults and are used to determine credit risk premiums (credit spreads) by risk class, duration and type of financial instrument,
    b. a reference yield curve.

Hierarchy of financial assets and liabilities at fair value

Categories as at 31 December 2022	Level 1	Level 2	Level 3	Total
Financial assets				
Financial assets held for trading	**-**	**132.075.729**	**-**	**132.075.729**
- Debt instruments	-	-	-	-
- Equity instruments	-	-	-	-
- Derivative financial instruments	-	132.075.729	-	132.075.729
- IRS	-	*36.134.163*	-	*36.134.163*
- CIRS/outright	-	*95.941.566*	-	*95.941.566*
- other	-	-	-	-
Hedging derivative financial instruments	**-**	**1.462.544.130**	**-**	**1.462.544.130**
- IRS	-	*1.361.671.110*	-	*1.361.671.110*
- CIRS	-	*100.873.021*	-	*100.873.021*
Financial assets mandatorily recognised at fair value through profit or loss	**-**	**490.633.739**	**53.171**	**490.686.910**
- Debt instruments	-	461.852.372	53.171	461.905.543
- Public sector	-	*133.647.777*	-	*133.647.777*
- Credit institutions	-	*209.690.369*	-	*209.690.369*
- Corporate customers	-	*118.514.225*	*53.171*	*118.567.396*
- Other financial instruments	-	28.781.367	-	28.781.367
- Corporate customers	-	*28.781.367*	-	*28.781.367*
Variable-income securities recognised at fair value through the revaluation reserve	**28.731.408**	**118.125.974**	**745.810.347**	**892.667.729**
- Public sector	-	-	-	-
- Credit institutions	-	-	*7.894.054*	*7.894.054*
- Corporate customers	*28.731.408*	*118.125.974*	*737.916.293*	*884.773.675*
Fixed-income securities recognised at fair value through the revaluation reserve	**29.626.380**	**-**	**-**	**29.626.380**
- Credit institutions	*25.146.780*	-	-	*25.146.780*
- Public sector	*4.479.600*	-	-	*4.479.600*
TOTAL	**58.357.788**	**2.203.379.572**	**745.863.518**	**3.007.600.878**
Financial liabilities				
Derivative financial instruments held for trading	**-**	**294.865.180**	**-**	**294.865.180**
- IRS	-	*53.935.229*	-	*53.935.229*
- CIRS/outright	-	*240.929.951*	-	*240.929.951*
- other	-	-	-	-
Hedging derivative financial instruments	**-**	**307.181.440**	**-**	**307.181.440**
- IRS	-	*181.170.115*	-	*181.170.115*
- CIRS	-	*126.011.326*	-	*126.011.326*
Financial liabilities designated at fair value through profit or loss	**-**	**131.633.032**	**-**	**131.633.032**
TOTAL	**-**	**733.679.653**	**-**	**733.679.653**

Categories as at 31 December 2021	Level 1	Level 2	Level 3	Total
Financial assets				
Financial assets held for trading	**-**	**235.242.633**	**-**	**235.242.633**
- Debt instruments	-	-	-	-
- Equity instruments	-	-	-	-
- Derivative financial instruments	-	235.242.633	-	235.242.633
- IRS	-	*56.070.831*	-	*56.070.831*
- CIRS/outright	-	*179.171.801*	-	*179.171.801*
- other	-	-	-	-
Hedging derivative financial instruments	**-**	**90.195.040**	**-**	**90.195.040**
- IRS	-	*63.639.141*	-	*63.639.141*
- CIRS	-	*26.555.899*	-	*26.555.899*
Financial assets mandatorily recognised at fair value through profit or loss	**-**	**632.449.813**	**6.121**	**632.455.934**
- Debt instruments	-	602.788.491	6.121	602.794.612
- Public sector	-	*149.435.149*	-	*149.435.149*
- Credit institutions	-	*240.930.468*	-	*240.930.468*
- Corporate customers	-	*212.422.874*	*6.121*	*212.428.995*
- Other financial instruments	-	29.661.322	-	29.661.322
- Corporate customers	-	*29.661.322*	-	*29.661.322*
Variable-income securities recognised at fair value through the revaluation reserve	**33.395.284**	**135.233.874**	**956.416.829**	**1.125.045.987**
- Public sector	-	-	-	-
- Credit institutions	-	-	*6.502.040*	*6.502.040*
- Corporate customers	*33.395.284*	*135.233.874*	*949.914.789*	*1.118.543.947*
Fixed-income securities recognised at fair value through the revaluation reserve	**17.534.900**	**-**	**-**	**17.534.900**
- Credit institutions	-	-	-	-
- Public sector	*17.534.900*	-	-	*17.534.900*
Non-current assets and disposal groups classified as held for sale	**-**	**-**	**-**	**-**
- Corporate	-	-	-	-
TOTAL	**50.930.184**	**1.093.121.360**	**956.422.950**	**2.100.474.494**
Financial liabilities				
Derivative financial instruments held for trading	**-**	**129.935.939**	**-**	**129.935.939**
- IRS	-	*57.211.750*	-	*57.211.750*
- CIRS/outright	-	*72.393.846*	-	*72.393.846*
- other	-	*330.343*	-	*330.343*
Hedging derivative financial instruments	**-**	**827.678.270**	**-**	**827.678.270**
- IRS	-	*586.498.376*	-	*586.498.376*
- CIRS	-	*241.179.894*	-	*241.179.894*
Financial liabilities designated at fair value through profit or loss	**-**	**165.001.798**	**-**	**165.001.798**
TOTAL	**-**	**1.122.616.007**	**-**	**1.122.616.007**

Changes in outstanding financial assets from one year to the next stem primarily from the change in the valuation prices of variable-income and fixed-income securities with, however, an exception for financial assets mandatorily recognised at fair value through profit or loss where the carrying amount at Level 2 decreases significantly due to the non-replacement of positions that have matured.

A comparison of the breakdown of financial assets by level at end-2022 shows that 1,9% (2,4% in 2021) of financial assets are classified as Level 1, 73,3% (52,0% in 2021) as Level 2 and 24,8% (45,5% in 2021) as Level 3. The sharp increase in Level 2 in percentage terms relates directly to the change in the fair value of derivative instruments and to the change in market rates over the course of 2022. The sharp decrease in Level 3 in percentage terms relates directly to the change in the fair values of the assets in question.

Spuerkeess used measurement models based on market data to calculate the fair value of Level 2 positions and measurement models based on estimates and market data to calculate the fair value of Level 3 positions.
All the financial instruments in the liability categories continue to be at Level 2.

Level 3 breakdown:

	Financial assets mandatorily recognised at fair value through profit or loss		Variable-income securities recognised at fair value through the revaluation reserve	Total financial assets
	Debt instruments	Equity instruments		
Total as at 1 January 2022	**6.122**	**-**	**956.416.828**	**956.422.950**
Total gains / losses	218.430	-	-213.601.256	**-213.382.826**
- Income statement	*218.430*	-	-	***218.430***
- Revaluation reserve	-	-	*-213.601.256*	***-213.601.256***
Purchases	11.216	-	-	**11.216**
Reimbursements/sales	-27.137	-	-26.416	**-53.554**
Other changes	-155.459	-	2.897.790	**2.742.331**
Transfers from Level 1 to Level 3	-	-	123.402	**123.402**
Transfers from Level 2 to Level 3	-	-	-	**-**
Transfers from Level 3	-	-	-	**-**
Total as at 31 December 2022	**53.171**	-	**745.810.347**	**745.863.518**
Total gains/losses for the period included in the income statement for financial assets and liabilities held as at 31 December 2022	89.773	-	20.851.182	**20.940.955**

	Financial assets mandatorily recognised at fair value through profit or loss		Variable-income securities recognised at fair value through the revaluation reserve	Total financial assets
	Debt instruments	Equity instruments		
Total as at 1 January 2021	**7.320**	**-**	**657.800.780**	**657.808.100**
Total gains / losses	1.486.640	-	370.270.910	**371.757.550**
- Income statement	*1.486.640*	-	-	***1.486.640***
- Revaluation reserve	-	-	*370.270.910*	***370.270.910***
Purchases	-	-	2.672.958	**2.672.958**
Reimbursements/sales	-1.854.402	-	-78.046.851	**-79.901.253**
Other changes	366.564	-	3.719.031	**4.085.595**
Transfers from Level 1 to Level 3	-	-	-	-
Transfers from Level 2 to Level 3	-	-	-	-
Transfers from Level 3	-	-	-	-
Total as at 31 December 2021	**6.122**	**-**	**956.416.828**	**956.422.950**
Total gains/losses for the period included in the income statement for financial assets and liabilities held as at 31 December 2021	40.464	-	10.234.766	**10.275.230**

For financial year 2022, the decrease in Level 3 stemmed solely from the fair value measurements applied to variable-income securities recognised at fair value through the revaluation reserve.

Category	Method
- Debt instruments	For securitisations, the fair value measurement is based on an estimate of future flows and on a dedicated basis spread (J.P. Morgan Int ABS & CB Research or SIFMA Markit). Some positions include an impairment that does not result solely from a determination based on the cash flow method but also takes an appraiser assessment into account.
- Equity instruments	The valuation methods applied are detailed in Section 3.3.3 Valuation techniques for determining fair value and the fair value hierarchy

Sensitivity analysis for Level 3:

Given the small amount recognised for debt instruments, the Group's parent company does not provide a sensitivity analysis for Level 3 for financial years 2022 and 2021.

For equity instruments, the Group's parent company has performed a sensitivity analysis using the following methods:

- 10% decrease or increase in EBITDA, with a simulation of the impact on net income and on liquid funds on the assets side of companies' balance sheets;
- Decrease or increase in profit of 10% of the carrying amount;
- 10% decrease or increase in real estate prices in Luxembourg.

The fair value sensitivity for Level 3 instruments is therefore quantified as follows:

31/12/2022	Level 3 fair value	Impact on fair value	
		10% decrease depending on the methodology used	10% increase depending on the methodology used
Variable-income securities recognised at fair value through the revaluation reserve	664.113.109	-59.433.462	59.422.571

31/12/2021	Level 3 fair value	Impact on fair value	
		10% decrease depending on the methodology used	10% increase depending on the methodology used
Variable-income securities recognised at fair value through the revaluation reserve	874.734.187	-96.971.157	96.990.656

The sensitivity analysis was performed on the two largest shareholdings.

6.5.5 Analysis of foreign exchange risk: Net currency positions

As at 31/12/2022	Net balance sheet position
GBP	3.135.500
HRK	32.460.643
RON	4.034.673
USD	61.224.104
Other	1.440.518
Total	**102.295.438**

As at 31/12/2021	Net balance sheet position
JPY	-5.377.823
USD	6.481.162
XAU	-2.259.127
Other	5.316.915
Total	**4.161.127**

Only currencies with a net currency position exceeding EUR 2 million are recorded on a separate line.

6.6 Liquidity risk

6.6.1 Schedule of liabilities

Tables showing the balance sheet liabilities over the remaining residual life until repayment according to contractual data:

Headings	On demand - 3 months	3 months - 1 year	Sub-total < 1 year	1 - 5 years	> 5 years	Sub-total > 1 year	Total 2022
Issuance of securities*	823.114.355	1.249.193.461	**2.072.307.816**	433.828.517	517.332.273	**951.160.790**	**3.023.468.606**
Deposits at amortised cost -							
Credit institutions	3.697.376.825	1.717.694.586	**5.415.071.411**	289.105.854	-	**289.105.854**	**5.704.177.264**
Customers	35.444.260.906	3.768.951.809	**39.213.212.715**	1.364.669.369	529.432.414	**1.894.101.782**	**41.107.314.498**
Liabilities arising from leases	791.710	2.375.130	**3.166.840**	5.244.672	148.941	**5.393.612**	**8.560.453**
Total	**39.965.543.796**	**6.738.214.986**	**46.703.758.782**	**2.092.848.411**	**1.046.913.627**	**3.139.762.038**	**49.843.520.821**

Headings	On demand - 3 months	3 months - 1 year	Sub-total < 1 year	1 - 5 years	> 5 years	Sub-total > 1 year	Total 2021
Issuance of securities*	1.056.375.742	1.331.449.616	**2.387.825.359**	116.168.451	478.385.232	**594.553.683**	**2.982.379.042**
Deposits at amortised cost -							
Credit institutions	2.863.844.797	586.300.254	**3.450.145.051**	3.427.651.467	45.038.899	**3.472.690.366**	**6.922.835.417**
Customers	33.299.103.732	2.056.704.726	**35.355.808.458**	675.777.873	897.243.416	**1.573.021.289**	**36.928.829.747**
Liabilities arising from leases	708.065	2.064.686	**2.772.751**	6.097.026	516.646	**6.613.672**	**9.386.424**
Total	**37.220.032.336**	**3.976.519.284**	**41.196.551.619**	**4.225.694.817**	**1.421.184.193**	**5.646.879.010**	**46.843.430.629**

Table showing balance sheet liabilities according to "expected" maturity dates determined in accordance with the ALM policy:

Headings	On demand - 3 months	3 months - 1 year	Sub-total < 1 year	1 - 5 years	> 5 years	Sub-total > 1 year	Total 2022
Issuance of debt securities	824.011.651	1.248.389.403	**2.072.401.055**	434.044.687	529.815.548	**963.860.235**	**3.036.261.289**
Deposits at amortised cost -							
Credit institutions	4.125.887.336	1.325.154.396	**5.451.041.733**	288.653.770	1.425.252	**290.079.022**	**5.741.120.755**
Customers	16.375.009.672	4.937.860.028	**21.312.869.700**	11.226.511.288	10.823.883.563	**22.050.394.851**	**43.363.264.551**
Total	**21.324.908.660**	**7.511.403.828**	**28.836.312.488**	**11.949.209.745**	**11.355.124.363**	**23.304.334.108**	**52.140.646.596**

Headings	On demand - 3 months	3 months - 1 year	Sub-total < 1 year	1 - 5 years	> 5 years	Sub-total > 1 year	Total 2021
Issuance of debt securities	1.123.011.652	1.259.184.064	**2.382.195.716**	136.862.701	500.690.633	**637.553.334**	**3.019.749.050**
Deposits at amortised cost -							
Credit institutions	3.421.107.924	55.127.866	**3.476.235.790**	3.468.329.197	625.622	**3.468.954.819**	**6.945.190.609**
Customers	13.846.244.112	3.026.837.176	**16.873.081.287**	10.083.747.688	10.258.273.609	**20.342.021.297**	**37.215.102.584**
Total	**18.390.363.688**	**4.341.149.105**	**22.731.512.793**	**13.688.939.586**	**10.759.589.864**	**22.448.529.450**	**47.180.042.243**

6.6.2 Schedule of derivative financial instruments

Tables showing derivative financial instruments settled in gross cash flows:

In view of the fact that residual life is calculated on the basis of contractual data, the optional feature of some contracts has not been taken into account.

Amounts are shown in euros at the exchange rates on 31 December 2022 and 31 December 2021.

Headings	On demand - 3 months	3 months - 1 year	1 - 5 years	> 5 years	Total 2022
Derivative financial instruments held for trading					
Foreign exchange swaps and forward exchange contracts					
Inflows	9.829.314.764	2.498.531.746	825.419.609	4.205.143	13.157.471.262
Outflows	-9.903.153.312	-2.550.036.226	-830.645.844	-4.368.363	-13.288.203.745
Derivative financial instruments used for hedging purposes					
CCIS					
Inflows	88.994.752	293.881.534	1.090.923.014	721.093.437	2.194.892.737
Outflows	-122.291.012	-409.006.373	-1.518.979.252	-836.891.238	-2.887.167.875
Total inflows	**9.918.309.516**	**2.792.413.280**	**1.916.342.623**	**725.298.580**	**15.352.363.999**
Total outflows	**-10.025.444.324**	**-2.959.042.599**	**-2.349.625.096**	**-841.259.601**	**-16.175.371.620**

Headings	On demand - 3 months	3 months - 1 year	1 - 5 years	> 5 years	Total 2021
Derivative financial instruments held for trading					
Foreign exchange swaps and forward exchange contracts					
Inflows	12.059.324.195	2.798.801.270	196.430.481	4.626.648	15.059.182.594
Outflows	-12.001.553.452	-2.736.011.166	-203.040.737	-3.515.009	-14.944.120.363
Derivative financial instruments used for hedging purposes					
CCIS					
Inflows	69.694.031	240.122.594	1.138.009.957	916.298.817	2.364.125.398
Outflows	-84.990.453	-287.929.097	-1.330.588.643	-987.451.160	-2.690.959.353
Total inflows	**12.129.018.226**	**3.038.923.864**	**1.334.440.438**	**920.925.465**	**17.423.307.993**
Total outflows	**-12.086.543.905**	**-3.023.940.262**	**-1.533.629.380**	**-990.966.169**	**-17.635.079.716**

Tables showing derivative financial instruments settled in net cash flows:

Net cash flow liabilities from derivative financial instruments settled net are as follows:

Headings	On demand - 3 months	3 months - 1 year	1 - 5 years	> 5 years	Total 2022
Derivative financial instruments held for trading					
IRS	-841.904	2.970.313	6.844.199	21.111.691	30.084.299
Derivative financial instruments used for hedging purposes					
IRS	3.321.826	-133.257.088	-465.473.570	-467.122.574	-1.062.531.406
Total outflows	**2.479.922**	**-130.286.775**	**-458.629.371**	**-446.010.883**	**-1.032.447.107**

Headings	On demand - 3 months	3 months - 1 year	1 - 5 years	> 5 years	Total 2021
Derivative financial instruments held for trading					
IRS	-2.465.681	5.236.030	-3.045.932	-25.201.292	-25.476.875
Derivative financial instruments used for hedging purposes					
IRS	44.783.922	102.067.852	422.341.988	385.107.434	954.301.197
Total outflows	**42.318.242**	**107.303.882**	**419.296.056**	**359.906.143**	**928.824.322**

6.7 Economic capital

As part of the ICAAP process, under Basel III Pillar 2, the Group measures economic risk and decides how to allocate its capital resources to the various business lines.

This process and associated work are formally drawn up and reported to the European Central Bank. CSSF Circular 20/753 (as amended), "Implementation of the Internal Capital Adequacy Assessment Process (ICAAP)" provides for a system of sound, effective and complete strategies and processes allowing credit institutions to assess and maintain, on an ongoing basis, the amounts, types and distribution of internal capital that they consider adequate to cover the nature and level of risks to which they are or might be exposed.

As part of the ICAAP process, the various risks to which the Group is exposed are identified and assessed. This includes risks under Pillar 1 of the Basel accords, such as credit, market, and operational risks, and risks under Pillar 2. Identification is based on an ongoing risk assessment and recognition process.

The methods used for the economic quantification of the risks are based on adjustments and supplements to regulatory methods, as well as on measuring non-Pillar 1 risks. The latter may result in an increase in capital requirements or have an impact on economic capital.

The Group's parent company's capital management policy meets the objectives of the missions defined in its organic law, including the mission to finance Luxembourg's economy to support its development. The Group aims to retain moderate leverage, which is reflected in a high target capitalisation ratio. Moreover, business within the domestic market is given priority in the allocation of capital resources.

6.7.1 Capital management policy

6.7.1.1 Determining equity capital

The Group's objective is to contribute to the development of Luxembourg's economy and to generate enough profit to strengthen its financial position.

In the framework of its economic capital model, the Group determines capital according to an economic capital approach. The Bank's basic principle for economic capital is based on a prudent approach which consists of considering only the funds immediately available to the Group without restriction as economic capital to cover potential losses or to grow its business.

6.7.1.2 Implementation of internal capital adequacy policy

The Group has adopted the following methodology to implement its internal capital adequacy policy:

- development of an internal risk assessment model (Basel III Pillar 1 risks plus non-Pillar 1 risks);
- determination of a substantial safety margin between available capital and risk hedging, reflected in a high target capitalisation ratio;
- distribution of capital according to the internal organisation of the Group's business lines and its projected results;
- risk exposure forecasts by business;
- calculation of the projected capital requirements to cover the Group's risks in a normative approach and an economic approach;
- allocation of surplus capital according to the Group's strategic guidelines.

In terms of internal governance, the updated positions and the strategic guidelines related to ICAAP and ILAAP are presented, at regular intervals and at least twice a year, by the Executive Committee to the Board of Directors and the relevant specialised committees so that they can either monitor the guidelines, if they have been maintained, or approve them, if they have been redefined.

7 SEGMENT REPORTING

7.1 The Group's operations

The Group's activities are carried out from the territory of the Grand Duchy of Luxembourg and are broken down into four major segments, each with comparable profitability and risk characteristics. Spuerkeess also owns stakes in companies in Luxembourg, which are included in a separate segment.

The Group's parent company has changed its management view approach with a shift from a department-based organisational view to a "pillar" view based on key customer segments. This new view makes it easier to monitor the Group's parent company's strategic and business objectives and provide better support to different types of customers.

The segments break down as follows:

- Retail Banking and Private Banking:
  This segment comprises the activities of the Retail and Private pillars and covers all of the Bank's retail customers:
  - The Retail pillar consists of the branch network, with deposit-taking, loan distribution, advice on housing, investments and private pensions, and management of means of payment for retail customers, self-employed professionals and small businesses. These products and services are sold through the branch network, by Spuerkeess Direct, and through the digital channels that serve Spuerkeess's customers;
  - The Private pillar manages relationships with customers who have purchased one of the "Selfinvest" investment, structured investment advice or discretionary management solutions. These products and services are sold by dedicated Private Banking advisors at both the head office and Spuerkeess's finance centres.

- Corporate, Public Sector and Institutional Client Banking:
  This segment comprises the activities of the Corporate, Institutional and Public Sector pillars and thus covers all business customers:
  - The Corporate pillar manages relationships with business customers, which are categorised as either large companies or small and medium-sized companies. Specialised teams provide services to these customers in respect of loans and credits, investing, leasing and other financial advice;
  - The Institutional pillar manages relationships with institutional customers, investment funds, banks and other financial intermediaries, insurance and reinsurance companies, financial companies and private equity and multi-family office entities. The institutional client relationship managers are the key contacts for these customers;

  - The Public Sector pillar manages government customers, other public sector entities and regional and local administrations. This pillar also covers relationships with the embassies of other countries located in Luxembourg.

- Global Markets:

  This segment comprises the activities of the Financial Markets and ALM pillars:
  - The Financial Markets pillar covers the money market position management activity as well as management of the inventory of all securities held by Spuerkeess (the Collateral Management component). This pillar also manages the Global Credit Investment activity, i.e. management of Spuerkeess's investment portfolio through bond investments. Alongside these Spuerkeess proprietary trading activities, the pillar covers a broad range of services such as financial instrument order execution (equities, bonds and derivatives), as well as foreign-exchange transactions for customers in other segments;
  - The ALM pillar covers Spuerkeess's Asset and Liability Management activity, which involves quantifying and managing interest rate risk (IRRBB), structural liquidity risk and balance sheet balances.

- Investments and Corporate Center:

  This segment comprises income from investments, whether or not they are consolidated, Spuerkeess's own activities that cannot be allocated to customers in other pillars, such as the gains from sales of buildings and other income, as well as management and secretary general overheads and the contributions made to the FRU and FGDL.

7.2 Allocation rules and net bank margin

The sector reporting is produced from analytical balance sheet allocation rules, an internal transfer pricing system and general expense allocation methods.
The internal transfer pricing system (FTP) reflects the transfer of interest rate risk and liquidity risk which are assumed by Spuerkeess's ALM unit. This entity is responsible for interest rate risk and liquidity risk management and for asset/liability management for Spuerkeess as a whole.
Back-office department, support activity and overhead costs are rebilled to the different pillars using an activity-based costing analytical cost allocation mechanism that reflects the economic consumption of the products and services provided to these segments.

The Group's net bank margin (NBM) consists of these main products:

- deposits from Retail customers, Private Banking, and Corporate, Public Sector and Institutional Client Banking;

- loans and advances to Retail customers, Private Banking, and Corporate, Public Sector and Institutional Client Banking;
- other products for Retail customers, Private Banking, and Corporate, Public Sector and Institutional Client Banking;
- other products.

The Group therefore publishes its segment reporting (management view) according to a "pillar" view in accordance with IFRS 8. In order to provide a YTD comparison, the Group's parent company has restated the figures as at 31 December 2021. Activity monitoring in accordance with this new view has only been implemented as of financial year 2022.

31/12/2022 In thousands of euros	**Retail Banking and Private Banking**	**Corporate, Public Sector and Institutional Client Banking**	**Global Markets**	**Investments and Corporate Center**	**Total**
Net interest margin	305.299	103.591	71.036	8.322	488.248
Income from securities	-	-	-	35.997	35.997
Fee and commission income	108.222	66.486	3.187	22.843	200.739
Income from financial instruments and foreign exchange	3.826	24.097	-11.547	-5.578	10.798
Net Banking Income	**417.347**	**194.175**	**62.676**	**61.584**	**735.781**
Other operating income and expenses	-	-	-	11.273	11.273
Banking income	**417.347**	**194.175**	**62.676**	**72.857**	**747.054**
General administrative expenses plus valuation allowances in respect of intangible and tangible assets	-265.442	-85.956	-20.810	-75.352	-447.560
Net allowances for valuation and impairment	-22.447	-29.294	-2.072	-8.312	-62.125
Income from associates	-	-	-	142.221	142.221
Income before tax	**129.457**	**78.924**	**39.793**	**131.415**	**379.589**
Tax on income for the period and deferred taxes	-31.560	-19.241	-9.701	15.982	-44.520
Minority interests	-	-	-	-2.212	-2.212
Income for the year attributable to equity holders of the parent	**97.897**	**59.683**	**30.092**	**145.185**	**332.858**
Assets	**19.384.280**	**7.083.886**	**28.234.423**	**1.972.271**	**56.674.860**
Liabilities	**23.183.018**	**22.788.102**	**7.890.697**	**2.813.044**	**56.674.860**

31/12/2021 In thousands of euros	Retail Banking and Private Banking	Corporate, Public Sector and Institutional Client Banking	Global Markets	Investments and Corporate Center	Total
Net interest margin	236.941	64.038	87.438	10.747	399.164
Income from securities	-	-	-	23.095	23.095
Fee and commission income	101.338	61.449	9.905	22.999	195.689
Income from financial instruments and foreign exchange	3.743	24.062	3.746	11.181	42.732
Net Banking Income	**342.022**	**149.549**	**101.088**	**68.022**	**660.680**
Other operating income and expenses	-	-	-	7.713	7.713
Banking income	**342.022**	**149.549**	**101.088**	**75.735**	**668.393**
General administrative expenses plus valuation allowances in respect of intangible and tangible assets	-257.963	-80.205	-18.611	-79.491	-436.269
Net allowances for valuation and impairment	-5.118	26.916	15.939	-6.459	31.279
Income from associates	-	-	-	121.155	121.155
Income before tax	**78.941**	**96.260**	**98.416**	**110.940**	**384.558**
Tax on income for the period and deferred taxes	-18.541	-22.609	-23.115	10.876	-53.389
Minority interests	-	-	-	-2.115	-2.115
Income for the year attributable to equity holders of the parent	**60.401**	**73.652**	**75.301**	**119.700**	**329.053**
Assets	**18.129.308**	**6.709.774**	**26.119.919**	**2.465.865**	**53.424.865**
Liabilities	**21.758.851**	**19.275.408**	**10.207.254**	**2.183.352**	**53.424.865**

Contribution by product to net bank margin:

in thousands of euros	31/12/2021	31/12/2022
Deposits from retail and private customers	37.066	117.604
Loans and advances to retail and private customers	232.809	218.410
Other products for retail and private customers	72.147	81.333
Deposits from corporate, public sector and institutional customers	22.851	53.816
Loans and advances to corporate, public sector and institutional customers	73.798	77.080
Other products for corporate, public sector and institutional customers	52.899	63.279
Other products	169.110	124.260
Total Net Bank Margin	**660.680**	**735.781**

Income before tax for the Investments and Corporate Center segment factors in the share in the profit of equity-accounted associates, in addition to the revenue included in net bank margin. The "Income" line has been positively affected by a deferred tax effect related to expenses included in the Corporate Center segment.

Neither one individual customer nor any consolidated group of customers generates more than 10% of the Group's NBM.

SPUERKEESS'S GOVERNING BODIES

The organisation of Banque et Caisse d'Epargne de l'Etat, Luxembourg, the leading national financial institution, founded in 1856, is governed by the law of 24 March 1989, as amended, which defined the respective powers of the Board of Directors and the Executive Committee. Pursuant to Article 8 of this organic law, "the Board of Directors defines the Bank's general policy and is responsible for management control of the Executive Committee. All administrative acts and measures necessary or relevant to Spuerkeess's purpose fall within the responsibility of the Executive Committee, subject to such approvals as are required by virtue of this law".

BOARD OF DIRECTORS AS AT 31 DECEMBER 2022

CHAIRMAN	Camille Fohl
VICE-CHAIRMAN	Simone Delcourt
BOARD MEMBERS	Nima Ahmadzadeh
	Bettina Blinn
	Marie-Paule Gillen-Snyers
	Manuel Nicolas
	Jean-Pierre Zigrand
STAFF REPRESENTATIVES	Carmen Jaffke
	Marilène Marques

BOARD OF DIRECTORS AS FROM 1 JANUARY 2023

CHAIRMAN	Camille Fohl
VICE-CHAIRMAN	Simone Delcourt
BOARD MEMBERS	Nima Ahmadzadeh
	Bettina Blinn
	Marie-Paule Gillen-Snyers
	François Thill
	Jean-Pierre Zigrand
STAFF REPRESENTATIVES	Carmen Jaffke
	Marilène Marques

SUPERVISORY COMMISSIONER

Bob Kieffer

EXECUTIVE COMMITTEE AS AT 31 DECEMBER 2022

CHAIRMAN	Françoise Thoma	Chief Executive Officer
MEMBERS	Aly Kohll	Deputy Chief Executive Officer
	Doris Engel	Executive Vice President
	Olivier Wantz	Executive Vice President
	Romain Wehles	Executive Vice President

STATUTORY AUDITOR

Ernst & Young, Public Limited Company, Luxembourg

Approved by the Board of Directors during its meeting of 29 March 2023.

Luxembourg, 29 March 2023

For the Board of Directors

Camille Fohl
Chairman