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RBC Investor Services Bank S.A.

Société Anonyme

Annual Report

For the year ended October 31, 2022

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R.C.S. Luxembourg: B 47.192

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Directors' Report

This report should be read in conjunction with the financial statements, which have been prepared in accordance with International Financial Reporting Standards ("IFRS") as adopted by the European Union ("EU") and the related notes to the financial statements included in this annual report. The preparation of financial statements requires management to make estimates and assumptions in the application of certain accounting policies that materially affect the reported amounts of assets, liabilities, revenues and expenses. Actual results could differ from those estimates.

All references in this report to "RBC Investor Services", "RBCIS", "RBCIS Bank", "RBC IS Bank", "Bank", or similar terms mean RBC Investor Services Bank S.A. Reference to the term "Company" means RBC Investor Services Bank S.A. on an unconsolidated basis.

All references in this report to "year", or "financial year" or similar terms mean the period from November 1, 2021 to October 31, 2022.

Readers should not place undue reliance on these statements as a number of important factors could cause the actual results to differ materially from the beliefs, plans, objectives, expectations and intentions expressed in such forward-looking statements.

Business Review and Results

Business description

RBC Investor Services Bank S.A. is a bank headquartered in Luxembourg.

Operations are conducted throughout RBC Investor Services Bank S.A. and its subsidiaries and branches ("Bank") around the world (see Note 35).

Branches, subsidiaries and representative office of the Bank are located in Hong Kong, Ireland, Italy, London, Switzerland, New York, France, Belgium, Singapore and Malaysia.

The Bank offers institutional investors an integrated suite of products, including global custody, fund and pension administration, securities lending, shareholder services, analytics and other related services.

The Bank offers clients a unique value proposition – the geographic reach of a global player, together with the client service quality of a local provider. The Bank has 838 employees (average FTE) who provide award-winning client services. The Bank operates through a global custody network that covers more than 102 markets.

The Bank is owned by Royal Bank of Canada (RBC). It is independently capitalised and is rated A by Standard & Poor's. The Bank and the RBC Investor Services Trust business ("RBC IS Trust" or "IS Trust") together represent RBC Investor & Treasury Services business segment which provides specialist custody services and integrated funding and liquidity solutions for clients.

The Bank's activities

The main services offered by the Bank are Custody Services, Fund Administration, Shareholder Services, Treasury and Market Services, Trustee and Depositary Services and Private Capital Services.

Custody Services

The Bank offers both Luxembourg and International clients global custody services that includes safekeeping, settlement, corporate actions, income collection, proxy voting, tax services and entitlements processing. The main objective of this unit is to manage the full range of custody products and services throughout their lifecycle. The unit adapts and develops product capabilities with clear focus on enhancing the client experience.

Through its various initiatives, the unit supports business growth and helps drive product efficiency and profitability.

Fund Administration Services

The Bank clients are drawn from a wide geographic base and promote a variety of fund structures that are distributed globally. The Bank has a wealth of expertise with respect to a variety of fund structures, and coupled with a strong foothold in the industry, ensures the provision of fund services of the highest calibre. The main services includes investment operations, trade order matching, fund accounting, valuation, unit pricing and client reporting.

Fund Accounting is the most significant activity in this unit. This is carried out by the accounting team within the Fund Administration department. Operations includes Net Asset Value (NAV), and production and maintenance of accounting records of the fund/sub-fund.

Shareholder Services

The Bank provides its clients with the full spectrum of shareholders services including registrar and transfer agency, cash management, fee processing, dedicated quality assurance, e-business facilities (clearing, online dealing, SWIFT, National Securities Clearing Corporation (NSCC), investor communication (distributors and shareholders), and reporting).

The Bank provides distribution support and accurate record keeping for its clients involved in global asset management. It delivers an integrated operating model in off-shore and on-shore markets for all types of products (mainstream, money market, hedge fund, insurance, ETF, real estate, private equity).

Shareholders services are integrated services designed to mitigate risks, efficiently manage costs and help clients, advance their growth strategies.

Treasury management

Treasury and Market Services provide the Bank's clients with a wide range of services that support their business. The Bank focuses on the evolution of treasury markets to understand asset management flows and to provide specific solutions to their clients' needs. Competitive pricing, accurate settlements and integrated systems are the basis to add value to clients' treasury processes. Treasury and Market Services include services such as Foreign Exchange, Treasury Services and Cash Management and Securities Lending.

Trustee and Depositary Services

Trustee & Depositary services (TDS) is a regulatory driven, mandatory component for RBC IS Bank acting as a custodian of regulated funds in the jurisdictions it operates in.

TDS mission is to be understood as a supervisory role which ensures that RBC IS Bank's clients and their investors assets are protected. Through its processes and controls it follows a defined Governance Model which spans from Investor Onboarding, Safekeeping and Recordkeeping of Assets, Cash Flow Monitoring, Oversight Duties as well as initial and recurrent risk analysis of the delegated activities and due diligence on RBC clients and their fund operations in Undertakings for Collective Investments in Transferable Securities (UCITS) and Alternative Investment Funds (AIF).

The oversight duties include: monitoring investment compliance, oversight of NAV calculations, oversight of subscriptions and redemptions, oversight of distributions, monitoring timely settlement of transactions, cash flow monitoring and other fiduciary controls.

Private Capital Services

The Bank provides specialist services to the alternative asset sector which includes the real estate, private equity, infrastructure and debt funds. Services that are offered support the full life-cycle of alternative funds. The Bank supports onshore and offshore regulated and unregulated structures from its locations in Luxembourg, France, Ireland and Jersey. The service offering is an extension of the existing product offering, and the product is targeted directly to this asset class and generally offered to clients as a bundled service. Services offered to clients includes; custody services, fund accounting, shareholder services, committed lending services, and fund corporate services.

Operating Environment

The global economy and market sentiment has been impacted by a number of factors, including the war in Ukraine which has resulted in significant increases in energy costs, and supply chain issues linked to COVID-19 pandemic which have contributed to a rapid increase in inflation rates in most economies. Central banks of most economies have aggressively increased interest rates in order to address high inflation rates.

The European Central Bank (ECB) has increased interest rates in the three month period to October 2022 by 200 basis points from (0.5%) to 1.5%. Following the raising of the deposit facility rate to above zero, the Governing Council decided to suspend the two-tier system by setting the multiplier to zero. The Swiss National Bank (SNB) raised interest rates by 75 basis points to 0.5%, bringing the rate into positive territory for the first time since 2015. A reverse tiering system and a reduction in liquidity were also announced. The U.S. Federal Reserves has increased interest rates four times (300 basis points) in the calendar year FY 2022 raising the benchmark federal funds rate to a range of 3.75 to 4.0%.

The higher interest rate environment has impacted market sentiment and resulted in volatility and general decline of asset valuations, while also providing opportunities for the financial services industry to earn higher interest income.

The asset servicing industry remains challenging. Asset valuations have generally declined during the year, which has impacted margins on provision of custody and safekeeping services. Consolidation of the industry has continued, driven by M&A activity, which is leading to competitive pricing resulting in compression of asset servicing fees. The industry is investing in technology, increasing digitalization in order to provide enhanced experience and reporting capabilities to clients.

The Bank continues to monitor and prepare for regulatory developments and changes in a manner that seeks to ensure compliance with new requirements, while mitigating adverse business or financial impacts to the extent practicable. Such impacts could result from new or amended laws or regulations and the expectations of those who enforce them. Significant developments include continuing changes to standards on capital and liquidity, global trade agreements, legislative developments on data privacy, amendments to anti-money laundering regulations and European regulatory reforms.

Business Highlights of 2022

Fee and commission income has declined during the year due to decline in value of Assets under Administration, attributed to loss of clients, closure of the Milan branch, and margin compression due to intense competition in the market, resulting in lower revenue for custody and safekeeping services.

The higher interest rate environment has provided opportunities for the Bank to earn higher net interest income which has helped to mitigate lower fee and commission income.

The Bank successfully completed two major IT projects during the year:

1) Implementation new RBC custody and treasury applications with enhanced maintenance and improved controls, replacing the legacy BLS application.

2) Establishment of the Luxembourg Data Centre providing enhanced physical and network infrastructure, operating systems and database management systems, which provides benefits of reduced operational risk, and increased service quality and stability.

The Bank also continued to support changes in the digital operating model to ensure delivery of the same level of quality service to our clients and meet their needs and expectations.

The Bank has completed in June 2022 the cost restructuring program, which was announced in November 2020, which has resulted in lower staff expenses in FY 2022.

In FY 2022, the Bank ceased the operations of its Milan Branch, as a result of the acquisition by Intesa Sanpaolo Group (ISP) of Unione di Banche Italiane (UBI), which was the major client of the Milan Branch. The clients of the branch have been transferred to the new service provider. The administrative procedures to close the Milan branch will be completed in FY 2023.

In line with the strategy of the Bank to exit the Asia Pacific market, the Group has executed the following transactions:

On December 15, 2021, RBC Investor Services Holding (Hong Kong) Limited signed a Sale and Purchase agreement to sell its 100% wholly owned subsidiary, RBC Investor Services Trust Hong Kong Limited, to Standard Chartered Bank (Hong Kong) Limited.

On October 12, 2022, the Board of Directors of RBC Investor Services Bank S.A. approved the transfer of its 80% share ownership of RBC Investor Services Holding (Hong Kong) Limited ("Holdco HK") including its 100% wholly owned subsidiary, RBC Investor Services Trust Hong Kong Limited, to Royal Bank Holding Inc. ("RBHI").

On October 12, 2022, the Board of Directors of RBC Investor Services Bank S.A. approved the sale of its 100% owned subsidiary, RBC Investor Services Trust Singapore Ltd (RBCIST), to Royal Bank Holding Inc. (RBHI).

The balance sheet of the Bank has continued to demonstrate strong resilience and no material adverse impacts. Provision for credit loss has remained very low given the high credit quality of the clients of the Bank. The Bank was not materially impacted by the war in Ukraine. The Bank maintains solid capital, liquidity and leverage ratios with sufficient buffers in excess of internal and regulatory requirements.

The COVID-19 pandemic continued during the year. The Bank continued to prioritise its employees' health and well-being and provides a hybrid office and home working environment, which supports the operations of the Bank.

The Bank continues to support customers' success on their Environmental, Social, and Governance (ESG) journey with solutions, products and regulatory compliance, and is integrating third-party data into our existing products to support ESG reporting. The Bank has published its annual Corporate Social Responsibility (CSR) Report to disclose on ESG matters and KPIs. There is no material impact on the financial statements of the Bank due to the impact of climate change.

RBC – CACEIS Transaction

On October 17 2022, CACEIS, the asset servicing banking group of Crédit Agricole S.A. and Santander, and Royal Bank of Canada (RBC) announced that they had signed a Memorandum of Understanding in relation to CACEIS acquiring the European asset servicing activities of RBC Investor Services and its associated Malaysian centre of excellence ("the Business") from RBC.

The completion of the contemplated transaction is subject to customary closing conditions, including regulatory and antitrust approvals, and is expected to take place by the end of the third quarter of the 2023 calendar year.

Key Figures

Analysis of the statement of profit or loss

Net profit after tax

In 2022, the Bank's net profit after tax was EUR 29 million (2021: EUR 15 million). The increase in net profit after tax was due mainly to higher net interest income (EUR 19 million), higher income earned from financial investments at fair value through profit and loss (EUR 11 million), lower staff expenses (EUR 16 million) offset by lower net fee and commission income (EUR 17 million), higher general and administrative expenses (EUR 21 million), impairment of investment in subsidiaries (EUR 6 million), lower dividend income (EUR 2 million) and increased income from residual profit Split (i.e. transfer pricing adjustments for EUR 23 million) driven by the performance of the Bank relative to the performance of Investor Services Trust and higher tax charge (EUR 6 million) due to higher taxable profits.

The Bank earns its revenues principally from two sources which are fee and commission income and income earned from financial instruments.

Fee and commission income

The Bank earns fee income from the provision of custody, fund administration, shareholder services, securities lending and related value added services to clients. The Bank sub contracts provision of custody services to third parties in specific markets and incurs commission expenses.

The net fee and commission income for 2022 was EUR 175 million, a 9% decrease compared with 2021 (EUR 193 million), due to decline in assets under administration (2022 EUR 787 billion compared to 2021 EUR 1,037 billion), attributed to loss of clients, lower asset valuations, and margin compression from intense competition in the marketplace.

Income from financial instruments

Income from financial instruments comprises mainly Net interest income (EUR 69 million) and Net income from financial instruments at fair value through profit or loss (EUR 117 million). Net Income from financial instruments at fair value through profit or loss comprises fees earned from provision of foreign exchange services and derivative products to customers. Net Income from financial instruments at fair value through profit or loss is dependent mainly on customer transactions, and upon the global stock markets, foreign exchange volatility and cross border client investment flows. The sum of Net interest income and Net income from financial instruments at fair value through profit or loss for the year ended October 31, 2022 was EUR 187 million, an increase of 19% compared with 2021 (EUR 157 million). The principal drivers of this variance were higher interest income earned from intergroup lending due to the higher interest rates (USD, EUR and GBP).

Allowance for expected credit loss

The allowance for expected credit loss for the year has remained low at EUR 1,550 thousand (2021: EUR 250 thousand credit) due to the high credit quality of our financial instruments and counterparties.

Net Operating Revenue

Net operating revenue was EUR 381 million, an increase of 9% from 2021 (EUR 350 million) due mainly to higher revenue from financial instruments (EUR 11 million), higher net interest income (EUR 19 million), higher residual profit split (EUR 23 million) offset by lower fee and commission income (EUR 17 million) and lower dividend income (EUR 2 million).

Operating expenses

Total operating expenses were EUR 341 million for the year ended October 31, 2022, an increase of 4% versus 2021 (EUR 329 million), driven by higher general and administrative expenses (EUR 21 million) and lower staff costs (EUR 16 million). The increase in general and administrative expenses is mainly due to the operating costs incurred on the successful implementations of two major projects by the Bank, namely (a) the technology infrastructure program and (b) the project to implement the RBC custody and treasury applications, which replaced the Bank's legacy operating application (BLS). The decrease in staff costs is mainly due to the benefits realized from the Bank's cost restructuring programs and lower staff costs due to the the closure of the Milan branch.

Income Tax

Income tax for the year ended October 31, 2022 was EUR 12 million compared to EUR 6 million for the year ended October 31, 2021. The key driver of this variance is the increase in Profit before income tax from EUR 20 million to EUR 41 million.

Balance sheet

Total assets as at October 31, 2022 were EUR 16.4 billion, an decrease of 20% over 2021 (EUR 20.6 billion).

Cash and balances with central banks and loans and advances to banks

Total cash and balances with central banks and loan and advances to banks were EUR 12.9 billion as at October 31, 2022, a decrease of 24% compared with 2021 (EUR 17.5 billion), and represented 79% of total assets (2021: 85%). Refer to Notes 14, 15 and 16 for additional information.

Loans and advances to customers

Loans and advances to customers amounted to EUR 1.7 billion as at October 31, 2022 (10% of total assets), an increase of 30% compared to 2021 (EUR 1.3 billion). Loans include fund finance facilities to fund capital call requirements, and overdraft facilities. For additional information, refer to Note 17.

Investment securities

Investment securities amounted to EUR 0.6 billion as at October 31, 2022, a decrease of 25% compared to 2021 (EUR 0.8 billion). Investment securities consist mainly of bonds issued backed by governments and entities operating in the OECD area. EUR 262 million of these securities have been provided as collateral to enable the Bank to operate in financial markets. For additional information, refer to Notes 18 and 39.

Tangible Assets

Tangible assets amounted to EUR 56 million as at October 31, 2022, a decrease of EUR 19 million compared to 2021 (EUR 75 million). The variance is mainly due to the depreciation charge (EUR 14 million), addtions (EUR 3 million) and disposals (EUR 10 million) of the Bank's right-of-use leased assets.

Goodwill and other intangible assets

Goodwill amounted to EUR 55 million as at October 31, 2022 (2021: EUR 55 million), which was generated from the acquisition of businesses of the Bank in prior years. Other intangible assets amounted to EUR 69 million (2021: EUR 75 million). The key driver of this variance is due to additions (EUR 21 million) and amortization charge (EUR 26 million). Other intangible assets consists mainly of internally developed software for EUR 65 million (2021: EUR 70 million). For additional information, refer to Note 21.

Other assets

Other assets were EUR 156 million as at October 31, 2022 (2021: 205 million). The key driver of this variance is due to reduction in accounts receivables and others (EUR 72 million) compensated by increase in accrued income (EUR 25 million). Other assets consist mainly of accrued income not yet billed to clients and accounts receivable. Refer to Note 22 for additional information.

Deposits from banks

Deposits from banks were EUR 1,534 million as at October 31, 2022 (2021: EUR 907 million) and consist mainly of demand, term and overnight deposits. For additional information, refer to Note 23.

Deposits from customers

Deposits from customers were EUR 12.3 billion, a reduction of 29% compared to 2021 (EUR 17.3 billion) due primarily to clients' decisions to move to other service providers, including the loss of UBI client as a result of the acquisition by Intesa Sanpaolo Group (ISP) of Unione di Banche Italiane (UBI), which was the major client of the Milan Branch. For additional information, refer to Note 24.

Subordinated debt

On May 19, 2020, RBCIS Bank ("Issuer") issued US$518 million of new subordinated Tier 2 Debt ("Notes") as part of a capital restructuring initiative in order to anticipate the minimum requirement for own funds and eligible liabilities (MREL) target of 24%.

The Tier 2 Debt was subscribed by RBC (Barbados) Funding Ltd. ("RBFL").

The Notes constitute direct, unsecured and subordinated obligations of the Issuer and rank pari passu, without any preference among themselves, with all other outstanding unsecured and subordinated obligations of the Issuer.

The amount recorded in the balance sheet as at October 31, 2022 is EUR 524 million (2021 was EUR 448 million). The difference in value is driven by USD gain over EUR during the year.

Equity

Total equity

Total equity was EUR 1,172 million, an increase of 2% compared to 2021 (EUR 1,145 million). The variance with prior year is mainly due to FY 2022 net profit after tax of EUR 29 million. Total equity qualifies as tier 1 capital. The total capital ratio was 32.20% as at October 31, 2022, an increase of 677 basis points compared to 2021 (25.43%). The variance with prior year is mainly due to FY 2022 net profit after tax of EUR 34 million.

As at October 31, 2022, the Bank does not hold any of its own shares.

For additional information, refer to Note 32.

Assets under Administration

Assets under Administration ("AUA") were 787 billion, a decrease of 24% compared to 2021 (EUR 1,037 billion).

Strategic Outlook 2023

Consolidation of the industry is expected to continue with competitive pricing leading to continued compression of asset servicing fees. In response, asset services providers need to be disciplined and focused on the right clients and geographies. Custodian Banks need to deliver high-quality services that represent value for money and a best-in-class client experience. Custodian Banks must implement robust and flexible technology solutions to meet evolving client data needs.

The Bank will continue to grow in European markets.

The Bank will continue to focus on helping its clients achieve their ambitions by building sustainable relationships and delivering exceptional experiences. The Bank is focused on its long-term strategy to maintain the Bank's global reputation for high service quality and to realise the full potential of the enterprise, to increase organic growth through deeper client relationships.

Post-balance sheet events

The balance sheet and profitability of the Bank have continued to demonstrate strong resilience with no material adverse impacts. The Bank continues to maintain solid capital, liquidity, and leverage ratios with sufficient buffers in excess of internal and regulatory requirements. The Bank continues to be not materially impacted by the war in Ukraine.

The sale of the Hong Kong and Singapore subsidiaries completed in the 1st fiscal quarter 2023.

On December 23, 2022, RBC and CACEIS completed the signing of the Sale and Purchase Agreement (SPA), to sell the Business to CACEIS. In addition the parties will be entering into a Transitional Services Agreement ("TSA") which will become effective upon the closing of the transaction for the provision of certain services between RBC, CACEIS and the Business, for a limited period of time following completion of the transaction.

There have been no other material events after the reporting period that would require disclosure or adjustment to the October 31, 2022 consolidated financial statements.

Corporate Governance

Board of Directors

Chairman

Frédéric Mouchel	Independent Non-Executive Director

Members

Philippe Renard	Chief Executive Officer
Francis Jackson	Director
David Morgan	Director
Julian Presber	Independent Non-Executive Director
Malena Ljungkvist	Director
Lisa Wallis	Director (until June 20, 2022)
Claude Villance	Non Management Director, Staff Representative
Blaise Nkaba	Non Management Director, Staff Representative
Gennaro Casale	Non Management Director, Staff Representative
Donna Meyers	Independent Non-Executive Director (from May 23, 2022)

Audit and Compliance Committee

Chairman	*Members*
Julian Presber	Frédéric Mouchel David Morgan

Risk Committee

Chairman	*Members*
Lisa Wallis (until June 20, 2022) Donna Meyers (since June 21, 2022)	Frédéric Mouchel Malena Ljungkvist

Nomination Committee

Chairman	*Member*
Julian Presber	David Morgan Malena Ljungkvist

Remuneration Committee

Chairman	*Members*
David Morgan	Frédéric Mouchel Gennaro Casale

Risk Management

The mission of Risk Management is to oversee that identification, assessment, mitigation, monitoring and reporting of all material risks types are performed within the Bank, in order to ensure at all times that the risk exposure is in compliance with regulatory constraints and aligned with the business strategy and risk appetite. To execute this mission, the Risk Management function operates under an enterprise risk management framework in which Risk Management establishes and maintains other risk frameworks and organizational arrangements to ensure that all risk types are properly identified, assessed, mitigated and monitored. Tasks are executed by Risk Management and by other divisions (shared accountability).

The risk management function:

- Is headed by the Chief Risk Officer ("CRO") of the Bank, with established functional roles for Credit Risk Management, Market Risk Management, Operational Risk Management, Liquidity Risk Management, Cyber and Technology Risk Management and Enterprise Risk Management. In addition, risk management roles are established in subsidiaries and branches of RBCIS Bank where deemed appropriate, in line with local regulation and internal requirements. Risk Management roles in subsidiaries/branches of RBCIS Bank have a reporting line into the CRO of RBCIS Bank.
- Is adequately staffed and has adequate information systems to manage risks appropriately.
- Leverages and makes use of risk management services and expertise offered by the parent company, Royal Bank of Canada (RBC). More specifically, the Bank is integrated in the RBC credit approval process using the RBC credit analysis competence centres whilst retaining final credit decision authority.
- Provides all required information to RBC Group Risk Management allowing RBC to establish consolidated risk limit and exposure monitoring and reporting.
- Is part of the RBC Group Risk Management ("GRM") function with additional functional reporting lines established where required.

The Risk Management function owns the ICAAP jointly with Corporate Treasury and is responsible for maintaining and updating the policy and coordinating the annual assessment. The Risk Management function is also in charge of coordinating the stakeholders of the Recovery Plan, the contributors to the Resolution Plan and stakeholders to the RBC IS Bank Risk Appetite Statement.

Three Lines of Defence Governance Model

The Three Lines of Defence model is articulated in the following manner within the Bank:

First Line of Defence

Employees at all levels of the organization are responsible for managing the day-to-day risks that arise in the context of their mandate. The First Line of Defence is provided by employees across the Businesses and Corporate Support Segments who are responsible for providing products and services, and for the execution of activities. The First Line has the ownership and accountability for:

- Risk identification, assessment, mitigation, monitoring and reporting of regulatory Compliance risk in accordance with established Risk Policies and Risk Appetite.
- Ensuring appropriate and adequate capabilities to manage risks relevant to the Segment; and alignment of business and operational strategies with strong Risk Conduct and Culture and Risk Appetite.
- Execution of Business and Corporate Segments' Risk Governance practices.

The first line of defence is also provided for specific areas by:

- The operational control.
- Legal Department has a significant role in the management and control of Legal & Regulatory Compliance Risk. This includes assisting in the identification of new or changed regulatory compliance requirements and provides advice and counsel on the interpretation and application of regulatory compliance requirements.
- Human Resources (HR) is responsible for the establishment and maintenance of the Code of Conduct and related training and awareness programs, and oversees and reports on resolution of breaches. HR develops and administers policies on employment-related regulatory requirements, and maintains solid working relationships with employment regulators.
- Finance is responsible for ensuring that the financial position is appropriately reported and disclosed, including relevant regulatory reporting and initiatives. It ensures completeness and accuracy of enterprise-wide projects and initiatives impacting including contributing to the finance risk assessment and approval process of the Project Approval Request (PAR) process.

- Corporate Treasury is responsible for managing the balance sheet and ensure that liquidity, capital and non-trading interest risks arising from business activities, individual transactions and investments are identified, monitored, managed, and where appropriate, supported by adequate level of capital and liquidity that reflects inherent risk. Corporate Treasury works in partnership with RBC Corporate Treasury.

Second Line of Defence

The Second Line of Defence provides independent oversight of the effectiveness of the First Line of Defence risk management practices by:

- Establishing enterprise-wide risk management frameworks, policies and processes.
- Providing risk insight, guidance and oversight, and
- Monitoring and independently reporting risk profile relative to risk appetite.

The Second Line of Defence consists of the following key Functional Units:

i. Group Risk Management (GRM)

GRM, under the direction of the CRO, provides oversight of RBC's significant risks, including credit, market, liquidity, operational, reputation, culture and conduct, and ensures alignment with RBC's Risk Appetite.

ii. Regulatory Compliance

Regulatory Compliance provides independent oversight of the management of the Bank's regulatory compliance risk and controls, as they relate to laws, regulations and regulatory expectations relevant to the activities of the Bank and subsidiaries in the jurisdictions in which we operate.

Third Line of Defence

Internal Audit Services, as the Third Line of Defence, provides independent assurance to senior management and the Board of Directors on the effectiveness of risk management policies, processes and practices in all areas of RBC.

Risk Governance of the Bank

The Bank has established a clear and robust risk governance framework in order to manage, control and provide assurance with respect to risk. That framework includes, amongst others, the following key roles and responsibilities.

Board of Directors

The Board of Directors defines the risk strategy and guiding principles of RBCIS Bank, as outlined in CSSF Circular 12/552, as amended. It entrusts the authorized management with the implementation of these internal governance principles through internal written policies. The Board of Directors ("BoD") monitors the implementation by the authorized management of its internal governance strategies. To this end, it approves the related policies laid down by the authorized management.

Board Risk Committee ("BRC")

The Risk Committee is established under thepecific authority of the BoD into which it reports after each quarterly meeting.

The BRC is responsible for overseeing risk management at RBCIS Bank, ensuring that management has in place policies, processes and procedures designed to identify and effectively manage the risks to which RBCIS Bank is exposed. The BRC reviews RBCIS Bank's program annually for identifying, measuring, controlling and reporting on the significant risks to RBCIS Bank. The RC also assists the Board of Directors in its oversight of the effectiveness and independence of RBCIS Bank's risk management function.

In accordance with Section 4.1.4.2 of the Circular CSSF 12/552 as amended, the RC performs the following duties:

- Advise the Board on aspects related to the overall risk and risk appetite strategy and assist it in assessing the correlation between the incurred risks, the institution's ability to manage these risks, and the internal and regulatory capital and liquidity reserves.
- Assist the Board in its supervisory mission, i.e. implementing the risk strategy, the overall risk-taking and risk management framework and the adequacy of all the incurred risks relating to the strategy, the risk appetite and the risk mitigation measures of RBCIS Bank.
- Confirm the specific policies of the authorized management in accordance with Section 1.1.2 of Part III of the Circular CSSF 12/552 as amended, for further recommendation to the Board.
- Assess whether the human and material resources, as well as the organization of the risk control function are sufficient and ensure that the members of the risk control function have the required skills, and
- Advise and assist the Board in the recruitment of external experts that the Board would hire to provide advice or support.

- Collaborate and exchange information with other committees of the Board of Directors, including the Nomination Committee, Audit & Compliance Committee and Remuneration Committee with regards to matters in the scope of its mandate.

The BRC regularly deliberates on the following:

- The risk profile of RBCIS Bank, its development as a result of internal and external events, its adequacy in relation to the approved risk strategy, the risk appetite, the policies and the risk limit systems and the ability of RBCIS Bank to manage and bear these risks on an ongoing basis, considering its internal and regulatory capital and liquidity reserves.
- The adequacy of the risk-taking and risk management framework in relation to the strategy and the business objectives, the corporate culture and the framework of RBCIS Bank's values.
- The quality of the work carried out by the risk control function and the compliance with the rules laid down in this respect the Circular CSSF 12/552 as amended.
- The assessment, through stress scenarios and stress testing, of the impact of external and internal events on the risk profile of RBCIS Bank and the ability of RBCIS Bank to bear its risks.
- The appropriate and timely follow-up by the authorized management of the recommendations of the risk control function and the actions taken to address the identified problems, shortcomings and irregularities.
- The compliance and the pricing of the products and services offered to customers with the business model and the approved risk strategy.
- Without prejudice to the responsibilities of the remuneration committee, the appropriateness of the benefits provided for in the remuneration policies and practices, considering the risk level of RBCIS Bank, its internal and regulatory capital and liquidity reserves as well as its profitability.

The Committee may involve the Authorized Management as well as persons in charge of internal controls in its work. These persons may attend the Committee's meetings but are nevertheless not members of it.

Executive Committee

The Board of Directors has delegated under its general supervision the daily management as well as any other powers of the Bank and the representation of the Company within such daily management to the Executive Committee, being "Authorized Management" of the Bank. The Executive Committee will manage the daily affairs of the Company in a collegial manner, within the provisions of the applicable Law, regulations, circulars of the Commission de Surveillance du Secteur Financier, the Articles of Association and the global governance documents and organizes, both on the national and international front, the coordination of the activities of the Bank. The Bank has appointed one member of the Executive Committee as Chief Risk Officer responsible for the Risk Function, one member of the Executive Committee as Chief Compliance Officer responsible for the Compliance Function (the "CCO").

Bank's Assets & Liabilities Committee (ALCO)

The purpose of the ALCO is:

- To review and recommend policy frameworks pertaining to Bank's balance sheet and capital management, structural interest rate risk management, liquidity and funding, and subsidiary balance sheet management.
- To provide regular central oversight and monitoring of the Bank balance sheet-related risks, including capital adequacy, structural interest rate risk, structural foreign exchange risk, liquidity and funding risk.
- To provide direction and advice regarding the management of these areas in light of competitive and regulatory environments, and economic and business forecasts.

The ALCO reviews reports and monitors compliance on the Bank's exposure to balance sheet-related risks.

The ALCO reports to the Bank's Board of Directors on balance sheet related new strategic initiatives. The ALCO reviews and recommends for approval to the Bank's Board of Directors or its committees any capital transactions to be undertaken. The ALCO will be chaired by the Treasurer or in his absence, the Chief Financial Officer of RBC IS Bank (Deputy-Chair).

The ALCO is responsible for ensuring that the balance sheet structure and profile of the Bank is consistent with its strategic objectives. All material balance sheet initiatives will be reviewed and approved by the ALCO, with advice and counsel provided by the relevant RBC center of expertise to the ALCO and recommended to the Board where necessary.

Risk Management Principles

The following general principles apply to the management of risk at the Bank including its branches and subsidiaries:

- Effectively balancing risk and reward to enable sustainable growth.

RBCIS Bank balances risk and reward to capitalize on opportunities within its business strategy and risk appetite, avoid excessive concentrations of risk through diversification and risk transfer, manage earning volatility, and ensure the long-term viability and profitability of the organization.

- Responsibility for risk management is shared.

Collectively as RBCIS Bank is following the Three Lines of Defence risk governance model, employees at all levels of the organization are responsible for managing the day-to-day risks that arise in the context of their roles.

- Undertake only risks the Bank understands. Make thoughtful and future-focused risk decisions.

In order to create long term value for its shareholders, clients, employees and communities, the Bank exercises rigour in risk assessments, analyse emerging risk factors and trends, ensure transparency in risk discussions, and improve processes and tools for simpler, better, faster decision-making without exposing the Bank to undue risks.

- Always uphold the RBCIS Purpose and Vision, and consistently abide by RBCIS Values and Code of Conduct to maintain the reputation and the trust of the clients, colleagues and communities.

Guided by Collective Ambition, the Bank exhibits Good Conduct and do business openly and fairly. The Bank never compromises quality or integrity for growth. The Bank adheres to the "Know You Client" standards, and ensure transparency and suitability of the products and services offered. The Bank complies with all laws and regulatory requirements, and support transactions and relationships with proper and complete documentation.

- Maintain a healthy and robust control environment to protect RBCIS stakeholders.

To achieve RBCIS operational and financial performance goals while maintaining the reputation and integrity, and operating within the parameters of applicable laws and established risk appetite, the Bank employs effective processes and controls and resiliency practices to minimize harm from internal and external threats, avoid business interruptions, and ensure timely resolution of control issues.

- Use judgment and common sense.

Policy and procedure cannot cover all circumstances. Employees should apply judgment and common sense, and when in doubt, escalate.

- Always be operationally prepared and financially resilient for a potential crisis.

RBCIS Bank strives to maintain effective protocols and escalation strategies to respond to all risks that the Bank faces, including regulatory, macroeconomic, market and other stakeholder developments. This includes maintaining operational readiness and financial resilience to effectively operate during and following a financial crisis. It is also critical to maintain agility and readiness to respond to potential disruptors to the financial industry.

Overall Risk Governance of the Bank

RBCIS Bank has a clear and robust risk governance framework in order to manage, control, and provide assurance on risk that includes a strong overall risk and compliance culture. In the event, decisions taken by the Executive Committee have or could have a significant impact on the risk profile of the Bank, the Executive Committee shall first obtain the opinion of the risk control function and of the compliance function. Both the Chief Compliance Officer (CCO) and the Chief Risk Officer (CRO) can directly refer to respectively the Board Audit and Compliance Committee (ACC) and the Board Risk Committee (BRC) where they have given a reasoned negative opinion and voted against an Executive Committee resolution. The following diagram reflects the direct access of the risk management function to the Board of Directors.

As RBCIS Bank is part of RBC, the Board of Directors may take guidance and Positive Advice and Counsel from RBC Risk Management on risk policies related matters ensuring alignment with all RBC risk management standards as well as with local regulation.

The Risk Management's mission, through the CRO, is to provide the Board of Directors with critical assessments in respect of the organisation and operation of risk management, in order to increase the effectiveness of the Board of Directors and enable its members to fulfil their supervisory responsibilities pursuant to circular CSSF 12/552 as amended by circulars CSSF 13/563, CSSF 14/597, CSSF 16/642, CSSF 16/647, CSSF 17/655, CSSF 20/750 and CSSF 20/759, CSSF 21/785 and CSSF 22/807.

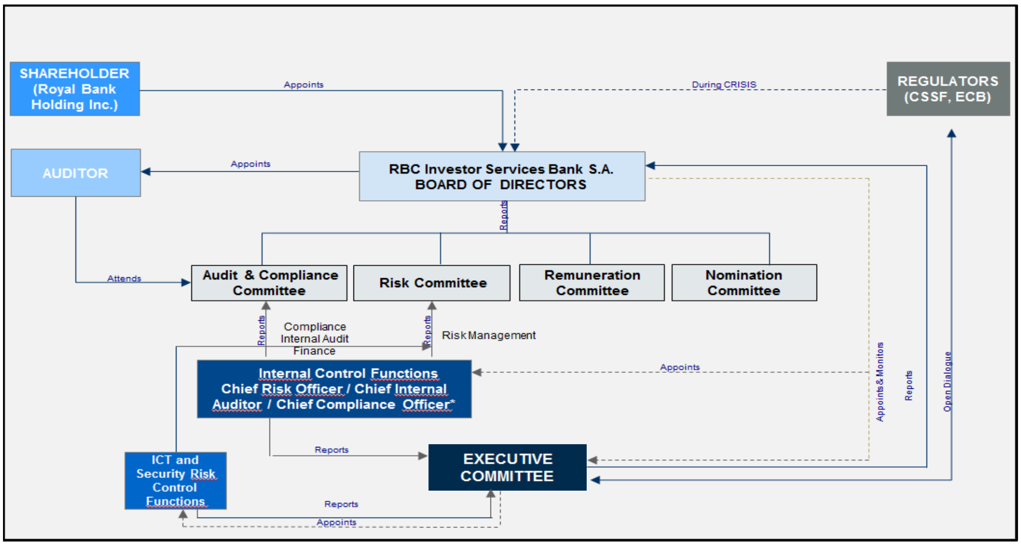
Approval

The Director's Report was approved by the Board of Directors of the Bank. and signed on its behalf by the Chairman of the Board of Directors and by the Chief Executive Officer and was approved by the members of the Board of Directors on February 1, 2023.

Frédéric Mouchel
Chairman of the
Board of Directors

Philippe Renard
Chief Executive Officer

February 1, 2023



* Internal Control Functions have the right to directly and on their own initiative contact the chairman of the Board of Directors or, where appropriate, the members of the Audit, Compliance or Risk Committee as well as the CSSF and ECB. *(Source: CSSF Circular 12/552).*
GRM (Cyber and Tech) is acting as a the "ICT Risk Control Function", providing oversight on Information & Communication Technology (ICT) and security risks. GRM (Cyber and Tech) is enabled to report any exceptional problem to the highest level of the hierarchy, including the board of directors.

Audit report

To the Board of Directors of
RBC Investor Services Bank S.A.

Report on the audit of the financial statements

Our opinion

In our opinion, the accompanying financial statements give a true and fair view of the financial position of RBC Investor Services Bank S.A. (the "Bank") as at 31 October 2022, and of its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union.

What we have audited

The Bank's financial statements comprise:

- the balance sheet as at 31 October 2022;
- the statement of profit or loss for the year then ended;
- the statement of comprehensive income for the year then ended;
- the statement of changes in net equity for the year then ended;
- the statement of cash flows for the year then ended; and
- the notes to the financial statements, which include a summary of significant accounting policies.

Basis for opinion

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

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

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

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

The non-audit services that we have provided to the Bank and its controlled undertakings, if applicable, for the year then ended, are disclosed in Note 12 to the financial statements.

Key audit matters

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

Key audit matter	How our audit addressed the key audit matter
Revenue recognition - Fee and commission income (Note 3), Net income from financial instruments at fair value through profit or loss (Note 5) We focus on fee and commission income and net income from financial instruments at fair value through profit or loss because they represent a significant portion (66%) of the revenues determining the Bank's profitability. In addition, we have identified these 2 revenue streams as having heightened risk of misstatement. They were selected for the following reasons: Fee and commission income are mainly linked to the custodian, transfer agent and fund administration services, therefore to the core business of the Bank. The calculation is based on high volume of data fed within different IT systems and several pricing structures and product types, affecting significantly the revenues. This complexity leads to a heightened risk that revenue may not be recognised appropriately, either as a result of fraud or error. Net income from financial instruments at fair value through profit or loss mainly relates to the dealing in financial instruments on own account.	*Audit procedures performed over fee and commission income* We performed a walkthrough of the fee and commission income process and assessed the design effectiveness of key controls. We tested the key controls implemented by the Bank in relation to the clients on-boarding and setup, the client invoicing and the accruals booking. We agreed the business terms included in the contracts signed with the clients to the billing system for a sample of items; additionally, we ensured that the quantitative data generated by the custodian, transfer agent and fund administration systems correctly fed into the billing system. We re-performed the calculation of the commission income that flows into the accounting system for a sample of items. Finally, we included elements of "unpredictability" in the procedures performed in response to the risk of fraud by randomly selecting additional items and by ensuring segregation of duties, as well as the application of the "4 eyes principle", within the fee and commission income process. *Audit procedures performed over net income from financial instruments at fair value through profit or loss* We performed a walkthrough of the financial instruments process, and performed testing of the operating effectiveness of key controls in relation to the data input, the revenue recognition into the statement of profit or loss as well as the monitoring of the foreign currencies' exposure.

Key audit matter	How our audit addressed the key audit matter
Market volatility requires Bank's clients to reduce market risks by dealing derivative financial instruments with the Bank. The high volume of deals and the traded notional affect significantly the revenues of the Bank, increasing the risk that revenue may not be recognised appropriately, either as a result of fraud or error.	We agreed the data reported in the trade tickets, determining the base for the calculation of the income, to the data reported in the back-office IT system for a sample of items. We recalculated the net income from financial instruments at fair value through profit or loss for a sample of items. Finally, we included elements of "unpredictability" in the procedures performed in response to the risk of fraud by randomly selecting additional items and by ensuring segregation of duties, as well as the application of the "4 eyes principle", within the financial instruments process.
Migration of the custodian and the treasury systems (Note 1) The Bank has finalised the migration of the custodian system from BLS Focus to the ultimate parent company's custodian system in 2022. In addition, the Bank migrated the treasury balances concerning its bonds' portfolio, the foreign exchange derivative and money market positions and its customer loans' portfolio from BLS to the ultimate parent company's treasury systems. The migration of the cash accounts and the asset positions of the clients as well as the balances concerning the bonds' portfolio of the Bank, the foreign exchange derivative and money market positions and the customer loans' portfolio give rise to a risk at the level of governance of the migration project and at the level of transfer of migrated data. We therefore considered the migration of the custodian and the treasury systems as an area of focus due to the significant impact on the financial information of the Bank as at 31 October 2022 and as having heightened risk of inaccurate transfer of balances and static data.	*Audit procedures performed over the migration of the custodian and the treasury systems* We reviewed the work performed by the Bank regarding the governance of the migration project and the migration of the custodian and treasury balances and static data. We performed the following audit procedures: • We assessed the implementation of the migration process within the Bank, including the steering committee organisation, the risk assessment process and the review of the incident reports after the migration; • We assessed the methodology of the migration review performed by the Bank (including a sample of the related documentation); • We inspected the final validation after the user acceptance testing; • We tested, on a sample basis, the validation process of logical access (definition of user groups, user allocation to appropriate groups) in order to ensure that the access rights have been granted appropriately; • We assessed the migration procedures and the reconciliation process performed by the Bank as well as the investigation of the differences identified, if any; • We reconciled the migrated balances and static data from BLS Focus to the ultimate parent company's custodian system for a sample of items, and we reviewed and investigated the differences;

Key audit matter	How our audit addressed the key audit matter
	• We reconciled the migrated balances and static data from BLS to the ultimate parent company's treasury systems for a sample of items, and we reviewed and investigated the differences.

Other information

The Board of Directors is responsible for the other information. The other information comprises the information stated in the directors' report but does not include the financial statements and our audit report thereon.

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

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Board of Directors and those charged with governance for the financial statements

The Board of Directors is responsible for the preparation and fair presentation of the financial statements in accordance with IFRSs as adopted by the European Union, and for such internal control as the Board of Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

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

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

Responsibilities of the "Réviseur d'entreprises agréé" for the audit of the financial statements

The objectives of our audit are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an audit report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the EU Regulation No 537/2014, the Law of 23 July 2016 and with ISAs as adopted for Luxembourg by the CSSF will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

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

- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;

- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Bank's internal control;

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

- conclude on the appropriateness of the Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Bank's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our audit report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our audit report. However, future events or conditions may cause the Bank to cease to continue as a going concern;

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

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

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

Report on other legal and regulatory requirements

The Directors' report is consistent with the financial statements and has been prepared in accordance with applicable legal requirements.

We have been appointed as "Réviseur d'Entreprises Agréé" by the Board of Directors on 30 March 2022 and the duration of our uninterrupted engagement, including previous renewals and reappointments, is 7 years.

PricewaterhouseCoopers, Société coopérative
Represented by

Luxembourg, 1 February 2023

Philippe Sergiel

Statement of profit or loss

EUR'000	Notes	For the year ended Oct 31, 2022	Oct 31, 2021
Interest income	2	159,601	100,497
Interest expense	2	(90,239)	(49,936)
Net interest income	**2**	**69,362**	**50,561**
Fee and commission income	3	238,155	251,161
Fee and commission expense	3	- (62,829)	(58,630)
Net fee and commission income	**3**	**175,326**	**192,531**
Dividend income	4	46	1,997
Net income from financial instruments at fair value through profit or loss	5	117,330	106,286
Net gain /(loss) on investments	6	3	15
Residual profit/(loss) split	7	20,197	(2,954)
Other income	8	635	815
Other expenses	8	-	(5)
Net operating revenue before impairment charges on loans and other receivables		**382,899**	**349,246**
Net allowance for expected credit loss	10	(1,550)	250
Net operating revenue		**381,349**	**349,496**
Staff expenses	11	(130,197)	(146,000)
General and administrative expenses	12	(160,036)	(138,799)
Depreciation and amortisation of tangible and intangible assets	20, 21	(40,668)	(36,878)
Impairment of investments in subsidiaries	19	(5,700)	(4,808)
Provisions for litigations and operating risk events	9	(3,541)	(2,151)
Impairment of tangible and intangible assets	20, 21	(392)	(548)
Operating expenses		**(340,534)**	**(329,184)**
Profit before income tax		**40,815**	**20,312**
Income tax	13	(12,034)	(5,754)
Profit for the year		**28,781**	**14,558**

The accompanying notes form an integral part of these financial statements.

Statement of comprehensive income

EUR'000	Notes	For the year ended Oct 31, 2022	Oct 31, 2021
Profit for the year		**28,781**	**14,558**
Other comprehensive income			
Items that will be reclassified subsequently to the statement of profit or loss when specific conditions are met:			
Unrealised (losses)/gains on investments in debt instruments measured at FVOCI		(6,995)	(2,253)
Income taxes relating to investment securities	13	1,644	578
Investment securities at FVOCI		**(5,351)**	**(1,675)**
Currency translation differences		1,474	(216)
Items that will not be reclassified subsequently to the statement of profit or loss:			
Defined benefit pension plans			
Post retirement employee benefit plans	25	1,839	389
Income taxes related to post retirement employee benefit plans	13	(353)	(164)
Other comprehensive income for the year, net of tax		**(2,391)**	**(1,666)**
Total comprehensive income for the year		**26,390**	**12,892**

The accompanying notes form an integral part of these financial statements.

Balance sheet

EUR'000	Notes	As at Oct 31, 2022	Oct 31, 2021
Assets			
Cash and balances with central banks	15	12,199,259	9,338,056
Loans and advances to banks	16	719,390	8,137,562
Loans and advances to customers	17	1,652,027	1,274,215
Investment securities	18	625,059	839,280
Derivatives	28	756,888	449,984
Investments in subsidiaries	19	102,152	126,752
Current tax assets	13	2,611	4,831
Tangible assets	20	55,727	75,026
Goodwill and other intangible assets	21	123,706	129,765
Deferred tax assets	13	2,553	962
Other assets	22	155,510	205,382
Assets held for sale	43	18,900	-
Total assets		**16,413,782**	**20,581,815**
Liabilities			
Deposits from banks	23	1,533,974	907,256
Deposits from customers	24	12,259,613	17,257,676
Derivatives	28	726,159	515,673
Current tax liabilities	13	347	81
Provisions and other obligations	25	27,232	43,791
Deferred tax liabilities	13	-	49
Lease liabilities	33	47,935	61,259
Other liabilities	26	122,469	202,607
Subordinated Debt	41	524,451	448,211
Total liabilities		**15,242,180**	**19,436,603**
Equity			
Subscribed capital	29	554,075	554,075
Share premium		27,446	27,446
Retained earnings		479,784	451,231
Other reserves		107,615	107,387
Other components of equity		2,682	5,073
Total equity		**1,171,602**	**1,145,212**
Total liabilities and equity		**16,413,782**	**20,581,815**

The financial statements were approved by the Board of Directors on February 1, 2023 and signed on its behalf by:

Frédéric Mouchel,
Chairman of the board of Director

Philippe Renard,
Chief Executive Officer

The accompanying notes form an integral part of these financial statements.

Statement of changes in equity

For the year ended October 31, 2022

EUR'000	Core shareholder's equity: Subscribed capital	Share premium	Retained earnings (1)	Legal reserve (2)	Untaxed unavailable reserves (3)	Other components of equity (4): FVOCI Securities	Currency translation adjustments	Net investment hedge (5)	Employee Benefit Plans	Total equity
Balance as at November 1, 2021	554,075	27,446	451,231	37,387	70,000	74	2,288	(808)	3,519	1,145,212
Profit after tax	-	-	28,781	-	-	-	-	-	-	28,781
Currency translation adjustment	-	-	-	-	-	-	1,419	55	-	1,474
Investment securities	-	-	-	-	-	(6,995)	-	-	-	(6,995)
Tax impact of investment securities	-	-	-	-	-	1,644	-	-	-	1,644
Post retirement employee benefit plans	-	-	-	-	-	-	-	-	1,839	1,839
Tax impact of post retirement employee benefit plans	-	-	-	-	-	-	-	-	(353)	(353)
Result appropriation	-	-	(228)	728	(500)	-	-	-	-	-
Total comprehensive income	-	-	28,553	728	(500)	(5,351)	1,419	55	1,486	26,390
Dividends	-	-	-	-	-	-	-	-	-	-
Total Movements	-	-	28,553	728	(500)	(5,351)	1,419	55	1,486	26,390
As at October 31, 2022	554,075	27,446	479,784	38,115	69,500	(5,277)	3,707	(753)	5,005	1,171,602

(1) Non distributable retained earnings amounts to EUR 15,439 thousand (legal reserve 5% of profit for the year EUR 1,439 thousands and allocation to non distributable reserves for reduction in Net Wealth Tax EUR 14 million).
(2) Legal reserve: local legislation requires at least 5% of the net profit to be transferred from retained earnings to a non-distributable statutory reserve until the reserve reaches 10% of share capital.
(3) To reduce the Net Wealth Tax liability in proportion to Corporate Income Tax due, the Bank allocates under non-distributable reserves an amount that corresponds to five times the amount of reduction of the Net Wealth Tax. This reserve is non-distributable for a period of five years from the year following the one in which the Net Wealth Tax reduction was requested.
(4) Other components of equity are non-distributable.
(5) Net investment hedge refers to the fair value of the foreign currency derivatives which were applied to hedge the Bank"s net investment in foreign operations. These hedges were terminated in 2012 when RBC completed the acquisition of the remaining 50% shareholding of the Bank. This amount is recorded in Equity and will be recognized in the income statement upon disposal of the applicable foreign operations of the Bank.

The accompanying notes form an integral part of these financial statements.

Statement of changes in equity (cont'd)

For the year ended October 31, 2021

	Core shareholder's equity					Other components of equity (4)				
EUR'000	Subscribed capital	Share premium	Retained earnings (1)	Legal reserve (2)	Untaxed unavailable reserves (3)	FVOCI Securities	Currency translation adjustments	Net investment hedge (5)	Employee Benefit Plans	Total equity
Balance as at November 1, 2020	**554,075**	**27,446**	**589,334**	**34,726**	**70,000**	**1,749**	**2,504**	**(808)**	**3,294**	**1,282,320**
Profit after tax	-	-	14,558	-	-	-	-	-	-	14,558
Currency translation adjustment	-	-	-	-	-	-	(216)	-	-	(216)
Investment securities	-	-	-	-	-	(2,253)	-	-	-	(2,253)
Tax impact of investment securities	-	-	-	-	-	578	-	-	-	578
Post retirement employee benefit plans	-	-	-	-	-	-	-	-	389	389
Tax impact of post retirement employee benefit plans	-	-	-	-	-	-	-	-	(164)	(164)
Result appropriation	-	-	(2,661)	2,661	-	-	-	-	-	-
Total comprehensive income	-	-	**11,897**	**2,661**	-	**(1,675)**	**(216)**	-	**225**	**12,892**
Dividends (6)	-	-	(150,000)	-	-	-	-	-	-	(150,000)
Total Movements	-	-	**(138,103)**	**2,661**	-	**(1,675)**	**(216)**	-	**225**	**(137,108)**
As at October 31, 2021	**554,075**	**27,446**	**451,231**	**37,387**	**70,000**	**74**	**2,288**	**(808)**	**3,519**	**1,145,212**

(1) Non distributable retained earnings amounts to EUR 14,728 thousand (legal reserve 5% of profit for the year EUR 728 thousands and allocation to non distributable reserves for reduction in Net Wealth Tax EUR 14 million).
(2) Legal reserve: local legislation requires at least 5% of the net profit to be transferred from retained earnings to a non-distributable statutory reserve until the reserve reaches 10% of share capital.
(3) To reduce the Net Wealth Tax liability in proportion to Corporate Income Tax due, the Bank allocates under non-distributable reserves an amount that corresponds to five times the amount of reduction of the Net Wealth Tax. This reserve is non-distributable for a period of five years from the year following the one in which the Net Wealth Tax reduction was requested.
(4) Other components of equity are non-distributable.
(5) Net investment hedge refers to the fair value of the foreign currency derivatives which were applied to hedge the Group's net investment in foreign operations. These hedges were terminated in 2012 when RBC completed the acquisition of the remaining 50% shareholding of the Bank. This amount is recorded in Equity and will be recognized in the income statement upon disposal of the applicable foreign operations of the Bank.
(6) In October 2021, the Bank paid a dividend of EUR 150 million to its immediate parent entity, Royal Bank Holding Inc, following approval by the Board of Directors of the Bank.

The accompanying notes form an integral part of these financial statements.

Statement of cash flows

EUR'000	Note(s)	For the year ended Oct 31, 2022	Oct 31, 2021
Cash flow from operating activities			
Profit for the year		28,781	14,558
Adjustment for:			
Depreciation, amortisation and other impairment	20,21	41,060	37,426
Impairment on financial assets and allowance for expected credit loss		7,250	(336)
Provisions and other obligations	25	13,216	20,955
Deferred tax	13	(321)	(324)
Change in loans and advances to customers		(379,436)	(424,864)
Change in loans and advances to banks		(30,084)	(81,399)
Change in investment securities		212,680	678,502
Change in accrued income from financial assets		(1,584)	9,146
Change in derivatives held-for-trading		(96,417)	64,458
Change in borrowings deposits from banks		390,956	203,627
Change in customer borrowings and deposits		(4,998,104)	1,859,039
Change in accrued expenses from financial liabilities		221	(169)
Change in other assets and liabilities		(70,978)	(47,993)
Net cash provided by operating activities		**(4,882,760)**	**2,332,626**
Cash flow from investing activities			
Purchase of tangible assets and intangible assets	20,21	(24,422)	(25,204)
Disposal of tangible assets and intangible assets	20,21	8,870	
Net cash provided by investing activities		**(15,552)**	**(25,204)**
Cash flow from financing activities			
Payment of finance lease liability	33	(6,976)	(9,080)
Dividend paid		-	(150,000)
Net cash provided by financing activities		**(6,976)**	**(159,080)**
Net increase / (decrease) in cash and cash equivalents		**(4,905,288)**	**2,148,342**
Cash and cash equivalents at the beginning of the year	14	**17,359,837**	**15,190,932**
Cash flow from operating activities		(4,882,760)	2,332,626
Cash flow from investing activities		(15,552)	(25,204)
Cash flow from financing activities		(6,976)	(159,080)
Effect of exchange rates		313,572	20,563
Cash and cash equivalents at the end of the year	14	**12,768,121**	**17,359,837**
Additional information			
Tax paid		(9,849)	(13,368)
Dividends received		46	1,997
Interest received		155,025	107,664
Interest paid		(89,987)	(48,117)

The accompanying notes form an integral part of these financial statements.

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Notes to the financial statements

1. Accounting Policies

RBC Investor Services Bank S.A.

These financial statements are financial statements of RBC Investor Services Bank S.A. and its branches (the "Bank").

The financial statements comprise the statement of profit or loss, the statement of comprehensive income, the balance sheet, the statements of changes in equity, the cash flow statement, and the notes to the financial statements.

RBC Investor Services Bank S.A. is a bank incorporated as a "société anonyme" in Luxembourg.

The registered office and headquarters of RBC Investor Services Bank S.A. is 14, Porte de France L-4360 Esch-sur-Alzette, Luxembourg.

RBC Investor Services Bank S.A.'s authorised and issued share capital amounts to EUR 554,075,000 divided into 22,163,000 shares, each with a nominal value of EUR 25.

Operations are conducted throughout RBC Investor Services Bank S.A. and its branches located in, Italy, Ireland and Switzerland and New York representative office.

The Bank is indirectly wholly owned by Royal Bank of Canada ("RBC") which is the ultimate parent company. The immediate parent company is Royal Bank Holding Inc. ("RBHI"), incorporated in Canada.

The Bank is part of RBC's Investor & Treasury Services ™ (RBC I&TS) business segment.

RBC Investor & Treasury Services is a specialist provider of custody, payments and treasury services for financial and other institutional investors worldwide. RBC Investor & Treasury Services is comprised of three businesses: Global Financial Institutions, Investor Services and Treasury Services.

As a core operating entity of RBC Investor & Treasury Services, the Bank provides global custody, investment administration and treasury services.

RBC Investor Services Bank S.A. also prepared consolidated financial statements for the year ended October 31, 2022.

Basis of Preparation

The Bank's financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") as adopted by in the European Union. These accounting policies conform, in all material respects, to IFRS. Except where indicated the same accounting policies have been applied to all periods presented.

In preparing these financial statements, management is required to make critical judgments that affect the carrying amounts of certain assets and liabilities, and the reported amounts of revenues and expenses recorded during the period. The accounting policies and critical accounting estimates applied by the Bank are included in Note 1 to these financial statements.

The financial statements are stated in thousands of euros ("EUR").

Going Concern

The Bank's business activities, together with factors likely to affect its future development, performance and position are set out in the Director's Report. The Bank's financial and other risk management objectives, policies and processes for managing its capital, and details of its financial instruments and its exposures to credit risk and liquidity risk are described in Notes 32 of the financial statements.

The Bank has completed in FY 2022, the migration of the custody accounts to the new custody application. The Bank has also completed in FY 2022, the migration of treasury accounts, including the investment securities portfolio, money market deposits, and fund finance customer loans and facilities to the new applications.

The Bank's business plans project profitability in the foreseeable future. The Bank also holds considerable capital resources, well in excess of regulatory requirements. Liquidity positions within the Bank are actively managed on a daily basis to ensure sufficient liquidity is maintained at all times to support the business while at the same time remaining well within regulatory and internal limits. Taking these factors into consideration, management believes that the Bank is well placed to manage its business risks successfully despite the continuing uncertain economic outlook.

After undertaking a detailed analysis of its financial resource requirements under both normal and stressed operating conditions management has a reasonable expectation that the Bank has adequate resources to meet its minimum capital and liquidity regulatory requirements and appropriate contingency plans to ensure that the Bank continues to operate with a prudent capital and liquidity buffer over its internal requirements for the foreseeable future. Therefore the Bank continues to adopt the going concern basis in preparing the annual report and financial statements.

On October 17, 2022, CACEIS, the asset servicing banking group of Crédit Agricole S.A. and Santander, and Royal Bank of Canada (RBC) announced that they had signed a Memorandum of Understanding in relation to CACEIS acquiring the European asset servicing activities of RBC Investor Services and its associated Malaysian centre of excellence ("the Business") from RBC.

The completion of the contemplated transaction is subject to customary closing conditions, including regulatory and antitrust approvals, and is expected to take place by the end of the third quarter of the 2023 calendar year.

On December 23, 2022, RBC and CACEIS completed the signing of the Sale and Purchase Agreement (SPA), to sell the Business to CACEIS. In addition the parties will be entering into a Transitional Services Agreement ("TSA") which will become effective upon the closing of the transaction for the provision of certain services between RBC, CACEIS and the Business, for a limited period of time following completion of the transaction.

Standards, interpretations and amendments issued but not yet effective

No new accounting standards have been issued, which are relevant for adoption by the Bank.

Interest Rate Benchmark Reform

During the first quarter of 2021, we early adopted the Phase 2 amendments to IFRS 9 Financial Instruments, IAS 39 Financial Instruments: Recognition and Measurement, IFRS 7 Financial Instruments: Disclosures, and IFRS 16 Leases (the Amendments) in response to the market transition away from interbank offered rates (IBORs) to alternative benchmark rates (ABRs) as part of the IBOR reform (the Reform).

To manage the transition to ABRs, the Bank has implemented a comprehensive enterprise-wide program and governance structure that addresses the key areas of impact including contract remediation, funding and liquidity planning, risk management, financial reporting and valuation, systems, processes, client education and communication. Transition activities are focused on two broad streams of work: (i) developing new alternative risk-free rate linked products, and (ii) conversion of existing LIBOR based contracts to ABRs. The program timelines are ultimately dependent on broader market acceptance of products that reference the new ABRs and RBCIS's clients' readiness and ability to adopt the replacement products. Significant matters that the Bank continues to evaluate include client product offerings, and short and long term funding strategies. The Bank is following the recommended target dates for cessation of LIBOR-based products provided by RBCIS's regulators and are progressing well against all internal and external milestones.

Use of estimates and assumptions

In preparing the Financial Statements, management is required to make subjective estimates and assumptions that affect the reported amount of assets, liabilities, net income and related disclosures. Estimates made by management are based on historical experience and other assumptions that are believed to be reasonable. Key sources of estimation uncertainty include: securities impairment, determination of fair value of financial instruments, the allowance for expected credit loss, pensions and other post-employment benefits, income taxes, goodwill and litigation provisions.

Accordingly, actual results may differ from these and other estimates thereby impacting the future Financial Statements. Refer to the relevant accounting policies in this Note for details on Bank's use of estimates and assumptions.

Significant judgements

In preparation of these Financial Statements, management is required to make significant judgments that affect the carrying amounts of certain assets and liabilities, and the reported amounts of revenues and expenses recorded during the period.

The economic outlook remains subject to ongoing uncertainty with moderate recessions expected in the Euro area in calendar 2023 reflecting increased downside risks including higher inflation, supply chain disruptions, labour shortages and heightened geopolitical risks, which could impact our financial results. We continue to monitor and assess the impacts of these factors on our critical accounting judgments, estimates and assumptions.

Significant judgments have been made in the following areas and discussed as noted in the Financial Statements:

Income tax	Note 13
Goodwill and other intangibles assets	Note 21
Provisions and other obligations	Note 25
Share based compensation	Note 27
Fair value of financial instruments	Note 30
Allowance for expected credit losses	Note 32

Investments in subsidiaries

Investments in subsidiaries are accounted for at cost less impairment.

Foreign currency translation

Items included in the financial statements of each entity of the Bank are measured using the currency of the primary economic environment in which the entity operates (the "functional currency"). The Bank's foreign branches are accounted for as integrated foreign operations.

Foreign currency transactions are translated into functional currency at the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year end exchange rates of the monetary assets and liabilities denominated in foreign currencies are recognized in the statement of profit or loss. Non-monetary assets and liabilities are translated into functional currency at historical rates. Non-monetary financial assets classified as Fair Value through Other Comprehensive Income, such as investment securities, are measured at fair value and translated into functional currency at rates prevailing at the balance sheet date, and the resulting foreign exchange gains and losses are recorded in the Statement of Comprehensive Income until the asset is sold or becomes impaired.

Exchange differences arising on translation to presentation currency are recognized in the Statement of other comprehensive income.

Assets, liabilities and equity of all the branches that have a functional currency different from the presentation currency ("foreign operations") are translated at the closing rate at the balance sheet date and items of income and expense are translated at average exchange rates. All resulting exchange differences are recognized in the Statement of other comprehensive income and accumulated in a separate component of the equity. On disposal of a foreign operation the amount accumulated in the separate component of equity is reclassified from equity to the Statement of profit or loss. The Bank may dispose of its interest in a foreign operation through sale, liquidation, repayment of share capital, abandonment or through loss of control or significant influence.

Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing rate.

Revenue Recognition

Interest

Interest is recognized in Interest income and Interest expense in the Statements of Profit or loss for all interest-bearing financial instruments using the effective interest method.

The effective interest rate is the rate that discounts estimated future cash flows over the expected life of the financial asset or liability to the net carrying amount upon initial recognition. Significant judgment is applied in determining the effective interest rate due to uncertainty in the timing and amounts of future cash flows.

When calculating the effective interest rate, the Bank estimates cash flows considering all contractual terms of the financial instrument (for example, prepayment options) but does not consider future credit losses. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate, transaction costs and all other premiums or discounts.

Accrued interest income and expense are reported in the same line as the related financial asset and liability in the balance sheet.

Once an interest bearing financial asset has been written down as a result of an impairment loss, interest income is recognized using the rate of interest used to discount the future cash flows for the purposes of measuring the impairment loss.

Negative interest income and expense arises from interest rates applied which are below zero. Negative interest income is earned from deposits placed by customers with the Bank, and is presented in interest income and disclosed as negative interest on customer deposits. Negative interest expense is recognized on deposits owned by the Bank, and is presented in interest expense and disclosed as negative interest on deposits placed.

Transaction costs

Transaction costs are expensed as incurred for financial instruments classified or designated as at FVTPL. For other financial instruments, transaction costs are capitalized on initial recognition. For financial assets and financial liabilities measured at amortized cost, capitalized transaction costs are amortized through net income over the estimated life of the instrument using the effective interest method.

For Investment Securities financial assets measured at fair value that do not have fixed or determinable payments and no fixed maturity, capitalized transaction costs are recognized in net income when the asset is derecognized or becomes impaired.

Dividend income

Dividend income is recognised when the right to receive income is established. This is the ex-dividend date for listed securities, and usually the date when shareholders approve the dividend for unlisted securities. Dividends are recorded in a specific caption of the Statement of Profit or Loss.

Fee and commission income and expense

Commissions and fees primarily relate to Custody fees, Fund Administration and Transfer Agency Service fees. and are recognized based on the applicable service contracts with customers. Custody fees and Fund Administration revenue are generally calculated as a percentage of daily or period-end net asset values (NAV) based on the terms of the contract with customers and are received monthly, quarterly, semi-annually or annually, depending on the terms of the contract. Custody fees are generally derived from assets under custody (AUC) when customers solicit the investment capabilities of an investment manager or from assets under administration (AUA) where the investment strategy is directed by the client or a designated third party manager. Fund Administration income is based upon the daily net asset value (NAV) of the funds.

Custody fees are recognized over time when the service is provided to the customer, provided that it is highly probable that a significant reversal in the amount of revenue recognized will not occur. Commissions earned on securities brokerage services and service charges that are related to the provision of specific transaction-type services are recognized when the service is fulfilled. Where services are provided over time, revenue is recognized as the services are provided.

Loan commitment fees for loans that are likely to be drawn down, are deferred (together with related direct costs) and recognized as an adjustment to the effective interest rate on the loan once drawn. Otherwise such fees are deferred and amortised to Fee and commission income over the commitment period.

Fees that are earned on the execution of a significant transaction are recognised as revenue when performance obligations under the contract, satisfied at a point in time, have been performed.

Financial instruments

Classification of financial assets

Financial assets are measured upon initial recognition at fair value, are classified and subsequently measured at fair value through profit or loss (FVTPL); fair value through other comprehensive income (FVOCI), or amortized cost based on the business model of the Bank for managing the financial instruments and the contractual cash flow characteristics of the instrument.

Debt instruments are measured at amortized cost if both of the following conditions are met and the asset is not designated as FVTPL: (a) the asset is held within a business model that is Held-to-Collect (HTC) as described below, and (b) the contractual terms of the instrument give rise to cash flows that are solely payments of principal and interest on the principal amount outstanding (SPPI).

Debt instruments are measured at FVOCI if both of the following conditions are met and the asset is not designated as FVTPL: (a) the asset is held within a business model that is Held-to-Collect-and-Sell (HTC&S) as described below, and (b) the contractual terms of the instrument give rise, on specified dates, to cash flows that are SPPI.

This election is made on an instrument-by-instrument basis.

Business model assessment

The Bank determines its business models at the level that best reflects how the Bank manages portfolios of financial assets to achieve the business objectives.

Judgment is used in determining the bank's business models, which is supported by relevant, objective evidence including:

- How the economic activities of businesses generate benefits, for example through trading revenue, enhancing yields or hedging funding or other costs and how such economic activities are evaluated and reported to key management personnel.
- The significant risks affecting the performance of businesses, for example, market risk, credit risk, or other risks as described in the Risk Management section of Directors' Report, and the activities undertaken to manage those risks.
- Historical and future expectations of sales of the loans or securities portfolios managed as part of the business model.
- The compensation structures for managers of the Bank's businesses, to the extent that these are directly linked to the economic performance of the business model.

The Bank business models fall into three categories, which are indicative of the key strategies used to generate returns:

- HTC: The objective of this business model is to hold loans and securities to collect contractual principal and interest cash flows. Sales are incidental to this objective and are expected to be insignificant or infrequent.

- HTC&S: Both collecting contractual cash flows and sales are integral to achieving the objective of the business model.
- Other fair value business models: These business models are neither HTC nor HTC&S, and primarily represent business models where assets are held-for-trading or managed on a fair value basis.

SPPI assessment

Solely Payment of Principal and Interest ("SPPI") assessment is performed by the Bank annually. Instruments held within a HTC or HTC&S business model are assessed to evaluate if their contractual cash flows are comprised of solely payments of principal and interest. SPPI payments are those which would typically be expected from basic lending arrangements. Principal amounts include par repayments from lending and financing arrangements, and interest primarily relates to basic lending returns, including compensation for credit risk and the time value of money associated with the principal amount outstanding over a period of time. Interest can also include other basic lending risks and costs (for example, liquidity risk, servicing or administrative costs) associated with holding the financial asset for a period of time, and a profit margin.

Where the contractual terms introduce exposure to risk or variability of cash flows that are inconsistent with a basic lending arrangement, the related financial asset is classified and measured at FVTPL.

Securities

Investment securities include all securities classified as FVOCI. All investment securities are initially recorded at fair value and subsequently measured according to the respective classification.

Debt securities carried at FVOCI are measured at fair value with unrealized gains and losses arising from changes in fair value included in Other components of equity. Impairment losses are included in allowance for expected credit loss and correspondingly reduce the accumulated changes in fair value included in Other components of equity. When a debt instrument measured at FVOCI is sold, the cumulative gain or loss is reclassified from Other components of equity to Net gain/(loss) on investments.

Fair value option

A financial instrument with a reliably measurable fair value can be designated as FVTPL (the fair value option) on its initial recognition even if the financial instrument was not acquired or incurred principally for the purpose of selling or repurchasing. The fair value option can be used for financial assets if it eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise from measuring assets or liabilities, or recognizing related gains and losses on a different basis (an accounting mismatch). The fair value option can be elected for financial liabilities if: (i) the election eliminates an accounting mismatch; (ii) the financial liability is part of a portfolio that is managed on a fair value basis, in accordance with a documented risk management or investment strategy; or (iii) there is an embedded derivative in the financial or non-financial host contract and the derivative is not closely related to the host contract. These instruments cannot be reclassified out of the FVTPL category while they are held or issued.

Financial assets designated as at FVTPL are recorded at fair value and any unrealized gain or loss arising due to changes in fair value is included in Net income from financial instruments at fair value through profit or loss.

Financial liabilities designated as at FVTPL are recorded at fair value and fair value changes attributable to changes in the Bank credit risk are recorded in OCI. The Bank credit risk amounts recognized in OCI will not be reclassified subsequently to net income. The remaining fair value changes not attributable to changes in the Bank credit risk are recorded in Net income from financial instruments at fair value through profit or loss.

Upon initial recognition, if the Bank determines that presenting the effects of its own credit risk changes in OCI would create or enlarge an accounting mismatch in net income, the full fair value change in the Bank debt designated as at FVTPL is recognized in net income.

To make that determination, the Bank assessed whether the Bank expect that the effects of changes in the liability's credit risk will be offset in profit or loss by a change in the fair value of another financial instrument measured at FVTPL. Such an expectation is based on an economic relationship between the characteristics of the liability and the characteristics of the other financial instrument. The determination is made at initial recognition and is not reassessed. To determine the fair value adjustments on Bank's debt designated as at FVTPL, the Bank calculates the present value of the instruments based on the contractual cash flows over the term of the arrangement by using the effective funding rate at the beginning and end of the period.

Loans

Loans are debt instruments recognized initially at fair value and are subsequently measured in accordance with the Classification of financial assets policy provided above. All of the Bank's loans are carried at amortized cost using the effective interest method, which represents the gross carrying amount less allowance for credit losses.

Interest on loans is recognized in Interest income using the effective interest method. The estimated future cash flows used in this calculation include those determined by the contractual term of the asset and all fees that are considered to be integral to the effective interest rate. Also included in this amount are transaction costs and all other premiums or discounts.

Fees that relate to activities such as originating, restructuring or renegotiating loans are deferred and recognized as Interest income over the expected term of such loans using the effective interest method. Where there is a reasonable expectation that a loan will be originated, commitment and standby fees are also recognized as interest income over the expected term of the resulting loans using the effective interest method. Otherwise, such fees are recorded as other liabilities and amortized into Fee and commission income over the commitment or standby period.

For loans carried at amortized cost, impairment losses are recognized at each balance sheet date in accordance with the three-stage impairment model outlined below.

For loan commitments, expected credit loss estimates consider the portion of the commitment that is expected to be drawn over the relevant time period.

For financial guarantees, expected credit loss estimates are based on the expected payments required under the guarantee contract. For finance lease receivables, expected credit loss estimates are based on cash flows consistent with the cash flows used in measuring the lease receivable.

Allowance for credit losses

An allowance for expected credit losses (ACL) is established for all financial instruments, except for financial assets classified or designated as FVTPL and equity securities designated as FVOCI, which are not subject to impairment assessment. Assets subject to impairment assessment include loans, debt securities, interest-bearing deposits with banks, accounts and accrued interest receivable.

ACL on loans is presented in Allowance for loan losses. ACL on debt securities measured at FVOCI is presented in Other components of equity. Other financial assets carried at amortized cost are presented net of ACL on the Balance Sheet.

Off-balance sheet items subject to impairment assessment include financial guarantees and undrawn loan commitments. ACL on Off-balance sheet items is separately calculated and included in Other Liabilities – Provisions.

The Bank measures the ACL on each balance sheet date according to a three-stage expected credit loss impairment model:

- Performing financial assets:
  - Stage 1 – From initial recognition of a financial asset to the date on which the asset has experienced a significant increase in credit risk relative to its initial recognition, a loss allowance is recognized equal to the credit losses expected to result from defaults occurring over the 12 months following the reporting date.
  - Stage 2 – Following a significant increase in credit risk relative to the initial recognition of the financial asset, a loss allowance is recognized equal to the credit losses expected over the remaining lifetime of the asset.
- Impaired financial assets:
  - Stage 3 – When a financial asset is considered to be credit-impaired, a loss allowance is recognized equal to credit losses expected over the remaining lifetime of the asset. Interest revenue is calculated based on the carrying amount of the asset, net of the loss allowance, rather than on its gross carrying amount.

The ACL is a discounted probability-weighted estimate of the cash shortfalls expected to result from defaults over the relevant time horizon. For loan commitments, credit loss estimates consider the portion of the commitment that is expected to be drawn over the relevant time period. For financial guarantees, credit loss estimates are based on the expected payments required under the guarantee contract. For finance lease receivables, credit loss estimates are based on cash flows consistent with the cash flows used in measuring the lease receivable.

Increases or decreases in the required ACL attributable to purchases and new originations, derecognitions or maturities, and remeasurements due to changes in loss expectations or stage transfers are recorded in provision for credit losses. Write-offs and recoveries of amounts previously written off are recorded against the ACL.

The ACL represents an unbiased estimate of expected credit losses on the Bank's financial assets as at the balance sheet date. Judgment is required in making assumptions and estimations when calculating the ACL, including movements between the three stages and the application of forward looking information. The underlying assumptions and estimates may result in changes to the provisions from period to period that significantly affect the Bank results of operations.

Measurement of expected credit losses

Expected credit losses are based on a range of possible outcomes and consider all available reasonable and supportable information including internal and external ratings, historical credit loss experience, and expectations about future cash flows. The measurement of expected credit losses is based primarily on the product of the instrument's Probability of Default (PD), Loss Given Default (LGD), and Exposure at Default (EAD) discounted to the reporting date.

Probability of Default (PD) represents an estimate of the probability that Borrowers, within a particular credit score, will Default on their contractual obligations within a given time period.

Exposure at Default (EAD) is an estimate of the expected gross exposure of the facility upon Default of the Borrower, without reflecting specific provisions or partial write-offs.

Loss Given Default (LGD) is a rate that reflects the potential economic loss expected in the event of Borrower Default, and is expressed as a percentage of the EAD. Economic loss includes material discount effects as well as all material direct or indirect collection costs.

The main difference between Stage 1 and Stage 2 expected credit losses for performing financial assets is the respective calculation horizon. Stage 1 estimates project PD, LGD and EAD over a maximum period of 12 months while Stage 2 estimates project PD, LGD and EAD over the remaining lifetime of the instrument.

An expected credit loss estimate is produced for each individual exposure. Relevant parameters are modelled on a collective basis using portfolio segmentation that allows for appropriate incorporation of forward looking information. To reflect other characteristics that are not already considered through modelling, expert credit judgment is exercised in determining the final expected credit losses.

For a small percentage of the Bank's portfolios which lack detailed historical information and/or loss experience, the Bank applies simplified measurement approaches that may differ from what is described above. These approaches have been designed to maximize the available information that is reliable and supportable for each portfolio and may be collective in nature. Expected credit losses are discounted to the reporting period date using the effective interest rate.

Expected life

For instruments in Stage 2 or Stage 3, loss allowances reflect expected credit losses over the expected remaining lifetime of the instrument. For most instruments, the expected life is limited to the remaining contractual life.

An exemption is provided for certain instruments with the following characteristics: (a) the instrument includes both a loan and undrawn commitment component; (b) the Bank has the contractual ability to demand repayment and cancel the undrawn commitment; and (c) the exposure to credit losses is not limited to the contractual notice period. For products in scope of this exemption, the expected life may exceed the remaining contractual life and is the period over which the Bank exposure to credit losses is not mitigated by the Bank normal credit risk management actions. This period varies by product and risk category and is estimated based on historical experience with similar exposures and consideration of credit risk management actions taken as part of the Bank's regular credit review cycle. Products in scope of this exemption include, overdraft balances and certain revolving lines of credit. Judgment is required in determining the instruments in scope for this exemption and estimating the appropriate remaining life based on the historical experience and credit risk mitigation practices.

Assessment of significant increase in credit risk (SICR)

The assessment of significant increase in credit risk requires significant judgment. Movements between Stage 1 and Stage 2 are based on whether an instrument's credit risk as at the reporting date has increased significantly relative to the date it was initially recognized. For the purposes of this assessment, credit risk is based on an instrument's lifetime PD, not the losses the Bank expects to incur. The assessment is generally performed at the instrument level.

The Bank's assessment of significant increases in credit risk is performed at least quarterly based on three factors. If any of the following factors indicates that a significant increase in credit risk has occurred, the instrument is moved from Stage 1 to Stage 2:

(1) The Bank has established thresholds for significant increases in credit risk based on both a percentage and absolute change in lifetime PD relative to initial recognition.

(2) Additional qualitative reviews are performed to assess the staging results and make adjustments, as necessary, to better reflect the positions whose credit risk has increased significantly.

(3) Instruments which are 30 days past due are considered to have experienced a significant increase in credit risk, even if other metrics do not indicate that a significant increase in credit risk has occurred.

The thresholds for movement between Stage 1 and Stage 2 are symmetrical. After a financial asset has migrated to Stage 2, if its credit risk is no longer considered to have significantly increased relative to its initial recognition, the financial asset will move back to Stage 1.

For certain instruments with low credit risk as at the reporting date, it is presumed that credit risk has not increased significantly relative to initial recognition. Credit risk is considered to be low if the instrument has a low risk of default, and the borrower has the ability to fulfil their contractual obligations both in the near term and in the longer term, including periods of adverse changes in the economic or business environment. Certain interest-bearing deposits with banks and assets purchased under reverse repurchase agreements have been identified as having low credit risk.

Use of forward-looking information

The measurement of expected credit losses for each stage and the assessment of significant increase in credit risk considers information about past events and current conditions as well as reasonable and supportable projections of future events and economic conditions. The estimation and application of forward-looking information requires significant judgment.

The PD, LGD and EAD inputs used to estimate Stage 1 and Stage 2 credit loss allowances are modelled based on the macroeconomic variables (or changes in macroeconomic variables) that are most closely correlated with credit losses in the relevant portfolio. Each macroeconomic scenario used in the expected credit loss calculation includes a projection of all relevant macroeconomic variables used in the models for a five year period, subsequently reverting to long-run averages. Macroeconomic variables used in the expected credit loss models include, but are not limited to, gross domestic product, unemployment rates, bond yields, equity return indices, commercial real estate indices, and commodity prices. Depending on their usage in the models, macroeconomic variables may be projected at a country, or more granular level.

The Bank's estimation of expected credit losses in Stage 1 and Stage 2 is a discounted probability-weighted estimate that considers a minimum of three future macroeconomic scenarios. The Bank base case scenario is based on macroeconomic forecasts published by internal economics Bank.

Upside and downside scenarios vary relative to the Bank base case scenario based on reasonably possible alternative macroeconomic conditions. Additional and more severe downside scenarios are designed to capture material non-linearity of potential credit losses in portfolios. Scenario design, including the identification of additional downside scenarios, occurs at least on an annual basis and more frequently if conditions warrant.

Scenarios are designed to capture a wide range of possible outcomes and weighted according to the Bank best estimate of the relative likelihood of the range of outcomes that each scenario represents. Scenario weights take into account historical frequency, current trends, and forward-looking conditions and are updated on a quarterly basis. All scenarios considered are applied to all portfolios subject to expected credit losses with the same probabilities.

The Bank assessment of significant increases in credit risk is based on changes in probability-weighted forward-looking lifetime PD as at the reporting date, using the same macroeconomic scenarios as the calculation of expected credit losses.

Definition of default

The definition of default used in the measurement of expected credit losses is consistent with the definition of default used for RBC internal credit risk management purposes. The Bank's definition of default may differ across products and consider both quantitative and qualitative factors, such as the terms of financial covenants and days past due. Default occurs when the borrower is more than 90 days past due on any material obligation to us, and/or the Bank considers the borrower unlikely to make their payments in full without recourse action on RBCIS part, such as taking formal possession of any collateral held. The definition of default used is applied consistently from period to period and to all financial instruments unless it can be demonstrated that circumstances have changed such that another definition of default is more appropriate.

Credit-impaired financial assets (stage 3)

Financial assets are assessed for credit-impairment at each balance sheet date and more frequently when circumstances warrant further assessment. Evidence of credit-impairment may include indications that the borrower is experiencing significant financial difficulty, probability of bankruptcy or other financial reorganization, as well as a measurable decrease in the estimated future cash flows evidenced by the adverse changes in the payments status of the borrower or economic conditions that correlate with defaults. An asset that is in Stage 3 will move back to Stage 2 when, as at the reporting date, it is no longer considered to be credit-impaired.

The asset will transfer back to Stage 1 when its credit risk at the reporting date is no longer considered to have increased significantly from initial recognition, which could occur during the same reporting period as the transfer from Stage 3 to Stage 2.

When a financial asset has been identified as credit-impaired, expected credit losses are measured as the difference between the asset's gross carrying amount and the present value of estimated future cash flows discounted at the instrument's original effective interest rate. For impaired financial assets with drawn and undrawn components, expected credit losses also reflect any credit losses related to the portion of the loan commitment that is expected to be drawn down over the remaining life of the instrument.

When a financial asset is credit-impaired, interest ceases to be recognized on the regular accrual basis, which accrues income based on the gross carrying amount of the asset. Rather, interest income is calculated by applying the original effective interest rate to the amortized cost of the asset, which is the gross carrying amount less the related ACL. Following impairment, interest income is recognized on the unwinding of the discount from the initial recognition of impairment.

ACL for credit-impaired loans in stage 3 are established at the borrower level, where losses related to impaired loans are identified on individually significant loans, or collectively assessed and determined through the use of portfolio-based rates, without reference to particular loans.

Individually assessed loans (stage 3)

When individually significant loans are identified as impaired, the Bank reduces the carrying value of the loans to their estimated realizable value by recording an individually assessed ACL to cover identified credit losses. The individually assessed ACL reflects the expected amount of principal and interest calculated under the terms of the original loan agreement that will not be recovered, and the impact of time delays in collecting principal and/or interest (time value of money). The estimated realizable value for each individually significant loan is the present value of expected future cash flows discounted using the original effective interest rate for each loan. When the amounts and timing of future cash flows cannot be estimated with reasonable reliability, the estimated realizable amount may be determined using observable market prices for comparable loans, the fair value of collateral underlying the loans, and other reasonable and supported methods based on management judgment.

Individually-assessed allowances are established in consideration of a range of possible outcomes, which may include macroeconomic or non-macroeconomic scenarios, to the extent relevant to the circumstances of the specific borrower being assessed.

Assumptions used in estimating expected future cash flows reflect current and expected future economic conditions and are generally consistent with those used in Stage 1 and Stage 2 measurement.

Significant judgment is required in assessing evidence of credit-impairment and estimation of the amount and timing of future cash flows when determining expected credit losses. Changes in the amount expected to be recovered would have a direct impact on the allowance for credit losses and may result in a change in the ACL.

Collectively assessed loans

Loans that are collectively assessed are grouped on the basis of similar risk characteristics, taking into account loan type, industry, geographic location, collateral type, past due status and other relevant factors.

The collectively-assessed ACL reflects: (i) the expected amount of principal and interest calculated under the terms of the original loan agreement that will not be recovered, and (ii) the impact of time delays in collecting principal and/or interest (time value of money).

The expected principal and interest collection is estimated on a portfolio basis and references historical loss experience of comparable portfolios with similar credit risk characteristics, adjusted for the current environment and expected future conditions. A portfolio specific coverage ratio is applied against the impaired loan balance in determining the collectively-assessed ACL. The time value of money component is calculated by using the discount factors applied to groups of loans sharing common characteristics. The discount factors represent the expected recovery pattern of the comparable groups of loans, and reflect the historical experience of these groups adjusted for current and expected future economic conditions and/or industry factors.

Significant judgment is required in assessing evidence of impairment and estimation of the amount and timing of future cash flows when determining expected credit losses. Changes in the amount expected to be recovered would have a direct impact on the allowance for credit losses and may result in a change in the ACL.

Write-offs

Loans and advances are written off against the ACL, when there is no realistic prospect of recovery. Where loans are secured, they are generally written off after receipt of any proceeds from the realization of collateral. In circumstances where the net realizable value of any collateral has been determined and there is no reasonable expectation of further recovery, write off may be earlier.

Modifications

The original terms of a financial asset may be renegotiated or otherwise modified, resulting in changes to the contractual terms of the financial asset that affect the contractual cash flows. The treatment of such modifications is primarily based on the process undertaken to execute the renegotiation and the nature and extent of changes expected to result. Modifications which are performed for credit reasons, primarily related to troubled debt restructurings, are generally treated as modifications of the original financial asset. Modifications which are performed for other than credit reasons are generally considered to be an expiry of the original cash flows; accordingly, such renegotiations are treated as a derecognition of the original financial asset and recognition of a new financial asset.

If a modification of terms does not result in derecognition of the financial asset, the carrying amount of the financial asset is recalculated as the present value of the renegotiated or modified contractual cash flows, discounted at the original effective interest rate and a gain or loss is recognized. The financial asset continues to be subject to the same assessments for significant increase in credit risk relative to initial recognition and credit-impairment, as described above. A modified financial asset will transfer out of Stage 3 if the conditions that led to it being identified as credit-impaired are no longer present and relate objectively to an event occurring after the original credit-impairment was recognized. A modified financial asset will transfer out of Stage 2 when it no longer satisfies the relative thresholds set to identify significant increases in credit risk, which are based on changes in its lifetime PD, days past due and other qualitative considerations. The financial asset continues to be monitored for significant increases in credit risk and credit-impairment.

If a modification of terms results in derecognition of the original financial asset and recognition of the new financial asset, the new financial asset will generally be recorded in Stage 1, unless it is determined to be credit-impaired at the time of the renegotiation. For the purposes of assessing for significant increases in credit risk, the date of initial recognition for the new financial asset is the date of the modification.

Amortised cost

The amortised cost of a financial asset or financial liability is the amount at which the financial asset or liability is measured at initial recognition, minus principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between the initial amount recognised and the maturity amount (fees, premiums or discounts), minus any reduction for impairment.

Fair value

All financial instruments are initially recognised at fair value. The fair value of a financial instrument on initial recognition is normally the transaction price, that is, the fair value of the consideration given or received.

Subsequent to initial recognition, fair valuation of financial instruments measured at fair value is performed in accordance with RBCIS valuation methodologies which are described in Note 30.

Non-derivative financial assets and financial liabilities classification and measurement

Note 30 sets out the fair value of each class of financial asset or liability. A description of the basis of measurement for each designation is set out hereafter for each asset or liability class.

Loans and advances to banks and customers

Loans and advances not classified as trading or measured at fair value through profit or loss, or investment securities, are classified as loans and advances and measured at amortised cost.

Fair value through profit or loss

Assets and liabilities held for trading

Trading assets and liabilities are those acquired or incurred principally for the purpose of selling or repurchasing in the near term, or held as part of a portfolio which is managed together for short-term profit or position taking.

The Bank accounts for trading assets and liabilities using settlement date accounting.

Trading assets and liabilities are initially recognised and subsequently measured at fair value in the consolidated balance sheet with transaction costs taken directly to the income statement. The fair valuation of trading assets and liabilities is through profit or loss. All changes in fair value are recognised as part of “net income from financial instruments at fair value through profit or loss” in the consolidated income statement. Trading assets and liabilities are not reclassified subsequent to their initial recognition.

Assets and liabilities designated at fair value through profit or loss

Financial assets and liabilities are designated at fair value through profit or loss when:

- doing so significantly reduces measurement inconsistencies that would arise from measuring assets or liabilities or recognising the gains and losses on them on different basis, and
- certain investments, managed and evaluated on a fair value basis in accordance with a documented risk management or investment strategy and reported to key management personnel on that basis, are designated at fair value through profit or loss.

The classification at fair value through profit or loss is made on initial recognition provided it fulfils the stated conditions. No reclassification is possible subsequent to their initial recognition.

During 2022 and 2021, the Bank did not have any items designated at fair value through profit or loss.

Financial investments

Financial investments only include investment securities at FVOCI.

Investment securities

Investment securities are non-derivative investments that are not designated as another category of financial assets. Unquoted equity securities whose fair value cannot be reliably measured are carried at cost. All other investments securities are carried at fair value through OCI (FVOCI).

Foreign exchange gains or losses on available-for-sale debt security investments are recognised in the consolidated income statement. Other fair value changes are recognised directly in other comprehensive income until the investment is sold or impaired and the balance in other comprehensive income is recycled to the consolidated statement of profit or loss.

Financial liabilities

Financial liabilities are non-derivative liabilities that are not designated as at fair value through profit or loss or as trading liabilities.

Financial liabilities are initially measured at fair value net of transaction costs and subsequently carried at amortised cost.

Derivatives

Derivatives are used to manage Bank's exposure to currency risk. The most frequently used derivative products are foreign exchange swaps and forward rate agreements. All derivative instruments are recorded on the Balance Sheet at fair value on the date a derivative is entered into, and they are subsequently remeasured to their fair value at the end of each reporting period. The fair valuation of derivatives is through profit or loss.

The realized and unrealized gains and losses on all derivatives are recognized in Net income from financial instruments at fair value through profit or loss. Derivatives with positive fair values are reported as Derivative assets and derivatives with negative fair values are reported as Derivative liabilities. In accordance with the Bank's policy for offsetting financial assets and financial liabilities, the net fair value of certain derivative assets and liabilities are reported as an asset or liability, as appropriate. Valuation adjustments are included in the fair value of Derivative assets and Derivative liabilities. Premiums paid and premiums received are shown in Derivative assets and Derivative liabilities, respectively.

The Bank uses foreign exchange contracts and foreign currency-denominated liabilities to manage the foreign currency exposures to net investments in foreign operations having a functional currency other than the euro.

Determination of fair value

The fair value of a financial instrument is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Bank determines fair value by incorporating all factors that market participants would consider in setting a price, including commonly accepted valuation approaches.

Valuation adjustments are recorded for the credit risk of Bank's derivative portfolios in order to arrive at their fair values. Credit valuation adjustments (CVA) take into account the Bank's counterparties' creditworthiness, the current and potential future mark-to-market of transactions, and the effects of credit mitigants such as master netting and collateral agreements. CVA amounts are derived from estimates of exposure at default, probability of default, recovery rates on a counterparty basis, and market and credit factor correlations. Exposure at default is the value of expected derivative related assets and liabilities at the time of default, estimated through modelling using underlying risk factors. Probability of default and recovery rate are implied from the market prices for credit protection and the credit ratings of the counterparty.

When market data is unavailable, it is estimated by incorporating assumptions and adjustments that market participants would use for determining fair value using these inputs. Correlation is the statistical measure of how credit and market factors may move in relation to one another. Correlation is estimated using historical data. CVA is calculated daily and changes are recorded in Net income from financial instruments at fair value through profit or loss.

Where required, a valuation adjustment is made to reflect the unrealized gain or loss at inception of a financial instrument contract where the fair value of that financial instrument is not obtained from a quoted market price or cannot be evidenced by other observable market transactions based on a valuation technique incorporating observable market data.

A bid-offer valuation adjustment is required when a financial instrument is valued at the mid-market price, instead of the bid or offer price for asset or liability positions, respectively. The valuation adjustment takes into account the spread from the mid to either the bid or offer price.

Some valuation models require parameter calibration from such factors as market observable option prices. The calibration of parameters may be sensitive to factors such as the choice of instruments or optimization methodology.

A valuation adjustment is also estimated to mitigate the uncertainties of parameter calibration and model limitations.

In determining fair value, a hierarchy is used which prioritizes the inputs to valuation techniques. The fair value hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). Determination of fair value based on this hierarchy requires the use of observable market data whenever available. Level 1 inputs are unadjusted quoted prices in active markets for identical assets or liabilities that RBCIS has the ability to access at the measurement date. Level 2 inputs include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, and model inputs that are either observable, or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Level 3 inputs are one or more inputs that are unobservable and significant to the fair value of the asset or liability. Unobservable inputs are used to measure fair value to the extent that observable inputs are not available at the measurement date. The availability of inputs for valuation may affect the selection of valuation techniques. The classification of a financial instrument in the hierarchy for disclosure purposes is based upon the lowest level of input that is significant to the measurement of fair value.

Where observable prices or inputs are not available, management judgment is required to determine fair values by assessing other relevant sources of information such as historical data, proxy information from similar transactions, and through extrapolation and interpolation techniques. For more complex or illiquid instruments, significant judgment is required in the determination of the model used, the selection of model inputs, and in some cases the application of valuation adjustments to the model value or quoted price for inactively traded financial instruments, as the selection of model inputs may be subjective and the inputs may be unobservable. Unobservable inputs are inherently uncertain as there is little or no market data available from which to determine the level at which the transaction would occur under normal business circumstances. Appropriate parameter uncertainty and market risk valuation adjustments for such inputs and other model risk valuation adjustments are assessed in all such instances.

Derecognition of financial assets

Financial assets are derecognized from the Balance Sheet when Bank's contractual rights to the cash flows from the assets have expired, when RBCIS retains the rights to receive the cash flows of the assets but assume an obligation to pay those cash flows to a third party subject to certain pass-through requirements or when RBCIS transfers RBCIS's contractual rights to receive the cash flows and substantially all of the risk and rewards of the assets have been transferred. When RBCIS retains substantially all of the risks and rewards of the transferred assets, the transferred assets are not derecognized from the Balance Sheet and are accounted for as secured financing transactions. When RBCIS neither retains nor transfer substantially all risks and rewards of ownership of the assets, RBCIS derecognizes the assets if control over the assets is relinquished. If RBCIS retains control over the transferred assets, RBCIS continues to recognize the transferred assets to the extent of RBCIS's continuing involvement.

Derecognition of financial liabilities

The Bank derecognizes a financial liability from the consolidated balance sheet when Bank's obligation specified on the contract expires, or is discharged or cancelled, the Bank recognizes the difference between the carrying amount of a financial liability transferred and the consideration paid in the consolidated statements of profit or loss.

Offsetting a financial asset and a financial liability

A financial asset and a financial liability shall be offset and the net amount presented on the consolidated balance sheet, when and only when, an entity:

- currently has an enforceable right to set off the recognised amounts, and
- intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

This is not generally the case with master netting agreements, therefore the related assets and liabilities are presented gross in the balance sheet, unless actual net settlement takes place.

Tangible assets

Tangible assets are measured at cost less accumulated depreciation and impairment losses.

Cost includes expenditures that are directly attributable to the acquisition of the asset.

Depreciation is recognised in the statement of profit or loss principally on a straight-line basis over the estimated useful lives of assets which are:

- Buildings 15-50 years
- Leasehold property life of lease, up to 50 years
- IT equipment 3-5 years
- Fixtures and fittings 5 years
- Leasehold improvements the lower of the useful life of the leasehold improvement or the lease term plus one renewal option period, up to a maximum of 10 years.

Leasehold properties refers to the right of use assets recognised based on application of IFRS16 to the lease arrangements that the Bank has in place as lessee.

When parts of tangible assets have different useful lives, they are accounted for as separate items (major components).

The cost of replacing part of tangible assets is recognised in the carrying amount of the item if it is probable that the future economic benefits embodied within the part will flow to the Bank and its cost can be measured reliably. The costs of the day-to-day servicing of tangible assets are recognised in the statement of profit or loss as incurred.

Gains and losses on disposals are recognised in the statement of profit or loss as other income or other expense.

Goodwill

Goodwill is reviewed annually in October for impairment or more frequently if events or circumstances indicate that impairment may have occurred, by comparing the carrying value of goodwill to its recoverable amount. An impairment charge arises if the carrying value exceeds the recoverable amount. The recoverable amount of an asset is the higher of its fair value less costs to sell (FVLCD) and its Value in Use (VIU), where the VIU is the present value of the future cash flows expected to be derived from the asset.

Goodwill is allocated to cash-generating units or groups of cash-generating units for the purpose of impairment testing, which is undertaken at the lowest level at which goodwill is monitored for internal management purposes. Fair value less costs of disposal is the amount obtainable from the sale of a CGU in an orderly transaction between market participants, less disposal costs. The fair value of a CGU is estimated using valuation techniques such as a discounted cash flow method, adjusted to reflect the considerations of a prospective third-party buyer. External evidence such as binding sale agreements or recent transactions for similar businesses within the same industry is considered to the extent that it is available.

Significant judgment is involved in estimating the model inputs used to determine the recoverable amount of CGUs, in particular future cash flows, discount rates and terminal growth rates, due to the uncertainty in the timing and amount of cash flows and the forward-looking nature of these inputs. Future cash flows are based on financial plans agreed by management which are estimated based on forecast results, business initiatives, planned capital investments and returns to shareholders.

Discount rates are based on the Bank's cost of capital, adjusted for CGU-specific risks and currency exposure as reflected by differences in expected inflation. Bank-wide cost of capital is based on the Capital Asset Pricing Model. CGU-specific risks include country risk, business/operational risk, geographic risk (including political risk, devaluation risk, and government regulation), currency risk, and price risk (including product pricing risk and inflation). Terminal growth rates reflect the expected long-term gross domestic product growth and inflation for the countries within which the CGU operates.

Changes in these assumptions may impact the amount of impairment loss recognized.

The carrying amount of a CGU includes the carrying amount of assets, liabilities and goodwill allocated to the CGU. If the recoverable amount is less than the carrying value, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the CGU and then to the other non-financial assets of the CGU proportionately based on the carrying amount of each asset. Any impairment loss is charged to income in the period in which the impairment is identified.

Goodwill is stated at cost less accumulated impairment losses. Subsequent reversals of goodwill impairment are prohibited.

Upon disposal of a portion of a CGU, the carrying amount of goodwill related to the portion of the CGU sold is included in the determination of gains or losses on disposal. The carrying amount is determined based on the relative fair value of the disposed portion to the total CGU.

Other intangible assets

Intangible assets represent identifiable non-monetary assets and are acquired either separately or through a business combination, or generated internally. Intangible assets acquired through a business combination are recognized separately from goodwill when they are separable or arise from contractual or other legal rights, and their fair value can be measured reliably. The cost of a separately acquired intangible asset includes its purchase price and directly attributable costs of preparing the asset for its intended use. In respect of internally generated intangible assets, cost includes all directly attributable costs necessary to create, produce, and prepare the asset to be capable of operating in the manner intended by management. Research and development costs that are not eligible for capitalization are expensed. After initial recognition, an intangible asset is carried at its cost less any accumulated amortization and accumulated impairment losses, if any.

Intangible assets with a finite-life are amortized on a straight-line basis over their estimated useful lives as follows: computer software – 3 to 10 years; and customer relationships – 10 years. The Bank does not have any intangible assets with indefinite lives.

Intangible assets are assessed for indicators of impairment at each reporting period. If there is an indication that an intangible asset may be impaired, an impairment test is performed by comparing the carrying amount of the intangible asset to its recoverable amount. Where it is not possible to estimate the recoverable amount of an individual asset, the Bank estimates the recoverable amount of the CGU to which the asset belongs. If the recoverable amount of the asset (or CGU) is less than its carrying amount, the carrying amount of the intangible asset is written down to its recoverable amount as an impairment loss.

An impairment loss recognized previously is reversed if there is a change in the estimates used to determine the recoverable amount of the asset (or CGU) since the last impairment loss was recognized. If an impairment loss is subsequently reversed, the carrying amount of the asset (or CGU) is revised to the lower of its recoverable amount and the carrying amount that would have been determined (net of amortization) had there been no prior impairment.

Due to the subjective nature of these estimates, significant judgment is required in determining the useful lives and recoverable amounts of intangible assets, and assessing whether certain events or circumstances constitute objective evidence of impairment. Estimates of the recoverable amounts of intangible assets rely on certain key inputs, including future cash flows and discount rates. Future cash flows are based on sales projections and allocated costs which are estimated based on forecast results and business initiatives. Discount rates are based on the Bank's cost of capital, adjusted for asset-specific risks. Changes in these assumptions may impact the amount of impairment loss recognized in impairment of tangible and intangible assets.

Other intangible assets mainly consist of internally generated and acquired software.

Expenditures on internally developed software are recognised as an asset when the Bank is able to demonstrate its intention and ability to complete the development and use the software in a manner that will generate future economic benefits, and can reliably measure the costs to complete the development. Projects fulfilling this requirement are qualified strategic projects and eligible for capitalisation.

The capitalised costs of internally developed software, that are part of strategic projects, include all internal and external costs directly attributable to developing the software.

Software and other intangible assets that have finite useful lives are measured at cost less accumulated amortisation and accumulated impairment losses.

A pooled methodology is applied to internal software development projects when the total cost of the project is less than EUR 9 million Monthly expenditures are pooled together and a standard capitalization rate is applied as follows.

- The capitalization rate is assessed on an annual basis, and adjusted if necessary to reflect the nature of the actual expenditures.
- Amortization of the pool begins 1 year from the month the expense is incurred, which is usually when the software is available for use.

- Capitalized costs are amortized over 36 months.
- Interest costs are not capitalized as they are deemed immaterial for projects of this size.

Amortisation is charged through the statement of profit or loss on a straight-line basis over the estimated useful life. The estimated useful life for capitalised development costs and other intangibles varies from 2 to 10 years.

Subsequent expenditures are capitalised only when it increases the future economic benefits embodied in the specific asset to which it relates; otherwise it is expensed.

Leasing

At inception of a contract, the Bank assesses whether a contract is or contains a lease. A contract is, or contains, a lease if the contract conveys the right to obtain substantially all of the economic benefits from, and direct the use of, an identified asset for a period of time in return for consideration.

When the Bank is the lessee in a lease arrangement, the Bank initially records a right-of-use asset and corresponding lease liability, except for short-term leases and leases of low-value assets. Short-term leases are leases with a lease term of 12 months or less. Low-value assets are unspecialized, common, technologically unsophisticated, widely available, and widely used non-infrastructure assets with a value lower than USD 5 thousands. For short-term leases and leases of low-value assets, the Bank records the lease payments as an operating expense on a straight-line basis over the lease term.

Where the Bank is reasonably certain to exercise extension and termination options, they are included in the lease term.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted at the incremental borrowing rate of the Bank. The lease liability is subsequently measured at amortized cost using the effective interest method, and recorded in Interest expense.

The right-of-use asset is initially measured based on the initial amount of the lease liability, adjusted for lease payments made on or before the commencement date, initial direct costs incurred, and an estimate of costs to dismantle, remove, or restore the asset, less any lease incentives received. Costs relating to dismantling and removing leasehold improvements are capitalized as part of the leasehold improvement asset (rather than the right-of-use asset of the lease) when the leasehold improvements are separately capitalized.

The right-of-use asset is depreciated to the earlier of the lease term and the useful life, unless ownership will transfer to the Bank or the Bank is reasonably certain to exercise a purchase option, in which case the useful life of the right-of-use asset is used. IAS 36 Impairment of assets is applied to determine whether a right-of-use asset is impaired and account for any identified impairment loss as described in the premises and equipment accounting policies above.

Income tax

Income tax comprises current tax and deferred tax and is recognized in RBCIS's Statements of profit or loss except to the extent that it relates to items recognized directly in equity, in which case it is recognized in equity.

Current income tax payable on profits is recognized as an expense based on the applicable tax laws in each jurisdiction in the period in which profits arise, calculated using tax rates enacted or substantively enacted at the balance sheet date. Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities for accounting and tax purposes. A deferred income tax asset or liability is determined for each temporary difference, except for earnings related to Branches, associates and interests in joint ventures where the temporary differences will not reverse in the foreseeable future and the Bank has the ability to control the timing of reversal.

Deferred tax assets and liabilities are determined based on the tax rates that are expected to be in effect in the period that the asset is realized or the liability is settled, based on tax rates and tax laws that have been enacted or substantively enacted at the balance sheet date. Current tax assets and liabilities are offset when they are levied by the same taxation authority on either the same taxable entity or different taxable entities within the same tax reporting Bank (which intends to settle on a net basis), and when there is a legal right to offset. Deferred tax assets and liabilities are offset when the same conditions are satisfied. The Bank's Statements of profit or loss include items that are non-taxable or non-deductible for income tax purposes and, accordingly, this causes the income tax provision to be different from what it would be if based on statutory rates.

The Bank is subject to income tax laws in various jurisdictions where the Bank operates, and the complex tax laws are potentially subject to different interpretations by us and the relevant taxation authority. Management's judgment is applied in interpreting the relevant tax laws, in assessing the probability of acceptance of the Bank's tax positions by the relevant tax authorities and estimating the expected timing and amount of the provision for current and deferred income taxes.

A deferred tax asset or liability is determined for each temporary difference based on the tax rates that are expected to be in effect in the period that the asset is realized or the liability is settled. Where the temporary differences will not reverse in the foreseeable future, no deferred tax amount is recognized.

On a quarterly basis, the Bank reviews whether it is probable that the benefits associated with the Bank's deferred tax assets will be realized, using both positive and negative evidence. Refer to Note 13 of the Financial Statements for further information.

Employee benefits - Pensions

The Bank offers a number of defined benefit and defined contribution plans for pensions and other benefits to employees.

The defined benefit pension expense, which is included in staff expense, consists of the cost of employee pension benefits for the current year's service, net interest on the net defined benefit liability (asset), past service cost and gains or losses on settlement. Re-measurements of the net defined benefit obligation, which comprise actuarial gains and losses and return on plan assets (excluding amounts included in net interest on the net defined benefit liability), are recognized immediately in other comprehensive income (OCI) in the period in which they occur. Actuarial gains and losses comprise experience adjustments (the effects of differences between the previous actuarial assumptions and what has actually occurred), as well as the effects of changes in actuarial assumptions. Amounts recognized in OCI will not be reclassified subsequently to net income. Past service cost is the change in the present value of the defined benefit obligation resulting from a plan amendment or curtailment and is charged immediately to income.

For each defined benefit pension plan, the Bank recognizes the present value of the defined benefit obligations less the fair value of the plan assets as a defined benefit liability reported in Other liabilities - Employee benefit liabilities on Balance Sheet. For plans where there is a net defined benefit asset, the amount is reported as an asset in Other assets - Employee benefit assets on the Balance sheet.

The calculation of defined benefit expenses and obligations requires significant judgment as the recognition is dependent on discount rates and various actuarial assumptions such as healthcare cost trend rates, projected salary increases, retirement age, and mortality and termination rates. Due to the long-term nature of these plans, such estimates and assumptions are subject to inherent risks and uncertainties. For pension and other post-employment benefit plans, the discount rate is determined by reference to market yields on high quality corporate bonds. Since the discount rate is based on currently available yields, and involves management's assessment of market liquidity, it is only a proxy for future yields.

Actuarial assumptions, set in accordance with current practices in the respective countries of benefit plans, may differ from actual experience as country specific statistics are only estimates of future employee behaviour. These assumptions are determined by management and are reviewed by actuaries at least annually. Changes to any of the above assumptions may affect the amounts of benefits obligations, expenses and remeasurements that the Bank recognizes (see Note 11).

The Bank contributions to defined contribution pension plans are expensed when employees have rendered services in exchange for such contributions. Defined contribution pension expense is included in Staff Expenses.

Other long-term employee benefits

The Bank offers a number of other long-term employee benefits. The plans are unfunded.

The net obligation in respect of long-term employee benefits is the amount of future benefit that employees have earned in return for their service in the current and prior periods. Such benefits are discounted to determine their present value. The discount rate is based on the yield at the reporting date of credit-rated bonds with maturity dates approximating the terms of the Bank's obligations. Any actuarial gains or losses are recognised in the statement of profit or loss in the period in which they arise.

Termination benefits

Termination benefits are recognised as an expense when the Bank is demonstrably committed, without realistic possibility of withdrawal, to a formal detailed plan to terminate employment before the normal retirement date.

Short-term benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are expensed as the related service is provided.

A provision is recognised for the amount expected to be paid under short-term cash bonus or profit-sharing plans if the Bank has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee and the obligation can be estimated reliably.

Employee entitlements

Employee entitlements to annual leave and long service leave are recognised when they accrue to employees.

A provision is made for the estimated liability for annual leave and long-service leave as a result of services rendered by employees up to the balance sheet date.

Share-based compensation

The Bank also offers share-based compensation plans to certain key employees and to non-employee directors on a cash-settled basis. For cash-settled awards, accrued obligations are adjusted to their fair value at each balance sheet date. Changes in the Bank's obligations, are recorded in Staff expenses in Statements of profit or loss with a corresponding increase in Other liabilities. Compensation expense is recognized in the year the awards are earned by plan participants based on the vesting period of the relevant plans, net of estimated forfeitures.

The Bank contributions to the employee savings and share ownership plans are expensed as incurred.

Provisions

Provisions are liabilities of uncertain timing or amount and are recognized when the Bank has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation. Provisions are measured at the present value of the best estimate of the expenditure required to settle the present obligation at the end of the reporting date. Significant judgment is required in determining whether a present obligation exists and in estimating the probability, timing and amount of any outflows.

The forward-looking nature of these estimates requires the Bank to use a significant amount of judgment in projecting the timing and amount of future cash flows. The Bank records its provisions on the basis of all available information at the end of the reporting period and make adjustments on a quarterly basis to reflect current expectations. Should actual results differ from expectations, The Bank may incur expenses in excess of the provisions recognized.

When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, such as an insurer, a separate asset is recognized if it is virtually certain that reimbursement will be received.

Financial guarantees contracts and loan committments

A financial guarantee contract is defined as a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the original or modified terms of a debt instrument (see Note 39).

Where a contract meets the definition above, it is recognised initially on balance sheet at fair value and subsequently, measured at the higher of:

- The life time expected credit losses (See Note 32).
- The amount initially recognised less the cumulative amount of income recognised in accordance with the principles of IFRS 15.

For loan commitments and financial guarantee contracts, the loss allowance is recognised as a provision. However, for contracts that include both a loan and an undrawn commitment, and the Bank cannot separately identify the expected credit losses (ECL) on the undrawn amount component from those on the loan commitment, the expected credit losses on the undrawn commitment are recognised together with the loss allowance for the loan. To the extent that the combined expected credit losses exceed the gross carrying amount of the loan, the expected credit losses are recognised as a provision.

Dividends on ordinary shares

Dividend income is recognized when the right to receive payment is established. This is usually the date when shareholders have approved the dividend. Dividends for the year that are declared after the balance sheet date but before issuing financial statements are disclosed in the subsequent events note.

Assets held on behalf of clients

Non-cash client assets, liabilities, and related income and expenses arising thereon are excluded from these financial statements.

Cash and cash equivalents

For the purpose of the statement of cash flow, cash and cash equivalents include notes and coins on hand, balances held with central banks and highly liquid financial assets with original maturities of less than three months, including loans and advances due from banks, which are held for the purpose of meeting short-term cash commitments rather than for investment or other purposes.

Non-current assets held for sale and discontinued operations

Non-current assets (and disposal groups) are classified as held for sale if their carrying amounts will be recovered principally through a sale transaction rather than through continuing use. This condition is satisfied when the asset is available for immediate sale in its present condition, management is committed to the sale, and it is highly probable to occur within one year.

Non-current assets (and disposal groups) classified as held for sale are measured at the lower of their previous carrying amount and fair value less costs to sell and if significant, are presented separately from other assets on Balance Sheet.

Residual Profit Split (RPS)

For transfer pricing purposes, RBC Investor Services applies a residual profit split methodology (RPS). The financial impact of RPS is recorded as a separate line in the statement of profit and loss. The amounts posted in this line reflect the Profit or Loss adjustment booked by the Bank to reflect the arm’s length profit allocated to the entities of the Investor Services business, as determined by the OECD’s Profit Split method (residual analysis) (“RPS method”).

2. Interest income and expense

EUR'000	For the year ended Oct 31, 2022	Oct 31, 2021
Interest income		
Interest income		
Cash and balances with central banks	8,950	-
Loans and advances to banks (1)	65,486	11,670
Loans and advances to customers	31,757	16,700
Investment securities	4,560	-
Negative interest on customer deposits	48,848	72,127
Total interest income	**159,601**	**100,497**
Interest expense		
Interest expense		
Deposits from banks	(7,990)	(1,192)
Investment securities	-	(1,951)
Customer borrowings and deposits (2)	(45,186)	(613)
Subordinated debt (3)	(20,308)	(13,598)
Lease liabilities	(655)	(202)
Negative interest on deposits placed	(16,100)	(32,380)
Total interest expense	**(90,239)**	**(49,936)**
Net interest income	**69,362**	**50,561**

(1) Increase in 3-month USD rates from 0.2% average in FY 2021 to 1.1% average in FY 2022 resulting in a year-on-year increase in interest income in respect of deposits placed with Royal Bank of Canada (€5.8 billion).
(2) Increase of overnight rates in all currencies, in line with the increasing interest rate environment.
(3) Increase is due to the higher interest rate for FY 2022 compared to FY 2021 combined with the USD/EUR fx rate decrease which resulted in an increase on the EUR equivalent amount.

3. Fee and commission income and expense

EUR'000	For the year ended Oct 31, 2022			Oct 31, 2021		
A. Custody, transfer agent and administration services	Income	Expense	Net	Income	Expense	Net
Custody	79,090	(21,591)	57,499	80,947	(21,499)	59,448
Fund administration	39,799	(10,868)	28,931	39,405	(11,015)	28,390
Transfer agent	65,244	(4,617)	60,627	67,743	(3,263)	64,480
Trustee & Compliance	4,409	-	4,409	4,825	-	4,825
Transfer agent, custody and administration transaction fees	20,934	-	20,934	23,126	-	23,126
Derivative processing and settlement fees	8,109	-	8,109	10,526	-	10,526
Subtotal	217,585	(37,076)	180,509	226,572	(35,777)	190,795
B. Other commissions						
Securities lending	2,825	(3)	2,822	2,372	-	2,372
Other (1)	17,745	(25,750)	(8,005)	22,217	(22,853)	(636)
Subtotal	20,570	(25,753)	(5,183)	24,589	(22,853)	1,736
Total	238,155	(62,829)	175,326	251,161	(58,630)	192,531

(1) Other commission income and expenses largely comprise fees from tax reclaims, loan facility fees, agent and correspondent banking agent fees.

4. Dividend income

EUR'000	For the year ended Oct 31, 2022	Oct 31, 2021
Dividend income received from:		
RBC Investor Services Holding (Hong Kong) Limited	46	1,027
RBC Investor Services (Malaysia) Sdn Bhd	-	970
Total	46	1,997

5. Net income from financial instruments at fair value through profit or loss

EUR'000	For the year ended Oct 31, 2022	Oct 31, 2021
Net income from financial instruments at fair value through profit or loss	117,330	106,286
Total	117,330	106,286

Net income from financial instruments at fair value through profit or loss, includes income earned from provision of foreign currency services to clients, change in fair value of derivatives, and foreign currency gains and losses arising from re-measurement of foreign currency assets and liabilities into functional currency.

6. Net gain/(loss) on investments

EUR'000	For the year ended Oct 31, 2022	Oct 31, 2021
Gains on disposal of investment securities at FVOCI	3	15
Total	3	15

7. Residual profit split (RPS)

EUR'000	For the year ended Oct 31, 2022	Oct 31, 2021
Residual profit/(loss) split	20,197	(2,954)

For transfer pricing purposes, RBC Investor Services applies a residual profit split methodology (RPS).

The amount recorded in the Profit or Loss is the adjustment to profits, based on the allocation of profits to the entities of the Investor Services business, as determined by the OECD's Profit Split method (residual analysis) ("RPS method").

The variance between 2022 and 2021, is driven by the relative performance of RBC IS Bank compared to RBC IS Trust for the respective years.

8. Other income and Other expenses

8.1 Other Income

EUR'000	For the year ended Oct 31, 2022	Oct 31, 2021
Re-invoicing of costs	33	-
Gains on sale of tangible assets	1	-
Other income	601	815
Total	635	815

8. Other income and Other expenses (cont'd)

8.2 Other Expenses

	For the year ended	
EUR'000	Oct 31, 2022	Oct 31, 2021 (2)
Operational taxes (withholding tax)	-	(5)
Total	-	(5)

9. Provisions for litigations and operating risk events

	For the year ended	
EUR'000	Oct 31, 2022	Oct 31, 2021
Litigations	(421)	(648)
Operational risk events (1)	(3,120)	(1,503)
Total	(3,541)	(2,151)

(1) Operational risk events includes provisions in respect of losses incurred arising from control deficiencies and operational incidents.

10. Net allowance for expected credit loss

	For the year ended	
EUR'000	Oct 31, 2022	Oct 31, 2021
Loans and advances to banks	(20)	-
Loans and advances to customers	3	417
Investment securities at FVOCI	-	68
Other assets	(1,530)	(286)
Off Balance Sheet Commitments	(3)	51
Total	(1,550)	250

Positive and negative ECL amounts for the year represent changes in the provision for ECL. Refer to Note 32 which provides additional disclosures.

11. Staff expenses

	For the year ended	
EUR'000	Oct 31, 2022	Oct 31, 2021
Wages and salaries	98,445	101,762
Social security and insurance costs	13,641	14,605
Pension costs – defined benefit plans	502	441
Pension costs – defined contribution plans	4,704	3,714
Long term employee benefits (1)	4,177	7,177
Severance costs (2)	3,820	14,684
Other expenses (3)	4,908	3,617
Total	130,197	146,000

(1) Long term employee benefits include the RBC International Savings Plan which is based on the performance of RBC common shares.

11. Staff expenses (cont'd)

(2) In recognition of the continuing challenging market conditions and operating environment, the Board of the RBC IS Bank S.A. approved on March 2, 2021, a 2nd restructuring program, in order to make the business more competitive and position the business for future growth. The restructuring costs recorded in FY 2021 were EUR 9 million. Restructuring costs of EUR 3,8 million were recorded in FY 2022. The restructuring program was closed in June 2022.
In FY 2021, a significant client of the Bank's Milan Branch, Unione di Banche Italiane (UBI), was acquired by Intesa Sanpaolo Group (ISP). In June 2021, management decided to exit the domestic asset services in the Italian market, and close the Milan Branch. Severance and restructuring costs of EUR 6 million were recorded in FY 2021. The Milan branch has ceased all operational activities as at October 2022.
Severance costs of the restructuring programs have been based on statutory requirements and social plans agreed with employee representatives.
(3) Other expenses include other non-payroll staff benefits.

Breakdown by country

Average full time employees for the year ended October 31, 2022

	Senior executives	Employees	Total
Ireland	-	64	64
Italy	1	38	39
Luxembourg	10	733	743
Switzerland	4	22	26
United Kingdom	-	1	1
United States	2	2	4
Total	**17**	**860**	**877**

Average full time employees for the year ended October 31, 2021

	Senior executives	Employees	Total
Ireland	2	52	54
Italy	2	77	79
Luxembourg	14	911	925
Switzerland	3	26	29
United Kingdom	1	3	4
United States	1	2	3
Total	**23**	**1,071**	**1,094**

12. General and administrative expenses

EUR'000	Oct 31, 2022	For the year ended Oct 31, 2021
Technology and system costs (1)	57,151	56,830
Professional fees	39,194	31,635
Properties and office equipment rental expense	2,486	2,360
Business levies and taxes, including VAT (2)	16,080	11,168
Market data costs	8,635	8,254
Software costs and research	8,468	5,968
Occupancy	574	362
Repair and maintenance expenses	3,312	2,439
Business travel	472	16
Re-invoicing of costs	1,589	2,050
Marketing, advertising and public relations	714	246
Insurance	93	65
Other general and administrative expenses	21,268	17,406
Total	160,036	138,799

(1) Technology and system costs, and Professional fees were due mainly to costs incurred on the successful implementation of two major IT projects during the year.
  a) Implementation of RBC custody and treasury applications with enhanced maintenance and improved controls, replacing the legacy BLS application.
  b) Implementation of the Luxembourg Data Centre providing physical and network infrastructure, operating systems and database management systems, which provides benefits of reduced operational risk, and increased service quality and stability.

(2) Increase is due mainly to the increased costs for the Bank's contribution to the Single Resolution Fund established by the European Union for the resolution of credit institutions.

Analysis of fees charged by the Independent Auditors (excluding VAT)

EUR'000	Oct 31, 2022	For the year ended Oct 31, 2021
Audit fees	869	904
Other assurance services	241	217
Total	1,110	1,121

The other assurance services refer to non-audit services provided to the Bank in the period from November 1, 2021 to October 31, 2022. The non-audit services include the recurring engagement in compliance with the International Standard on Assurance Engagements (ISAE) 3402 in respect of with the suitability of the Design and Operating Effectiveness of the Bank's controls.

13. Income tax

Income tax

EUR'000	Oct 31, 2022	For the year ended Oct 31, 2021
Current income tax	12,305	5,596
Adjustment to prior years	50	(166)
Total current income tax	12,355	5,430
Current year deferred tax	(321)	328
Adjustments to prior years	-	(4)
Total deferred tax	(321)	324
Total	12,034	5,754

13. Income taxes (cont'd)

Reconciliation of statutory tax rate

EUR'000	For the year ended Oct 31, 2022	Oct 31, 2021
Profit before income tax	40,815	20,312
Statutory tax rate (1)	26.15%	26.43%
Income tax at applicable statutory tax rate	10,673	5,368
(Decrease)/Increase in income tax resulting from:		
Tax effect of non deductible expenses	18	1,109
Tax effect of non-taxable income	(12)	(625)
Adjustments in respect of prior periods	50	(170)
Others	1,305	72
Income tax	12,034	5,754
Effective tax rate	25.87%	28.33%

(1) The statutory tax rate represents the weighted average of result before income tax by jurisdiction multiplied by the applicable statutory tax rate.

There were no temporary differences associated with the Bank's investment in its branches for which deferred taxation has not been recognised.

Deferred tax

a. Analysis by nature

EUR'000	Oct 31, 2022	Oct 31, 2021
Deferred tax assets	2,553	962
Deferred tax liabilities	-	(49)
Net deferred income tax asset/(liabilities)	2,553	913

Deferred tax balances are presented in the balance sheet after offsetting assets and liabilities balances where the Bank has the legal right to offset and intends to settle on a net basis.

Management's forecasts support the assumption that the results of future operations will generate sufficient taxable income to utilise the deferred tax asset.

13. Income taxes (cont'd)

b. Movements

EUR'000	For the year ended Oct 31, 2022	Oct 31, 2021
Opening balance	913	824
Movements during the year		
Items recognised in the statement of profit or loss	321	(324)
Items recognised in OCI	1,243	412
of which relate to changes in tax rates	-	-
of which relate to movements for the year	*1,243*	*412*
Revaluation	39	1
of which relate to Revaluation of OCI	*48*	*9*
Others	37	-
Closing balance	2,553	913
Deferred income tax derived from assets		
Investment securities	1,595	(49)
Subtotal	1,595	(49)
Deferred income tax derived from liabilities		
Provisions other obligations	127	99
Post retirement employee benefit plans	381	735
Other non-allocated liabilities	164	128
Tax losses carried forward	286	-
Subtotal	958	962
Total	2,553	913

14. Cash and cash equivalents

Information included within Note 14 is for the purpose of reconciliation with the statement of changes in cash flows. Cash and cash equivalents includes notes and cash on hand, balances held with central banks and highly liquid financial assets with maturity dates of less than 90 days from the date of acquisition excluding accrued interest. It includes loans and advances to banks, which are held for the purpose of meeting short-term cash commitments rather than for investment or other purposes.

Analysis by nature

EUR'000	Oct 31, 2022	Oct 31, 2021
Cash and balances with central banks (1)	12,197,226	9,341,230
Loans and advances to banks	570,895	8,018,607
Total	12,768,121	17,359,837

Of which restricted cash

EUR'000	Oct 31, 2022	Oct 31, 2021
Mandatory reserves (1)	110,475	354,551

(1) Mandatory reserves: minimum reserve deposit which banks must have with central banks.

15. Cash and balances with central banks

EUR'000	Oct 31, 2022	Oct 31, 2021
Balances with central banks other than mandatory reserve deposits	12,088,784	8,983,505
Mandatory reserve deposits	110,475	354,551
Total	12,199,259	9,338,056
of which included in cash and cash equivalents (excl. accrued interest)	*12,197,226*	*9,341,230*

16. Loans and advances to banks

Analysis by nature

EUR'000	Oct 31, 2022	Oct 31, 2021
Nostro accounts	335,651	321,064
Cash collateral – Derivatives transactions	147,615	105,145
Loans and advances to banks (1)	236,143	7,711,353
Expected Credit Loss	(19)	-
Total	719,390	8,137,562
of which included in cash and cash equivalents (excl. accrued interest and cash collateral)	*570,895*	*8,018,607*

(1) Decrease in loans and other advances is due mainly to term deposits with Royal Bank of Canada (US$6,5billion) and with RBC Europe Ltd. (€1,4billion) which matured during the year.

17. Loans and advances to customers

Analysis by nature

EUR'000	Oct 31, 2022	Oct 31, 2021
Cash collateral – derivative transactions	95,054	74,111
Loans and other advances	1,557,238	1,200,363
Expected Credit Loss	(265)	(259)
Total	1,652,027	1,274,215

The majority of the loans and advances to customers is represented by short-term advances to clients in the form of overdraft facilities and fund finance loans granted to clients pursuant to committed credit facilities. Refer to Note 32 which provides additional disclosures.

18. Investment securities

In 2022 and 2021, investment securities consist solely of financial assets at FVOCI.

a. Analysis by counterpart

EUR'000	Oct 31, 2022	Oct 31, 2021
Government issued or backed bonds	71,059	90,948
Supranationals	61,722	62,991
Banks	492,278	685,341
Total (1)	625,059	839,280

(1) The reduction YoY on financial investments is due to bonds that reached maturity during the year 2022.

18. Investment securities (cont'd)

b. Analysis by nature

EUR'000	Oct 31, 2022	Oct 31, 2021
Bonds issued or backed by public bodies	132,782	153,939
Other bonds and fixed income instruments	492,277	685,341
Total	625,059	839,280

Investment securities mainly include bonds issued by European entities and European governments.

Certain assets have been provided as collateral for clearing houses. Refer to Note 39 for guarantees, commitments and other off-balance sheet arrangements.

No bonds were lent during 2022 and 2021.

19. Investments in subsidiaries

EUR'000	Oct 31, 2022	Oct 31, 2021
Acquisition cost	135,852	172,768
Accumulated impairment	(33,700)	(46,055)
Fair value adjustment	-	39
Total (1) (2)	102,152	126,752

(1) In October 2022, the Board of Directors of the Bank has approved the sale to Royal Bank Holding Inc, of the Bank's interest in 80% of the common shares of RBC Investor Services Holding (Hong Kong) Limited (EUR 13.27 million) and the sale of the Bank's interest in 100% of the common shares RBC Investor Services Trust Singapore Limited (EUR 5.63 million). The transactions are expected to complete in Q1 2023. The investment in the two subsidiaries has been recorded as Assets held for Sale. Please refer to Note 43.

(2) The Bank recorded impairment of EUR 5.7 million with respect to its investment in RBC Investor Services Bank France S.A.

a. Analysis by counterpart

EUR'000	Oct 31, 2022	Oct 31, 2021
Credit institutions	53,905	59,605
Others	48,247	67,147
Total	102,152	126,752

b. Analysis by nature

EUR'000	Oct 31, 2022	Oct 31, 2021
Equity and variable revenue instruments	102,152	126,752
Total	102,152	126,752

20. Tangible assets

EUR'000	Oct 31, 2022				Oct 31, 2021			
	Land and buildings	Office furniture and other equipment	Leased Assets Right-of-use assets	Total	Land and buildings	Office furniture and other equipment	Leased Assets Right-of-use assets	Total
Opening cost	**5,464**	**35,406**	**77,364**	**118,234**	**5,807**	**35,927**	**77,604**	**119,338**
Additions	-	1,028	2,687	3,715	58	-	-	58
Disposals (2)	-	(79)	(9,931)	(10,010)	-	-	-	-
Write-off (1)	(202)	(8,281)	-	(8,483)	(404)	(504)	-	(908)
Transfer	-	-	-	-	-	-	-	-
Translation adjustments	28	43	172	243	3	5	10	18
Others	-	-	-	-	-	(22)	(250)	(272)
Closing cost	**5,290**	**28,117**	**70,292**	**103,699**	**5,464**	**35,406**	**77,364**	**118,234**
Opening accumulated depreciation and impairment	**(2,829)**	**(24,172)**	**(16,207)**	**(43,208)**	**(2,706)**	**(18,280)**	**(8,195)**	**(29,181)**
Depreciation charge	(488)	(6,354)	(7,452)	(14,294)	(537)	(6,400)	(8,428)	(15,365)
Impairment charge	-	-	-	-	(7)	-	-	(7)
Disposals	-	27	1,113	1,140	-	-	-	-
Write-off (1)	202	8,281	-	8,483	404	504	-	908
Transfer	-	-	-	-	-	-	-	-
Translation adjustments	(36)	(48)	(66)	(150)	(10)	(13)	(12)	(35)
Others	32	24	1	57	27	17	428	472
Closing accumulated depreciation and impairment	**(3,119)**	**(22,242)**	**(22,611)**	**(47,972)**	**(2,829)**	**(24,172)**	**(16,207)**	**(43,208)**
Net book value	**2,171**	**5,875**	**47,681**	**55,727**	**2,635**	**11,234**	**61,157**	**75,026**

For the year ended

(1) In FY 2022, the Bank implemented new policy for pool assets which have been fully depreciated, to write-off 100% of the initial cost and accumulated depreciation.
(2) Disposals of Leased Assets Right-of-use assets includes disposal and space reduction of leased offices.

21. Goodwill and other intangible assets

For the year ended

EUR'000	Goodwill	Internally developed software	Acquired software	Other intangible assets	Total	Goodwill	nternally developed software	Acquired software	Other intangible assets	Total
					Oct, 31 2022					Oct, 31 2021
Opening cost	**55,023**	**178,359**	**19,726**	**56,218**	**309,326**	**55,023**	**153,649**	**19,290**	**56,218**	**284,180**
Additions (1)	-	20,188	519	-	20,707	-	24,710	436	-	25,146
Disposal	-	-	-		-	-	-	-	-	-
Write-off (2)	-	(81,139)	(12,451)	(56,218)	(149,808)	-	-	-	-	-
Transfer	-	-	-	-	-	-	-	-	-	-
Translation adjustments	-	-	2	-	2	-	-	-	-	-
Closing cost	**55,023**	**117,408**	**7,796**	**-**	**180,227**	**55,023**	**178,359**	**19,726**	**56,218**	**309,326**
Opening accumulated amortisation and impairment	**-**	**(108,132)**	**(15,211)**	**(56,218)**	**(179,561)**	**-**	**(87,943)**	**(13,346)**	**(56,218)**	**(157,507)**
Amortisation charge	-	(24,609)	(1,765)	-	(26,374)	-	(19,648)	(1,865)	-	(21,513)
Impairment charge	-	(392)	-	-	(392)	-	(541)	-	-	(541)
Disposal	-	-	-	-	-	-	-	-	-	-
Write-off (2)	-	81,139	12,451	56,218	149,808	-	-	-	-	-
Transfer	-	-	-	-	-	-	-	-	-	-
Translation adjustments	-	(1)	(1)	-	(2)	-	-	-	-	-
Closing accumulated amortisation and impairment	**-**	**(51,995)**	**(4,526)**	**-**	**(56,521)**	**-**	**(108,132)**	**(15,211)**	**(56,218)**	**(179,561)**
Net book value	**55,023**	**65,413**	**3,270**	**-**	**123,706**	**55,023**	**70,227**	**4,515**	**-**	**129,765**

(1) Additions represent the cost of development of internally developed software for the Bank's operating systems.
(2) In FY 2022, the Bank implemented new policy for pool assets which have been fully amortized, to write off 100% of the first cost and accumulated amortisation.

21. Goodwill and other intangible assets (cont'd)

Goodwill impairment testing

The Cash Generating Unit is determined as the Consolidated Group. The Recoverable Amount of the Cash Generating Unit (CGU) as at October 31, 2022 was determined by a Fair Value less Costs to Dispose (FVLCD) methodology.

The FVLCD of the CGU was determined based on the Memorandum of Understanding (MoU) between RBC and CACEIS, which was signed on October 14, 2022, and the subsequent Sale and Purchase Agreement signed on December 23, 2022, whereby CACEIS has agreed to purchase the European asset servicing business of RBC Investor Services and the Malaysian centre of excellence. The completion of the transaction is subject to standard closing conditions, including regulatory and antitrust approvals, and is expected to close by the end of the third quarter of the 2023 calendar year.

The Recoverable Amount of the CGU was determined to be greater than the Carrying Amount of the CGU, and therefore it was concluded that the Goodwill was not impaired as at October 31, 2022.

22. Other assets

Analysis by nature

EUR'000	Oct 31, 2022	Oct 31, 2021
Accrued income (1)	96,889	71,870
Deferred expenses	6,193	8,101
Business taxes	171	242
Accounts receivable (2)	39,748	75,091
Others (3)	12,509	50,078
Total	155,510	205,382

(1) Accrued income consists of accrued fee income for services provided to RBC affiliates EUR 19 million (2021 EUR 24 million) and services provided to clients for EUR 78 million (2021: EUR 62 million), and for which invoices will be issued to respective counterparties.
(2) Accounts receivables consists of (a) Amounts due from clients EUR 26 million (2021 EUR 23 million), (b) Amounts due from RBC affiliates EUR 13 million (2021: EUR 52 million).
(3) Others consist mainly of short-term receivables from our clients, arising from provision of services to clients. Variance is due to less client related transaction pending settlement at the end of the financial year 2022 compared to 2021.

23. Deposits from banks

Analysis by nature

EUR'000	Oct 31, 2022	Oct 31, 2021
Demand deposits	254,874	282,335
Term and overnight deposits (1)	1,226,767	530,216
Cash collateral	42,827	90,502
Other borrowings	9,506	4,203
Total	1,533,974	907,256

(1) Variance mainly due to overnight deposits with RBC London Branch and RBC Investor Services Bank France S.A.

24. Deposits from customers

Analysis by nature

EUR'000	Oct 31, 2022	Oct 31, 2021
Demand deposits (1)	11,853,986	14,206,639
Term and overnight deposits (2)	36,662	2,619,983
Cash collateral	235,416	166,106
Other borrowings	133,549	264,948
Total	12,259,613	17,257,676

(1) Customer demand deposits declined due primarily to clients' decisions to move to other service providers, including the loss of UBI client as a result of the acquisition by Intesa Sanpaolo Group (ISP) of Unione di Banche Italiane (UBI), which was the major client of the Milan Branch.
(2) On April 30, 2020, the Bank executed a Deposit Agreement with RBC Caribbean Investments Limited ("CI") whereby CI may make deposits up to US$3 billion with RBCIS. The Deposit Agreement matured and was repaid in October 2022.

25. Provisions and other obligations

a. Analysis by nature

EUR'000	Oct 31, 2022	Oct 31, 2021
Litigation and potential claims (1)	-	1,111
Defined benefit pension plans	-	3,232
Other long term employee benefits (2)	12,087	13,786
Severance provisions (3)	9,441	20,956
Other provisions (4)	5,704	4,706
Total	27,232	43,791

(1) Litigation and potential claims are in respect of claims where it is assessed that it is probable that the Bank will be required to settle and a reliable estimate can be made.
(2) Other long term employee benefits largely comprises of provisions for the various share based benefit plans offered to employees. See Note 27 for further details.
(3) In recognition of the continued impact of the challenging macroeconomic conditions that the Bank operates in, the Board of the Bank approved, on March 2, 2021, a second restructuring program in order to make the business more competitive and position the Bank for future growth. In addition, the Bank recorded restructuring cost provisions in relation to the closure of the Milan Branch.
The costs of the restructuring program are in respect of employee severance and related costs. Severance costs have been based on statutory requirements and social plans agreed with employee representatives. The provision is based upon management's best estimates of costs and timing of economic outflows, and is subject to uncertainties with respect to the timing of the full execution of the restructuring program.
(4) Other provisions comprise provisions related to staff retirement obligations and operational risk events.

25. Provisions and other obligations (cont'd)

b. Analysis of movements

EUR'000	Litigation and potential claims	Defined benefit pension plans	Other long term employee benefits (1)	Severance provisions (2)	Other provisions	Total
						For the year ended Oct 31, 2022
Opening balance	**1,111**	**3,232**	**13,786**	**20,956**	**4,706**	**43,791**
Additional provisions - P&L	474	502	4,201	4,198	4,945	14,320
OCI movements	-	(2,030)	-	-	-	(2,030)
Unused amounts reversed	(53)	-	(29)	(378)	(644)	(1,104)
Utilised during the year	(1,532)	(1,844)	(7,884)	(15,405)	(3,334)	(29,999)
Transfers	-	-	1,974	1	-	1,975
Exchange rate difference	-	140	126	-	42	308
Other movements	-	-	(87)	69	(11)	(29)
Closing balance	**-**	**-**	**12,087**	**9,441**	**5,704**	**27,232**

(1) The other employee benefits transfer relates to employee share based compensation plans transferred from short-term compensation accruals. Please refer to Note 2.
(2) The additional amount of severance provision recorded in FY 2022 was in respect of the Luxembourg Social Plan of March 2, 2021. The restructuring program was closed in June 2022. Severance costs have been based on statutory requirements and social plans agreed with employee representatives. The provision is based upon managements best estimates of costs and timing of economic outflows.

EUR'000	Litigation and potential claims	Defined benefit pension plans	Other long term employee benefits	Severance provisions	Other provisions	Total
						For the year ended Oct 31, 2021
Opening balance	**-**	**3,704**	**10,129**	**26,661**	**4,755**	**45,249**
Additional provisions - P&L	1,447	441	7,306	18,045	2,077	29,316
OCI movements	-	(415)	-	-	-	(415)
Unused amounts reversed	(49)	-	(137)	(7,760)	(415)	(8,361)
Utilised during the year	(77)	(489)	(6,021)	(15,990)	(1,605)	(24,182)
Transfers	(145)	-	2,551	-	(25)	2,381
Exchange rate difference	-	20	20	-	2	42
Other movements	(65)	(29)	(62)	-	(83)	(239)
Closing balance	**1,111**	**3,232**	**13,786**	**20,956**	**4,706**	**43,791**

c. Pension plans

The Bank operates funded defined benefit pension plan for qualifying employees. The defined benefit plan is administered by a pension fund that is legally separated from the Bank.

Plan characteristics

The Bank sponsors a number of defined benefit programs, which provide pension benefits to eligible employees.

The defined benefit pension plans provide benefits based on years of service, contributions and average earnings at retirement. All of the plans are located in Europe. The Bank measures benefit obligations and pension assets as at October 31 each year. All plans are valued using the projected unit-credit method. The Bank funds the registered defined benefit pension plans in accordance with actuarially determined amounts required to satisfy employee benefit obligations under current pension regulations.

25. Provisions and other obligations (cont'd)

The Bank also operates a number of defined contribution plan for qualifying employees.

For 2022, total contributions to the Bank's pension plan (defined benefit and defined contribution plans) were EUR 502 thousand and EUR 4,704 thousand (2021: EUR 441 thousand and EUR 3,714 thousand), respectively.

Risks

The defined benefit plan expose the Bank to actuarial risks such as: investment risk, interest rate risk, longevity risk and salary risk as described below:

- Investment risk: the present value of the benefit obligation is determined by reference to market yields at the end of the year on high quality corporate bonds with maturity consistent with the estimated term of the post-retirement obligation. If the return on plan assets is below this rate, it will create a plan deficit.
- Interest rate risk: a decrease in the bond interest rate will increase the plan liability.
- Longevity risk: the present value of the benefit obligation takes into consideration the best estimate of expected mortality of plan members both during and after employment. An increase in life expectancy will increase the plans liability.
- Inflation and salary risk: the present value of the benefit obligation takes into account estimated future inflation and salary increases that would affect the benefits payable. Increases in inflation or salaries greater than assumed will increase the plans liability.

The principal assumptions used for the purpose of the actuarial valuations were as follows:

	Oct 31, 2022 Defined benefit pension plans	Oct 31, 2021 Defined benefit pension plans
A: Range of assumptions to determine post retirement defined benefit obligation		
Discount rate	2.40%	0.00% - 0.40%
Compensation increase rate	2.50%	1.50% - 3.00%
Average longevity at 65 for a member currently at 65 (years)		
- Males	21.8	21.4
- Females	23.6	24.8
Average longevity at 65 for a member currently at 40 (years)		
- Males	23.5	22.3
- Females	25.2	26.0

The amount included in the balance sheet arising from the Bank's obligation in respect of the defined benefit obligation for pension and other post retirement plan are as follows:

EUR'000	Oct 31, 2022 Defined benefit pension plans	Oct 31, 2021 Defined benefit pension plans
B. Amounts recognised in the balance sheet		
Plans that are wholly unfunded and plans that are wholly and partially funded		
Present value of funded obligation	9,233	10,333
Fair value of plan assets	(9,370)	(8,323)
Surplus for funded plans	(137)	2,010
Present value for unfunded obligations	-	1,222
Net liability	(137)	3,232

25. Provisions and other obligations (cont'd)

Movements in the present value of the defined benefit obligation for pension and other post retirement plans are as follows:

EUR'000	For the year ended Oct 31, 2022 Defined benefit pension plans	Oct 31, 2021 Defined benefit pension plans
C. Change in present value of benefit obligation		
Beginning of the year	11,555	11,023
Current service cost	577	551
Interest cost	37	31
Plan participants' contributions	322	264
Remeasurements:		
Actuarial loss/(gain) arising from changes in financial assumptions	(2,208)	(363)
Actuarial loss/(gain) arising from experience adjustments	145	706
Benefits paid	(1,612)	161
Exchange differences on non EUR plans	694	93
Other	(277)	(911)
Benefit obligations at end of year	9,233	11,555

Movements in the fair value of plan assets are as follows:

EUR'000	For the year ended Oct 31, 2022 Defined benefit pension plans	Oct 31, 2021 Defined benefit pension plans
D. Change in fair value of plan assets		
Beginning of the year	8,323	7,319
Interest income	29	15
Return on plan assets	67	70
Employer contributions	508	477
Member contributions	322	264
Benefits paid	(357)	202
Exchange differences on non EUR plans	590	84
Other	(112)	(108)
Fair value of plan assets at end of year	9,370	8,323

25. Provisions and other obligations (cont'd)

Amounts recognised in comprehensive income in respect of the defined benefit obligation for pension plan is as follows:

EUR'000	For the year ended Oct 31, 2022 Defined benefit pension plans	Oct 31, 2021 Defined benefit pension plans
E. Components of pension and other post retirement cost		
Service cost:		
- Current service cost	577	403
Interest cost	8	17
Administrative cost	26	21
Components of defined benefit costs recognised in the statement of profit or loss	**611**	**441**
Re-measurement of the net defined benefit liability:		
- Return on plan assets	(67)	(70)
- Actuarial loss/(gain) arising from changes in financial assumptions	(2,208)	(363)
- Actuarial (gain) arising from experience adjustments	145	706
- Other	-	(682)
Components of defined benefit costs recognised in Other comprehensive income	**(2,130)**	**(409)**
Total	**(1,519)**	**32**

The service cost, interest cost and administrative cost for the year are included in staff expense in the statement of profit or loss.

Defined benefit pension plan assets

The fair value of the plan assets at the end of the reporting period for each category, are as follows:

F. Fair value of plan assets	Oct 31, 2022 EUR'000	%	Quoted in active market %	Oct 31, 2021 EUR'000	%	Quoted in active market %
Cash and cash equivalents	388	4.1%	0.0%	264	3.2%	0.0%
Equity investment funds						
- Europe	-			-		
- Other	326	3.5%	100.0%	235	2.8%	100.0%
Total equity investment funds	326			235		
Debt investment funds						
- Government bonds	-			-		
- Mixed corporate and government bonds	5,430	58.0%	100.0%	4,710	56.6%	100.0%
Total debt investment funds	5,430			4,710		
Alternative investment funds and other	3,226	34.4%	0.0%	3,114	37.4%	0.0%
Total	9,370	100.0%		8,323	100.0%	

25. Provisions and other obligations (cont'd)

Maturity profile

The following table presents the maturity profile of RBCIS's defined benefit pension plan obligation.

EUR'000	Oct 31, 2022	Oct 31, 2021
G. Maturity profile		
Number of plan participants	26	102
Actual benefit payments during current year	1,612	(161)
Benefits expected to be paid current year +1	446	1,734
Benefits expected to be paid current year +2	363	370
Benefits expected to be paid current year +3	302	298
Benefits expected to be paid current year +4	252	245
Benefits expected to be paid current year +5	225	201
Benefits expected to be paid current year +6 to +10	2,652	1,849
Duration in years	11,5	5,7

Sensitivity analysis

Assumptions adopted can have a significant effect on the obligations and expense for post retirement defined plans. The following table presents the sensitivity analysis of key assumptions.

EUR'000	Oct 31, 2022 Defined benefit pension plans	Oct 31, 2021 Defined benefit pension plans
H. Sensitivity analysis		
Change in obligation		
Discount rate		
Impact of 0.5% increase in discount rate	(950)	(1,627)
Impact of 0.5% decrease in discount rate	1,191	2,203
Rate of increase in future compensation		
Impact of 0.5% increase in rate of increase in future compensation	237	232
Impact of 0.5% decrease in rate of increase in future compensation	(235)	(248)
Mortality rate		
Impact of 1 year increase of longevity	133	212

The 2022 and 2021 sensitivity information above is based on full actuarial valuations carried out by plan actuaries using the same data used to calculate the main results but with the relevant different assumptions.

For funded plans, 58% of the underlying assets are predominantly invested in bonds via bond investment funds. The assets are therefore matched to the liabilities to some extent but there is a mismatching risk due to exposure to other asset categories as well as differences in the duration of the assets relative to the benchmark used to measure the liabilities.

26. Other liabilities

EUR'000	Oct 31, 2022	Oct 31, 2021
Accrued costs (1)	49,861	78,100
Deferred income	2,866	1,592
Business taxes (2)	8,892	6,765
Accounts payable (3)	22,596	18,904
Salaries and social charges payable (4)	18,514	24,075
Others (5)	19,740	73,171
Total	122,469	202,607

(1) Accrued costs consist of invoices to be received for services rendered from related parties (refer to Note 33) and third parties. The reduction in accrued costs is mainly due to costs accrued for the project to replace the operating applications of the Bank at October 2021, which have now been settled.
(2) Business taxes consist of withholding and sales tax.
(3) Accounts payable consist mainly of invoices to be paid for services rendered at year end from related (refer to Note 34) and third parties.
(4) The decrease is mainly due to severance costs in respect of the closure of the Milan Branch recorded in 2021 which were settled during 2022.
(5) Others consist mainly of short term payables to our clients, arising from the provision of services to clients. Variance is due to less client related transaction pending settlement at the end of the financial year 2022 compared to 2021.

27. Share based compensation

The Bank offers an RBC share based compensation scheme to certain employees.

Employee savings and share ownership plans

The RBC International Savings Program is an employee reward program that allows eligible participants an opportunity to build their savings through a deferral of a portion of their annual cash bonus and in return receive a matching company contribution (up to specified limits). In 2022, the Bank contributed EUR 2,008 thousands (2021: EUR 4,205 thousands) under the terms of these plans.

Deferred share plans

The Bank offers performance deferred share award plans to certain employees, all of which vest at the end of three years. Awards under the plans are deferred in the form of deferred share units. A portion of the award under some plans can be increased or decreased up to 25%, depending on the total shareholder return of RBC compared to a defined peer Bank of global financial institutions. The value of the award paid will be equivalent to the original award, adjusted for dividends and changes in the market value of RBC's common shares at the time the award vests.

The Bank offers a deferred share unit plan to executives and to certain key employees. Under these plans, the eligible person may receive all or a percentage of their annual variable short-term incentive bonus in the form of deferred share units. The cash value of the deferred share units is equivalent to the market value of RBC common shares when conversion takes place.

The Bank's liabilities for the awards granted under the deferred share and other plans are measured at fair value, determined based on the quoted market price of RBC common shares. The following tables present the Bank obligations under the deferred share and other plans, and the related compensation expenses (recoveries) recognized for the year.

27. Share based compensation (cont'd)

Obligations under deferred share plans

	Oct 31, 2022			Oct 31, 2021		
	Units granted during the year		Units outstanding at the end of the year	Units granted during the year		Units outstanding at the end of the year
	Number granted (thousands)	Weighted average fair value EUR	Carrying amount EUR'000	Number granted (thousands)	Weighted average fair value EUR	Carrying amount EUR'000
Deferred share unit plans	21	97,73	4,455	23	74.33	4,618
Performance deferred share award plans	2	96,39	593	2	74.15	811
Total	23	97,62	5,048	25	74.31	5,429

Compensation expenses recognised under deferred share plans

	For the year ended	
EUR'000	Oct 31, 2022	Oct 31, 2021
Deferred share unit plan	1,944	2,369
Performance deferred share award plans	185	516
Total	2,129	2,885

28. Derivatives

The principal derivatives used by the RBC Investor Services S.A. are foreign exchange rate contracts; particular attention is paid to the liquidity of the markets and products in which RBC Investor Services S.A. executes trade on behalf of its clients to ensure that there are no undue concentrations of activity and risk.

Exchange rate related contracts include over-the-counter forward foreign exchange contracts and currency swaps. A forward foreign exchange contract is an agreement to buy or sell a specified amount of foreign currency on a specified future date at an agreed rate. Currency swaps generally involve the exchange of interest payment obligations denominated in different currencies; the exchange of principal can be notional or actual.

a. Analysis by nature

EUR'000	Oct 31, 2022		Oct 31, 2021	
	Assets	Liabilities	Assets	Liabilities
Derivatives	756,888	726,159	449,984	515,673
Total	756,888	726,159	449,984	515,673

b. Detail of derivatives

The amount shown as foreign exchange derivatives represents the fair value of derivatives transactions entered with the Bank's clients.

EUR'000	Oct 31, 2022				Oct 31, 2021			
	Notional amount				Notional amount			
	To receive	To deliver	Assets	Liabilities	To receive	To deliver	Assets	Liabilities
Foreign exchange derivatives	118,001,274	117,942,913	756,888	726,159	134,674,592	134,553,930	449,984	515,673

28. Derivatives (cont'd)

The realized and unrealized gains and losses on all derivatives are recognized in Net Income from Financial Instruments at Fair Value through Profit or Loss (Note 5). The methods and assumptions used in determining the fair value of derivatives are set out in Accounting Policies (Note 1).

The term to maturity of the Bank's derivatives is within one year.

29. Subscribed capital

By class of shares

EUR	Oct 31, 2022	Oct 31, 2021
Number of shares authorised	22,163,000	22,163,000
Number of shares issued and fully paid	22,163,000	22,163,000
Value per share	25	25
Outstanding as of beginning and end of the year	22,163,000	22,163,000
Total value at shares issued	554,075,000	554,075,000

30. Fair value

The Bank measures fair values in accordance with IFRS 13 'Fair Value Measurement', which defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Bank also uses a fair value hierarchy that categorises into three levels the inputs to valuation techniques used to measure fair value, which gives highest priority to quoted prices. (Please refer to the accounting policies in Note 1 for details of fair value determination and hierarchy level).

Credit valuation adjustment (CVA)

Valuation adjustments are recorded for the credit risk of the Bank's derivative portfolios in order to arrive at their fair values. CVA takes into account RBCIS's counterparties' creditworthiness, the current and potential future mark-to-market of the transactions, and the effects of credit mitigants such as master netting and collateral agreements. CVA amounts are derived from estimates of exposure at default, probability of default, recovery rates on a counterparty basis, and market and credit factor correlations. Exposure at default is the amounts of expected derivative related assets and liabilities at the time of default, estimated through modelling using underlying risk factors. Probability of default and recovery rate is generally implied from the market prices for credit protection and credit ratings of the counterparty. Correlation is the statistical measure of how credit and market factors may move in relation to one another, if any. Correlation is estimated using historical data and market data where available.

30. Fair value (cont'd)

a. Breakdown of fair value of financial instruments

The following table compares the carrying amount of financial instruments recognised at amortised cost to their estimated fair values.

EUR'000						Oct 31, 2022
			Fair value classification within Fair value hierarchy			
	Carrying amount	Fair Value (4)	Level 1 (1)	Level 2 (2)	Level 3 (3)	Total
Financial assets						
Cash and balances with central banks	12,199,259	12,199,259	12,199,259	-	-	12,199,259
Loans and advances to banks	719,390	719,390	-	719,390	-	719,390
Loans and advances to customers	1,652,027	1,652,027	-	1,652,027	-	1,652,027
Investment securities	625,059	625,059	-	625,059	-	625,059
Derivatives	756,888	756,888	-	756,888	-	756,888
Other assets	155,510	155,510	-	155,510	-	155,510
Total	16,108,133	16,108,133	12,199,259	3,908,874	-	16,108,133
Financial liabilities						
Deposits from banks	1,533,974	1,533,974	-	1,533,974	-	1,533,974
Deposits from Customers	12,259,613	12,259,613	-	12,259,613	-	12,259,613
Lease liabilities	47,935	47,935	-	47,935	-	47,935
Subordinated debt	524,451	524,451	-	524,451	-	524,451
Derivatives	726,159	726,159	-	726,159	-	726,159
Other liabilities	122,469	122,469	-	122,469	-	122,469
Total	15,214,601	15,214,601	-	15,214,601	-	15,214,601

(1) Level 1 fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical financial assets or financial liabilities.
(2) Level 2 fair value measurements are those derived from quoted prices for similar instruments in an active market, or quoted market prices for identical or similar instruments in inactive markets, or values using models where the inputs are observable.
(3) Level 3 fair value measurements are those derived from valuation techniques that include inputs for the financial asset or financial liability that are not based on observable market data (unobservable inputs).
(4) Items categorised or classified as Fair value which may not approximately carrying amounts are those with interest maturity greater than 3 months.

30. Fair value (cont'd)

EUR'000						Oct 31, 2021
			Fair value classification within Fair value hierarchy			
	Carrying amount	Fair Value (4)	Level 1 (1)	Level 2 (2)	Level 3 (3)	Total
Financial assets						
Cash and balances with central banks	9,338,056	9,338,056	9,338,056	-	-	9,338,056
Loans and advances to banks	8,137,562	8,137,562	-	8,137,562	-	8,137,562
Loans and advances to customers	1,274,215	1,274,215	-	1,274,215	-	1,274,215
Investment securities	839,280	839,280	-	839,280	-	839,280
Derivatives	449,984	449,984	-	449,984	-	449,984
Other assets	205,382	205,382	-	205,382	-	205,382
Total	20,244,479	20,244,479	9,338,056	10,906,423	-	20,244,479
Financial liabilities						
Deposits from banks	907,256	907,256	-	907,256	-	907,256
Deposits from Customers	17,257,676	17,257,676	-	17,257,676	-	17,257,676
Lease liabilities	61,259	61,259	-	61,259	-	61,259
Subordinated debt	448,211	448,211	-	448,211	-	448,211
Derivatives	515,673	515,673	-	515,673	-	515,673
Other liabilities	202,607	202,607	-	202,607	-	202,607
Total	19,392,682	19,392,682	-	19,392,682	-	19,392,682

b. Transfer between level 1 and level 2 fair value hierarchy

No transfers between fair value hierarchy levels were made during 2022 to 2021.

c. Reconciliation of level 3 financial instruments

No reconciliation were made during 2022 and 2021, as the Bank has no level 3 financial instruments.

31. Financial assets and liabilities subject to offsetting, enforceable master netting arrangements and similar agreements

Offsetting within the Balance Sheet may be achieved where financial assets and liabilities are subject to master netting arrangements that provide the currently enforceable right of offset and where there is an intention to settle on a net basis, or realize the assets and settle the liabilities simultaneously. For derivative contracts and repurchase and reverse repurchase arrangements, this is generally achieved when there is a market mechanism for settlement (e.g., central counterparty exchange or clearing house) which provides daily net settlement of cash flows arising from these contracts. Margin receivables and margin payables are generally offset as they settle simultaneously through a market settlement mechanism.

Amounts that do not qualify for offsetting include master netting arrangements that only permit outstanding transactions with the same counterparty to be offset in an event of default or occurrence of other predetermined events. Such master netting arrangements include the ISDA Master Agreement or certain derivative exchange or clearing counterparty agreements for derivative contracts, global master repurchase agreement and global master securities lending agreements for repurchase, reverse repurchase and other similar secured lending and borrowing arrangements.

31. Financial assets and liabilities subject to offsetting, enforceable master netting arrangements and similar agreements (cont'd)

The following table presents the effects of offsetting and potential offsetting of financial assets and liabilities. For assets purchased under reverse repurchase agreements and securities borrowed, the Bank holds highly rated securities as collateral. These securities can be offset in case of default of the borrower, but are not recognised on the Balance sheet. For certain derivative counterparties Master Netting Agreements are in place that allow for netting in case of default. In addition, for certain counterparties, collateral is given or received. This collateral can be netted against derivative transactions in case of default.

EUR'000								Oct 31, 2022
	Amounts subject to enforceable netting arrangements							
				Amount subject to master netting arrangement or similar agreements but do not qualify for offsetting on the balance sheet (1)				
Financial assets subject to offsetting, enforceable master netting arrangements and similar agreements	Gross amount of financial assets before balance sheet offsetting	Amount of financial liabilities offset on the balance sheet	Net amount of financial assets presented on the balance sheet	Impact of master netting agreement	Financial collaterals received (2)	Net amount	Amounts not subject to enforceable netting agreements	Total amount recognised on the balance sheet
Derivative assets	595,062	-	595,062	491,848	72,443	30,771	161,826	756,888
Other financial assets	-	-	-	-	-	-	15,477,461	15,477,461
Total	595,062	-	595,062	491,848	72,443	30,771	15,639,287	16,234,349

EUR'000								Oct 31, 2022
	Amounts subject to enforceable netting arrangements							
				Amount subject to master netting arrangement or similar agreements but do not qualify for offsetting on the balance sheet (1)				
Financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements	Gross amount of financial liabilities before balance sheet offsetting	Amount of financial assets offset on the balance sheet	Net amount of financial liabilities presented on the balance sheet	Impact of master netting agreement	Financial collaterals pledged (3)	Net amount	Amounts not subject to enforceable netting agreements	Total amount recognised on the balance sheet
Derivative liabilities	690,479	-	690,479	491,848	105,357	93,274	35,680	726,159
Other financial liabilities	-	-	-	-	-	-	14,488,789	14,488,789
Total	690,479	-	690,479	491,848	105,357	93,274	14,524,469	15,214,948

(1) Financial collateral is reflected at fair value. The amount of financial instruments and financial collateral disclosed is limited to the net balance sheet exposure.
(2) Includes cash collateral of €72,443 thousand (October 31, 2021 of €108,232 thousand).
(3) Includes cash collateral of €105,357 thousand (October 31, 2021 of €111,722 thousand).

31. Financial assets and liabilities subject to offsetting, enforceable master netting arrangements and similar agreements (cont'd)

EUR'000								Oct 31, 2021
	Amounts subject to enforceable netting arrangements							
				Amount subject to master netting arrangement or similar agreements but do not qualify for offsetting on the balance sheet (1)				
Financial assets subject to offsetting, enforceable master netting arrangements and similar agreements	Gross amount of financial assets before balance sheet offsetting	Amount of financial liabilities offset on the balance sheet	Net amount of financial assets presented on the balance sheet	Impact of master netting agreement	Financial collaterals received	Net amount	Amounts not subject to enforceable netting agreements	Total amount recognised on the balance sheet
Derivative assets	435,387	-	435,387	286,817	108,232	40,338	14,597	449,984
Other financial assets	-	-	-	-	-	-	19,926,919	19,926,919
Total	435,387	-	435,387	286,817	108,232	40,338	19,941,516	20,376,903

EUR'000								Oct 31, 2021
	Amounts subject to enforceable netting arrangements							
				Amount subject to master netting arrangement or similar agreements but do not qualify for offsetting on the balance sheet (1)				
Financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements	Gross amount of financial liabilities before balance sheet offsetting	Amount of financial assets offset on the balance sheet	Net amount of financial liabilities presented on the balance sheet	Impact of master netting agreement	Financial collaterals pledged	Net amount	Amounts not subject to enforceable netting agreements	Total amount recognised on the balance sheet
Derivative liabilities	418,416	-	418,416	286,817	111,722	19,877	97,257	515,673
Other financial liabilities	-	-	-	-	-	-	18,877,139	18,877,139
Total	418,416	-	418,416	286,817	111,722	19,877	18,974,396	19,392,812

(1) Financial collateral is reflected at fair value. The amount of financial instruments and financial collateral disclosed is limited to the net balance sheet exposure.

32. Risk management

a. Credit and Counterparty risk

Credit risk is defined as the risk of loss associated with a counterparty's potential inability or unwillingness to fulfil obligations on a timely basis. Credit risk may arise directly from the risk of default of a primary obligor (e.g. issuer, debtor, borrower or policyholder), indirectly from a secondary obligor (e.g. guarantor, reinsurance) and/or through off-balance sheet exposures, contingent credit risk and/or transactional risk. Credit risk includes counterparty credit risk arising from trading activities. Exposure to credit risk occurs any time funds are extended, committed or invested through an actual or implied contractual agreement.

Counterparty Credit risk is the risk of potential financial loss arising from the failure of a counterparty or client with whom RBCIS Bank has entered into derivatives transactions, interbank (cash) placements, cash securities or spot FX transactions.

Overview and key Credit Risk Mitigants

RBCIS's core business activity is custodian services to institutional clients. Lending products offered are primarily supporting client's activity. RBCIS acts as an agent for the settlement of clients' securities trades or lending transactions. RBCIS's core credit exposures originate from Treasury activities in reinvestment of client cash through money market deposits and investments in high-quality liquid assets comprising Sovereigns, Supranational Agencies and covered bonds as well as deposit placement with RBC Group. Other credit exposures originate from custody activities, including temporary overdrafts; committed lending facilities; cash balances with correspondents; foreign exchange derivatives contracts.

Below is a summary of the key activities of the Bank that generate credit and counterparty risk:

- Treasury Activities – RBCIS's Treasury function manages balance sheet in line with approved Treasury policies, which generally require investments in high quality sovereign debt or secured activity with global banks with high level of liquidity.
- Foreign Exchange – the Bank offers to clients foreign exchange services (primarily FX swaps and forwards) to facilitate their global investment and share class currency hedging activities. The transactions are restricted to short term duration (less than one year). Accumulated client positions are offset in the market to minimize market risk. Both client and market activities are conducted within approved credit limits and daily settlement limits, security package is generally taken under the form of an ISDA agreement with a CSA providing lien on clients' assets.
- Committed Lending and Overdrafts – the Bank provides clients with secured committed or uncommitted credit facilities to facilitate clients' settlement of securities or bridge capital. The straight-through processing of transaction settlement in client accounts may result in temporary short cash positions. These overdrafts are generally secured with a lien on the client's assets, an asset retention right and a currency set-off right. Committed loans are underwritten to provide institutional clients with liquidity between the capital calls (bridge financing). They are secured with a lien over the uncalled capital of the underlying investors.

Governance and Policies

The responsibility for managing credit risk is shared following the three lines of defense governance model. The Board of Directors delegates credit risk approval authorities through the Risk Appetite and risk limits to the CRO. Credit transactions in excess of delegated authorities must be approved by the Executive Committee and reported to the Board of Directors. To facilitate day-to-day business activities, the CRO has been empowered to further delegate credit risk approval authorities to individuals within RBC IS Bank GRM, the business segments, and functional units as necessary.

To enable sustainable growth, the Bank effectively balances the risk and reward by:

- Ensuring that credit quality is not compromised for growth.
- Managing credit risk in transactions, relationships and portfolios.
- Avoiding excessive concentrations in correlated credit risks.
- Using credit risk rating and scoring systems or other approved credit risk assessment or rating methodologies, policies and tools.

32. Risk management (cont'd)

- Pricing appropriately for the credit risk taken.
- Detecting and preventing inappropriate credit risk through effective systems and controls.
- Applying consistent credit risk exposure measurements.
- Ongoing credit risk monitoring and administration.
- Transferring credit risk to third parties where appropriate through approved credit risk mitigation techniques (e.g. sale, hedging), and
- Avoiding activities that are inconsistent with the Bank's values, Code of Conduct or policies.

The Enterprise Credit Risk Management Framework (ECRMF) describes the principles, methodologies, systems, roles and responsibilities, reports and controls that exist for managing credit risk within the Bank. Additional supporting policies exist that are designed to provide further clarification of roles and responsibilities, acceptable practices, limits and key controls within the enterprise and within the Bank.

Credit Risk Approval

The Board of Directors, Executive Committee, CRO and Group Risk Management work together to ensure the ECRMF and supporting enterprise and Bank policies, processes and procedures are implemented to manage credit risk and approve related credit risk limits. Reports are provided to the Board of Directors and Executive Committee to keep them informed of the Bank's risk profile, including significant credit risk items, shifts in exposures or creditworthiness, and trending information, to ensure appropriate and timely actions can be taken where necessary.

Transaction Approval

Credit transactions are governed by the Bank's Credit Risk addendum that captures the limits delegated to management and the credit rules policy, which outlines the minimum standards for managing credit risk at the individual client relationship and/or transaction level. The credit rules policy is further supported by business and/or product-specific policies and guidelines as appropriate. Transaction approvals are subject to delegated approval authorities and if they exceed CRO's authority, to the approval of the RBCIS Bank Executive Committee or, if exceeding Executive Committee's delegated authority, by the RBCIS Bank Board.

Product Approval

Proposals for new or revised credit products and services are comprehensively reviewed and approved under a risk assessment framework and are subject to approval authorities which increase as the level of risk increases. New and amended products must be reviewed relative to all risk drivers, including credit risk. All existing products must be reviewed following a risk-based assessment approach on a regular basis.

Credit Risk Limits

Credit risk authorities are delegated by the RBCIS Bank Board and take into account both regulatory constraints and internal risk management judgment. Limits are established at the following levels: single name, regulatory large exposure, and, for loans, at product level. These limits apply across all RBCIS Bank jurisdictions, transactions and products.

RBCIS actively manages credit exposures and limits to ensure alignment with RBCIS's Risk Appetite, to maintain RBCIS's target business mix and to ensure that there is no undue concentration risk.

Credit Risk Measurement

RBCIS quantifies credit risk at both the individual obligor and portfolio levels to assess expected credit losses and minimize unexpected losses in order to limit earnings volatility and ensure the Bank is adequately capitalized.

32. Risk management (cont'd)

RBCIS's credit risk rating systems are designed to assess and quantify the risk inherent in credit activities in an accurate and consistent manner. The resulting ratings and scores are then used at both client- and transaction- level risk decision-making and as key inputs for RBCIS's risk monitoring processes. Each obligor is assigned a borrower risk rating (BRR), reflecting an assessment of its creditworthiness, i.e. the obligor's ability and willingness to meet its contractual obligations on time over a three year time horizon. Each BRR has a probability of default ("PD") calibrated against it. The assignment of BRRs is based on the evaluation of the obligor's business risk and financial risk through fundamental credit analysis, as well as data-driven modelling. The determination of PD associated with each BRR relies primarily on internal default data since 2006. PD are designed to be a long-run average of RBCIS's experience across the economic cycle in accordance with regulatory guidelines.

Expected Credit Losses

Key inputs and assumptions

The measurement of expected credit losses is a calculation that involves a large number of interrelated inputs and assumptions; the allowance is not overly sensitive to any one single factor alone. The key drivers of changes in expected credit losses include the following:

- Changes in the credit quality of the borrower or instrument, primarily reflected in changes in internal risk ratings.
- Changes in forward-looking macroeconomic conditions, specifically the macroeconomic variables to which models are calibrated, which are those most closely correlated with credit losses in the relevant portfolio.
- Changes in scenario design and the weights assigned to each scenario, and
- Transfers between stages, which can be triggered by changes to any of the above inputs.

The COVID-19 global pandemic significantly impacted RBCIS's determination of allowance for credit losses requiring the application of heightened judgment. Measures to contain the COVID-19 pandemic have sharply curtailed economic activity in many countries, resulting in unprecedented declines in GDP and a substantial increase in unemployment starting in the spring of 2020. Significant fiscal and monetary policy stimulus, as well as bank-led deferral programs have generally supported lower defaults in 2021. However, a resurgence of virus spread and re-imposition of containment measures to varying degrees in 2022 in some regions, along with the tapering off of certain elements of fiscal support and a soaring inflation,, has raised further uncertainty with regards to the timing and extent of recovery. This gives a higher than usual degree of uncertainty to the Bank's Stage 1 and Stage 2 credit loss allowances. To address the uncertainties inherent in the current environment and reflect all relevant risk factors not captured in modelled results, RBCIS utilizes expert credit judgment in determining significant increases in credit risk since origination and weighted modelled results. This included applying quantitative and qualitative adjustments for the impacts of the unprecedented macroeconomic scenarios arising from the pandemic and the global inflation, in particular on vulnerable sectors. The current impact of the Bank's expert credit judgment on the allowances remains high compared to pre-pandemic period.

Internal risk ratings

Internal risk ratings are assigned according to the risk management framework outlined above.

32. Risk management (cont'd)

Forward looking macroeconomic variables

The Probability of Default (PD), Loss Given Default (LGD) and Exposure At Default (EAD) inputs used to estimate stage 1 and stage 2 credit loss allowances are modelled based on the macroeconomic variables (or changes in macroeconomic variables) that are most closely correlated with credit losses in RBCIS's portfolio. Each macroeconomic scenario used in RBCIS's expected credit loss calculation includes a projection of all relevant macroeconomic variables used in the models for a five-year period, reverting to long-run averages generally within the 2 to 5 year period. Depending on their usage in the model, macroeconomic variables are projected at a country, province/state or more granular level.

RBCIS's allowance for credit losses reflects the economic outlook as at October 31, 2022. Subsequent changes to this forecast and related estimates will be reflected in RBCIS's allowance for credit losses in future periods.

Credit risk exposure

Maximum exposure to credit risk

The following tables presents the gross carrying amount of loans measured at amortized cost, and the full contractual amount of undrawn loan commitments subject to credit loss allowance in accordance with IFRS 9. It also presents the fair value of debt securities at FVOCI. Risk ratings are based on internal ratings used in the measurement of expected credit losses as at the reporting date, as outlined in the Credit risk section.

Maximum credit exposure covers counterparty risk in the balance sheet and off balance sheet.

ECL Staging - Cash and balances with central banks

EUR'000				Oct 31, 2022
	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Investment grade	12,199,259	-	-	12,199,259
Gross Carrying amount	12,199,259	-	-	12,199,259
Carrying amount at October 31, 2022	12,199,259	-	-	12,199,259

EUR'000				Oct 31, 2021
	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Investment grade	9,338,056	-	-	9,338,056
Gross Carrying amount	9,338,056	-	-	9,338,056
Carrying amount at October 31, 2021	9,338,056	-	-	9,338,056

32. Risk management (cont'd)

ECL Staging – Loans and advances to banks

EUR'000				Oct 31, 2022
	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Investment grade	702,206	-	-	702,206
Non-Investment grade	17,203	-	-	17,203
Gross Carrying amount	719,409	-	-	719,409
Loss allowance	(19)	-	-	(19)
Carrying amount at October 31, 2022	719,390	-	-	719,390

EUR'000				Oct 31, 2021
	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Investment grade	8,068,666	-	-	8,068,666
Non-Investment grade	68,896	-	-	68,896
Gross Carrying amount	8,137,562	-	-	8,137,562
Carrying amount at October 31, 2021	8,137,562	-	-	8,137,562

ECL Staging – Loans and advances to customers

EUR'000				Oct 31, 2022
	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Investment grade	1,629,067	-	-	1,629,067
Non-Investment grade	23,225	-	-	23,225
Gross Carrying amount	1,652,292	-	-	1,652,292
Loss allowance	(265)	-	-	(265)
Carrying amount at October 31, 2022	1,652,027	-	-	1,652,027

EUR'000				Oct 31, 2021
	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Investment grade	786,990	-	-	786,990
Non-Investment grade	487,484	-	-	487,484
Gross Carrying amount	1,274,474	-	-	1,274,474
Loss allowance	(259)	-	-	(259)
Carrying amount at October 31, 2021	1,274,215	-	-	1,274,215

ECL Staging – Investment securities

EUR'000				Oct 31, 2022
	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Investment grade	625,068	-	-	625,068
Gross Carrying amount	625,068	-	-	625,068
Loss allowance	(9)	-	-	(9)
Carrying amount at October 31, 2022	625,059	-	-	625,059

32. Risk management (cont'd)

EUR'000	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Oct 31, 2021 Total
Investment grade	839,288	-	-	839,288
Gross Carrying amount	839,288	-	-	839,288
Loss allowance	(8)	-	-	(8)
Carrying amount at October 31, 2021	839,280	-	-	839,280

ECL Staging – Off Balance sheet (Loan Commitments)

EUR'000	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Oct 31, 2022 Total
Investment grade	1,285,016	-	-	1,285,016
Non-Investment grade	250	-	-	250
Total	1,285,266	-	-	1,285,266
Loss allowance	(13)	-	-	(13)
Balance at October 31, 2022	1,285,253	-	-	1,285,253

EUR'000	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Oct 31, 2021 Total
Investment grade	354,954	-	-	354,954
Non-Investment grade	244,260	-	-	244,260
Total	599,214	-	-	599,214
Loss allowance	(10)	-	-	(10)
Balance at October 31, 2021	599,204	-	-	599,204

Exposure by counterparty type

	Oct 31, 2022		Oct 31, 2021	
Category of counterparty type	In EUR'000	In %	In EUR'000	In %
Financial Institutions	1,367,167	8.9	9,004,748	45.2
Governments and Supranationals	12,332,053	80.3	9,404,660	47.3
Investment Funds	1,652,025	10.8	1,495,596	7.5
Total	15,351,245	100.0	19,905,004	100.0

Exposure by geographical region

	Oct 31, 2022		Oct 31, 2021	
Geography	In EUR'000	In %	In EUR'000	In %
European Union	8,823,922	53.1	5,973,130	30.0
Asia Pacific	17,871	0.1	97,529	0.5
North America	269,368	2.8	6,894,686	34.6
Rest of Europe	6,236,747	44.0	6,744,264	33.9
Central and Latin America	3,200	0.0	107	0.0
Others	137	0.0	195,288	1.0
Total	15,351,245	100.0	19,905,004	100.0

32. Risk management (cont'd)

i. Allowance for credit loss

The following tables following tables reconcile the opening and closing for financial assets at amortised cost and FVOCI by stage. Reconciling items include the following:

- Model changes, which generally comprise the impact of significant changes to the quantitative models used to estimate expected credit losses and any staging impacts that may arise.
- Transfers between stages, which are presumed to occur before any corresponding remeasurement of the allowance.
- Purchases, which reflect the allowance related to assets newly recognized during the period, including those assets that were derecognized following a modification of terms.
- Sales and maturities, which reflect the allowance related to assets derecognized during the period without a credit loss being incurred, including those assets that were derecognized following a modification of terms.
- Changes in risk, parameters and exposures, which comprise the impact of changes in model inputs or assumptions, including changes in forward-looking macroeconomic conditions; and partial repayments and changes in the measurement following a transfer between stages; and unwinding of the time value discount due to the passage of time.
- Expected credit losses on debt securities at FVOCI are not separately recognized on the balance sheet as the related securities are recorded at fair value. The cumulative amount of credit losses recognized in profit or loss is presented in Other components of equity.

EUR'000				Oct 31, 2022
	Balance at beginning of Period	Net allowance for Credit Losses	Write-offs	Balance at end of Period
Allowance for Credit Losses:				
Loans at Amortised Cost	259	25	-	284
Other Assets	736	1,530	(684)	1,582
Other Liabilities – Off Balance Sheet Commitments	10	3	-	13
Subtotal	**1,005**	**1,558**	**(684)**	**1,879**
Other Comprehensive Income:				
Investment Securities at FVOCI	8	1	-	9
Total	**1,013**	**1,559**	**(684)**	**1,888**

EUR'000	Oct 31, 2022
Reconciliation to Statement of profit or loss:	Total
Provision for credit losses as per above schedule	1,559
Credit losses recorded directly to profit or loss	(9)
Total allowance for expected credit loss/(gain)	1,550

32. Risk management (cont'd)

EUR'000				Oct 31, 2021
	Balance at beginning of Period	Provisions for Credit Losses	Write-offs	Balance at end of Period
Allowance for Credit Losses:				
Loans at Amortised Cost	676	(417)	-	259
Other Assets	622	246	(132)	736
Other Liabilities – Off Balance Sheet Commitments	61	(51)	-	10
Subtotal	1,359	(222)	(132)	1,005
Other Comprehensive Income:				
Investment Securities at FVOCI	76	(68)	-	8
Total	1,435	(290)	(132)	1,013

EUR'000	Oct 31, 2021
Reconciliation to Statement of profit or loss:	Total
Provision for credit losses as per above schedule	(290)
Credit losses recorded directly to profit or loss	40
Total allowance for expected credit loss/(gain)	(250)

32. Risk management (cont'd)

Allowance for credit losses – Loans and advances to customers

EUR'000				Oct 31, 2022
	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Loss allowance as at 1 Nov 2021	259	-	-	259
Model changes	-	-	-	-
Transfers in (out) to Stage 1	-	-	-	-
Transfers in (out) to Stage 2	-	-	-	-
Transfers in (out) to Stage 3	-	-	-	-
Purchases	215	-	-	215
Sales and maturities	(219)	-	-	(219)
Changes in risk, parameters and exposures	29	-	-	29
Write-offs	-	-	-	-
Recoveries	-	-	-	-
Others	-	-	-	-
Balance at end of the year	284	-	-	284

EUR'000				Oct 31, 2021
	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Loss allowance as at 1 Nov 2020	676	-	-	676
Model changes	-	-	-	-
Transfers in (out) to Stage 1	-	-	-	-
Transfers in (out) to Stage 2	-	-	-	-
Transfers in (out) to Stage 3	-	-	-	-
Purchases	170	-	-	170
Sales and maturities	(196)	-	-	(196)
Changes in risk, parameters and exposures	(391)	-	-	(391)
Write-offs	-	-	-	-
Recoveries	-	-	-	-
Others	-	-	-	-
Balance at end of the year	259	-	-	259

32. Risk management (cont'd)

Allowance for credit losses – Investment securities

EUR'000				Oct 31, 2022
	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Loss allowance as at 1 Nov 2021	8	-	-	8
Model changes	-	-	-	-
Transfers in (out) to Stage 1	-	-	-	-
Transfers in (out) to Stage 2	-	-	-	-
Transfers in (out) to Stage 3	-	-	-	-
Purchases	2	-	-	2
Sales and maturities	(2)	-	-	(2)
Changes in risk, parameters and exposures	-	-	-	-
Write-offs	-	-	-	-
Recoveries	-	-	-	-
Others	1	-	-	1
Balance at end of the year	9	-	-	9

EUR'000				Oct 31, 2021
	Stage 1 12 – month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Loss allowance as at 1 Nov 2020	76	-	-	76
Model changes	-	-	-	-
Transfers in (out) to Stage 1	-	-	-	-
Transfers in (out) to Stage 2	-	-	-	-
Transfers in (out) to Stage 3	-	-	-	-
Purchases	6	-	-	6
Sales and maturities	(42)	-	-	(42)
Changes in risk, parameters and exposures	(31)	-	-	(31)
Write-offs	-	-	-	-
Recoveries	-	-	-	-
Others	(1)	-	-	(1)
Balance at end of the year	8	-	-	8

Collateral management

The Bank policies foresee credit facilities to custody clients to be provided on a secured basis where possible. This mainly includes a pledge on custody assets to mitigate overdraft exposure and ISDA/CSA to mitigate OTC derivative exposure.

The collateral received represents cash or the fair value of debt and equity instruments held against counterparty exposures. Debt collateral received are highly rated corporate and government bonds.

The Bank's policies regarding obtaining collateral have not changed during the reporting period and there has been no significant change in the overall quality of the collateral held by the Bank since the prior year.

32. Risk management (cont'd)

Collateral and other credit enhancements obtained by taking possession of collateral held

There was no collateral, or other credit enhancements, obtained by taking possession of collateral held due to a default in 2022 and 2021.

Collateral received

Collateral was received from FX derivatives which could be sold or repledged in 2022 (EUR 72,443 thousands) and 2021 (EUR 108,232 thousands). These amounts are in respect of outstanding derivative positions as at respective year end.

b. Market risk

Market Risk is the impact of market prices upon the financial condition of the firm. This includes potential gains or losses due to changes in market determined variables such as interest rates, credit spreads, equity prices, commodity prices, foreign exchange rates and implied volatilities.

Market risk can be exacerbated by thinly-traded or illiquid markets.

Overview

The different business areas within RBCIS Bank with a contribution to Market risk are:

- Cash and Liquidity Management - This business holds an inventory of institutional, supranational, government and financial (covered) bonds and is sensitive to credit spread risk and to interest rate risk. The portfolio has a relatively short duration, high credit quality and is used to manage RBCIS Bank's liquidity. Treasury investments are made in the banking book in accordance with the Investment Policy approved by the Board. The policy permits investment of assets in a prudent manner that avoids undue risk of loss while earning a reasonable rate of return.
- Forex exchange services - which are incidental to supporting clients' needs. Limited intraday FX positions and very small overnight positions are authorised to allow for residual small client trades to be aggregated intraday and placed through professional market counterparties. Limits are established based on the volumes and currency volatility by trading location. These positions are monitored tightly on a daily basis by the Market Risk Unit in Risk Management. No speculative trading positions are allowed. RBCIS Bank's policy is to avoid market risk, and proprietary trading activities are not part of the strategy given the current risk appetite. Therefore there is no material exposure to market risk in the RBCIS Bank's Trading book.
- In addition, from time to time, operational events for securities transactions may cause RBCIS to hold relatively small short-term positions; these are then typically liquidated in an orderly fashion. The risk inherent in these positions is kept to a minimum as they are liquidated or hedged at the earliest possible time. These positions are captured by the operational risk processes.

Market risk governance and policies

RBCIS Bank's Market risk appetite is set and reviewed by the RBCIS Bank Board. RBCIS Bank has a range of limits in place covering the risk measurement metrics noted above. All limits set by RBCIS Bank are consistent with the stated risk appetite. In addition to the RBCIS Bank Board approved limits, operational limits can also be set at the RBCIS Bank CRO level. Exposures are also limited by the RBC Bank limit structure.

The Market risk management function produces daily reports for the business and senior management detailing RBCIS Bank's Market risk profile against limits, as well as monthly summary reports to the RBCIS Bank Board of Directors (or its Risk Committee) and the RBCIS Bank Executive Committee (ExCo).

Breaches of Board limits are reported to the Risk Committee of the RBCIS Bank Board and the RBCIS Bank Executive Committee (ExCo) at its next meeting. Excesses to Operational limits are reported to the RBCIS Bank ExCo.

32. Risk management (cont'd)

The following policies and frameworks apply at the level of RBCIS Bank:

- RBC Enterprise Market Risk Framework.
- RBCIS Bank Addendum to RBC Market Risk Framework.
- RBC Enterprise Model Risk Policy.
- RBCIS Bank Addendum to RBC Enterprise Model Risk Policy.
- RBCIS Bank Interest Rate Risk in the Banking Book (IRRBB) Policy.

Market Risk – Specific Aspects

i. Market risk measures – Non trading banking activities

Through its non-trading activities, such as deposit taking and reinvestment of its funds, the Bank has exposure to market risks, including interest rate risk and credit spread risk. The Bank's global structure and activities also give rise to structural foreign exchange risk.

ii. Interest rate risk in the Banking Book ("IRRBB")

Interest Rate Risk of the Banking Book ("IRRBB") refers to the current or prospective risk to the bank's capital and earnings arising from adverse movements in interest rates that affect the bank's banking book positions. When interest rates change, the present value and timing of future cash flows change. This in turn changes the underlying value of a bank's assets, liabilities and off-balance sheet items and hence its economic value (EVE).

Changes in interest rates also affect a bank's earnings by altering interest rate-sensitive income and expenses, affecting its net interest income (NII). Excessive IRRBB can pose a significant threat to a bank's current capital base and/or future earnings if not managed appropriately.

The IRRBB policy defines the management standards and approved limits within which risks to net interest income over a 12-month horizon, and the economic value of equity, are to be contained.

Objectives of the IRRBB Policy

RBCIS Bank Interest Rate Risk in the Banking Book Policy defines the following Interest Rate Risk objectives:

- To preserve RBCIS Bank 'safety and soundness by limiting the vulnerability of EVE and NII to adverse interest rate movements. Since some degree of IRR is inherent to the banking business, total or concurrently elimination of either NII risk or value risk is not practical.
- To protect RBCIS Bank's ability to pursue its core business strategies by addressing creditor concerns and regulatory requirements. This objective implies a requirement to manage IRR in a prudent and professional manner.
- To improve current and future earnings by managing IRR in a cost-effective manner within the constraints of the first two objectives.
- To favour the management of Value Risk over NII Risk, subject to the constraints of the risk limits specified in this policy and the first two objectives. EVE Risk management is favoured because it is a more comprehensive, longer-term economic measure of interest rate risk, while NII Risk is an accounting-income based measure and provides no insight into IRR inherent in a balance sheet beyond a certain measurement horizon.
- To operate within the risk limits allocated to RBCIS Bank and specified in this policy in order to manage the day to day operations, taking into account the constraints of its processes and risk measurement capabilities, while adhering to other applicable frameworks, policies, and standing orders which cover, on a standalone basis, specific risk aspects of RBCIS Bank's balance sheet.

RBCIS Bank's philosophy is to manage the IRR of the non-trading balance sheet while taking into consideration all components of IRR. RBCIS Bank may implement risk management strategies for managing the structural balance sheet risk positions. Such risk positions, if taken, will be taken within limits allocated.

32. Risk management (cont'd)

RBCIS Bank ALCO will monitor and direct risk positioning within delegated authorities given to the Treasurer of RBCIS Bank. Interest rate risk reports are reviewed regularly by RBCIS Bank ALCO, ExCo, Risk Management and the Board of Directors.

The Interest Rate Risk Limits are recommended annually by the RBCIS Bank ALCO and ExCo for approval by RBCIS Bank's Board of Directors.

The Value and NII Risk exposure will be managed such that an instantaneous up or down 100 basis point rate change will not cause a loss of Value or NII greater than approved limits.

Moreover the maximum loss under a supervisory standard shock of 200 basis point on the Economic Value of Equity (EVE) can only account for up to at 15% of RBCIS Bank's unconsolidated own funds.

Internal stress testing including hypothetical, historical and single risk factors scenarios are produced monthly as part of the IRRBB report and the maximum loss can only account for up to 15% of RBCIS Bank's unconsolidated own funds. In addition to internal stress testing, 6 standardized IRRBB scenario for EVE risk calculations as prescribed by the EBA guideline are produced monthly.

The following table provides the potential before-tax impact of an instantaneous up or down 100 basis point rate on net interest income and Economic Value of Equity and a supervisory standard shock of 200 basis point rate on the Economic Value of Equity of the Bank's ALM portfolio.

EUR million	Oct 31, 2022		Oct 31, 2021	
	up 100 bps	down 100 bps	up 100 bps	down 100 bps
Economic value of equity risk	(2.8)	6.9	(8)	3
Net interest income risk	12.3	(9)	21	(6)

EUR million	Oct 31, 2022		Oct 31, 2021	
	up 200 bps	down 200 bps	up 200 bps	down 200 bps
Economic value of equity risk	(8.9)	5.2	(17)	12

In line with Pillar 3 disclosure requirements – consolidated and enhanced framework issued by the Basel Committee on Banking Supervision, further information can be retrieved under the Pillar 3 disclosure published on the internet site of the Bank.

iii. Non-trading Foreign exchange rate risk

Foreign exchange rate risk is the potential adverse impact on earnings and economic value due to changes in foreign currency rates. The Bank's revenue, expenses and income denominated in currencies other than EURO are subject to fluctuations as a result of changes in the value of the average EURO relative to the average value of those currencies. The Bank's net exposure to foreign exchange risk is not material as it is the Bank's policy not to maintain material open currency positions.

c. Liquidity risk

Liquidity risk is the risk that the Bank may be unable to generate or obtain sufficient liquidity or its equivalent in a timely and cost-effective manner to meet its commitments as they fall due.

i. Liquidity risk management

The Bank's balance sheet structure has inherently low liquidity risk; the principal source of funding, demand deposits, is matched against short-term investments and available liquidity buffers. RBCIS Bank monitors the composition of its deposit base with respect to liquidity risk.

32. Risk management (cont'd)

The Bank has in place a robust liquidity risk management framework enabling to maintain a solid Liquidity Risk Profile and complies with regulatory limits alongside internal limits and control framework. The Bank holds substantial high quality securities that are prudently valued and maintains sufficient levels of funding, with all illiquid assets funded for greater than 1 year. Funding derives primarily from stable sources in a sector that has significant barriers to facilitate withdrawals of deposits in the short term. Moreover the Bank has not received any central Bank support (either directly or indirectly) and is not reliant on incremental Bank liquidity in the event of a liquidity crisis.

The liquidity risk management of RBCIS Bank is strong. The development of relevant indicators, such as liquidity position, the survival period, daily Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) prediction under stress test are monitored consistently by the Bank. The amount and composition of liquidity buffers at 31 October 2022 are more than adequate and enable the Bank to be able to continue to meet its payment obligations both under normal and stress conditions on a present and prospective basis. RBCIS Bank complies structurally with internal and external requirements, including standards for maintaining healthy balance sheet.

RBCIS Bank Corporate Treasury team has ultimate responsibility to produce an Internal Liquidity Adequacy Assessment Process (ILAAP) on an annual basis to summarize the key liquidity risks it faces. The results of this exercise are used to inform Senior Management and the independent non-executives of the risks being run in RBCIS Bank and the material controls that are in place to manage them. RBCIS Bank's risk appetite is informed by the ILAAP.

ii. Liquidity Stress Testing

RBCIS Bank Corporate Treasury runs stress tests on a daily basis. European regulation requires liquidity stress testing to consider at least 3 scenarios consisting of a market shock, an idiosyncratic shock and a combined shock scenario. For the purposes of the Daily Liquidity Stress Test, three stress scenarios covering these requirements are used to highlight potential areas of weakness within the liquidity profile of the entity, RBC (Parent) Specific, Country/Region Eurozone Crisis and a combined RBC Specific/Country/Region Eurozone Crisis. RBCIS Bank stress tests includes an analysis of cash-flow, the evolution of the liquidity position, the predictability of the LCR and NSFR, as well as considering balance sheet, and solvency assumptions across all future time buckets. RBCIS's stress methodology also calculates the impact of an intraday liquidity stress focused on the three first days of the stressed period. The net liquidity buffer available same day is calculated. All assets encumbered against this risk are excluded from the calculation, reflecting the continuing need to use these to mitigate the Intraday risk. This stress test allows RBCIS to conclude whether the liquidity buffer is of sufficient volume to combat an intraday stress.

In addition to stress-testing activities that assess the impact of certain assumptions on its liquidity position, the Bank also performs reverse stress-testing assessments. These assessments start from the identification of the pre-defined outcome to challenge the comprehensiveness and conservatism of the ILAAP framework assumptions.

iii. Liquidity Risk Fund Transfer Pricing and Liquidity Contingency Plan

The Liquidity Risk Fund Transfer Pricing Policy evaluates the Bank's balance sheet for the terms and rates at which RBCIS Bank's excess funds can be placed with other RBC entities after taking into consideration the liquidity value of its deposits and the liquidity requirements of its assets; and the value of, and compensation for, any excess liquidity that remains after accounting for these placements.

RBCIS Bank maintains a well-developed and robust set of protocols related to liquidity contingency planning. The Liquidity Contingency Plan describes the action plan for maintaining RBCIS Bank ability to fulfil commitments under stress conditions. The plan is developed by assessing the impact of a stress event on RBCIS Bank's liquidity profile, and identifying recovery actions that could be undertaken to restore liquidity levels to be within the stated Risk Appetite.

The plan includes a menu of liquidity options and an approach for assessing, monitoring and reporting crises stages, including explicit escalation procedures and authorities. The Liquidity Contingency Plan can be activated in conjunction with the initiation of the Recovery Plan or to respond to sudden and material changes in liquidity conditions.

32. Risk management (cont'd)

RBCIS Bank Corporate Treasury, Bank Risk Management (GRM), and Treasury and Market Services (TMS), perform ongoing monitoring of market developments, looking for early warning signals and risk indicators to assess the potential for a change in liquidity conditions and, when in a crisis situation, to determine if a change in crisis stage is warranted. The status of the selected indicators as well as utilization of risk limits are monitored along with expected trends on an on-going basis and tracked in a Liquidity Scorecard which is reviewed quarterly by ALCO and LCT to support the decision for activating the liquidity crisis plans or moving from one crisis stage to another.

iv. Funding plan

As to the annual funding plan, RBCIS Bank has performed a back testing of the 2022 plan, i.e. the projection build last year compared to that actuals as at end October 2022 supplemented by a three year projection of the Balance Sheet extended with a projection of LCR and NSFR under a normal business conditions and under the worst ILAAP stress test scenario to evidence that RBCIS Bank continues to maintain appropriate liquidity resources.

The funding plan is primarily driven by the prospective three years strategic plan prepared by RBCIS Bank's CFO office and approved by the Board of Directors.

v. Role of the ALCO

The ALCO oversees liquidity risk management, monitoring liquidity against approved limits. ALCO reviews the Liquidity Limits Document, the Liquidity Risk Policy, the Liquidity Risk Management Framework, the Pledging Policy and the Liquidity Contingency Plan and provides recommendations for approval to the Board of Directors. RBC IS Bank Corporate Treasury delegates responsibility for the maintenance of the Liquid Asset Buffer to RBC IS Bank TMS in line with directions and constraint outlined in the Investment Policy owned by RBC IS Bank Corporate Treasury. Liquidity measures are reviewed by ALCO, ExCo and by the Board of Directors.

vi. Internal and regulatory reporting

A suite of internal and regulatory reports are produced by RBCIS Corporate Treasury to inform both internal and external stakeholders of changes in the liquidity risk profile of the Bank.

Liquidity Risk limits including internal and regulatory metrics are set for RBC IS Bank and its subsidiaries and branches. RBC IS Bank and its subsidiaries and branches will comply with any applicable limits or other requirements as defined in the Enterprise frameworks, policies and regulatory requirements.

The limits are consistent with the liquidity indicators and early warning indicators set out in the Liquidity Contingency Plan and are aligned with the regulatory recommendations. Liquidity limits are primarily set as Board limits and are the expression of the Risk Appetite.

The Bank applies a minimum LCR and NSFR requirements of 100% to be consistent with the Enterprise-wide liquidity framework and OSFI's requirement.

vii. Maturity analysis for financial assets and liabilities

The following table analyses the Bank's non-derivative financial assets and liabilities and net settled derivative financial assets and liabilities into relevant maturity grouping based on the remaining period at the balance sheet date to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows.

32. Risk management (cont'd)

Non-derivative financial assets and financial liabilities

EUR'000						Oct 31, 2022
	Breakdown of contractual cash flows					
Non derivative financial assets	At sight and on demand	Due within 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after more than 5 years	Total
Cash and balances with central banks	12,199,259	-	-	-	-	12,199,259
Loans and advances to banks	719,390	-	-	-	-	719,390
Loans and advances to customers	970,881	357,909	323,237	-	-	1,652,027
Investment securities	-	48,250	208,849	367,960	-	625,059
Other assets	148,198	5,170	1,671	471	-	155,510
Total non derivative financial assets	14,037,728	411,329	533,757	368,431	-	15,351,245
Non derivative financial liabilities						
Deposits from banks	1,383,974	150,000	-	-	-	1,533,974
Deposits from customers	12,222,980	36,633	-	-	-	12,259,613
Other Liabilities	27,065	92,403	569	2,378	54	122,469
Lease liabilities	1	1,770	5,310	30,478	10,376	47,935
Subordinated Debt	-	-	-	-	524,451	524,451
Total non derivative financial liabilities	13,634,020	280,806	5,879	32,856	534,881	14,488,442

Net position

EUR'000					Oct 31, 2022
	At sight and on demand	Due within 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after more than 5 years
Net liquidity gap	403,708	130,523	527,878	335,575	(534,881)

32. Risk management (cont'd)

Derivatives

EUR'000						Oct 31, 2022
Derivatives settled on a gross basis	At sight and on demand	Due within 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after more than 5 years	Total
Outflow	-	113,916,861	4,026,052	-	-	117,942,913
Inflow	-	113,956,873	4,044,401	-	-	118,001,274

Breakdown contractual amounts for other off balance sheet items

EUR'000						Oct 31, 2022
Regular way trades	At sight and on demand	Due within 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after more than 5 years	Total
Outflow	1,705,318	-	-	-	-	1,705,318
Inflow	1,705,430	-	-	-	-	1,705.430
Loan commitments						
Outflow	-	-	-	-	-	-
Inflow	1,859,756	-	-	-	-	1,859,756
Guarantees						
Outflow	112	-	-	-	-	112
Inflow	3,575	-	-	-	-	3,575

Non-derivative financial assets and financial liabilities

EUR'000						Oct 31, 2021
			Breakdown of contractual cash flows			
Non derivative financial assets	At sight and on demand	Due within 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after more than 5 years	Total
Cash and balances with central banks	9,329,168	8,888	-	-	-	9,338,056
Loans and advances to banks	543,474	7,594,088	-	-	-	8,137,562
Loans and advances to customers	378,811	531,118	348,984	15,302	-	1,274,215
Investment securities	-	109,829	185,180	543,751	-	838,760
Other assets	44,898	155,775	2,367	2,342	-	205,382
Total non derivative financial assets	10,296,351	8,399,698	536,531	561,395	-	19,793,975
Non derivative financial liabilities						
Deposits from banks	763,673	143,583	-	-	-	907,256
Deposits from customers	14,644,098	2,613,578	-	-	-	17,257,676
Other Liabilities	71,151	125,542	5,428	474	12	202,607
Lease liabilities	-	2,006	5,967	30,205	23,912	62,090
Subordinated Debt	-	-	-	-	448,211	448,211
Total non derivative financial liabilities	15,478,922	2,884,709	11,395	30,679	472,135	18,877,840

32. Risk management (cont'd)

Net position

EUR'000	At sight and on demand	Due within 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after more than 5 years
					Oct 31, 2021
Net liquidity gap	(5,182,571)	5,514,989	525,136	530,716	(472,132)

Derivatives

EUR'000 Derivatives settled on a gross basis	At sight and on demand	Due within 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after more than 5 years	Oct 31, 2021 Total
Outflow	-	129,452,919	5,101,011	-	-	134,553,930
Inflow	-	129,573,544	5,101,048	-	-	134,674,592

Breakdown contractual amounts for other off balance sheet items

EUR'000 Regular way trades	At sight and on demand	Due within 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after more than 5 years	Oct 31, 2021 Total
Outflow	2,512,789	-	-	-	-	2,512,789
Inflow	2,512,936	-	-	-	-	2,512,936
Loan commitments						
Outflow	1,619,802	-	-	-	-	1,619,802
Inflow	-	-	-	-	-	-
Guarantees						
Outflow	66,854	-	-	-	-	66,854
Inflow	3,575	-	-	-	-	3,575

The balances in the above tables will not tie directly to those in the balance sheet as the tables incorporate, on an undiscounted basis, all cash flows relating to the principal and future coupon payments.

32. Risk management (cont'd)

d. Operational risk management

RBC Enterprise Operational Risk Management Framework defines Operational Risk as the risk of loss or harm resulting from people, inadequate or failed internal processes and systems, or from external events.

Operational Risk sub-risks recognized by RBCIS Bank are as follows.

Operational Risk Category	Definition
Business Continuity Risk	The risk of loss due to a major unforeseen external event that prevents us from conducting business in the normal course.
Finance Risk	The risk of failure to prepare internal and external financial reports that completely and accurately reflect the financial results.
Fraud Risk	The risk of intentional unauthorized activities designed to obtain benefits either from RBC or assets under RBC's care, or using RBC's products. Benefits can be in the form of cash, cash equivalent, or physical assets (including indirect benefit of continued employment or increased bonus).
Information Management Risk	The risk of loss or harm resulting from the failure to manage information appropriately throughout its lifecycle – i.e., when information is acquired or created, processed, used, shared, accessed, retained and disposed. This includes legal and regulatory consequences due to mismanagement of information.
Information Technology Risk	The risk to the business associated with the use, ownership, operation, involvement, influence and adoption of IT within RBC. It includes risks associated with security and information protection, availability and recovery, accuracy and timeliness, performance and scalability & agility and appropriateness.
Legal Risk	The risk an agreement or arrangement, either establishing or modifying a legally binding relationship, does not reflect the business activities or commitments or fails to comply with applicable laws.
Model Risk	The risk of error in the design, development, implementation or subsequent use of models.
Money Laundering Risk	The risk that RBC's products and services are used to facilitate the laundering of proceeds of crime, including the financing of terrorist activity.
People Risk	The risk of loss or harm to RBC resulting from a failure in employment practices or to comply with employment-related laws
Privacy Risk	The risk of improper creation or collection, use, disclosure, retention or destruction of Personal Information.
Processing & Execution Risk	The risk of failure to effectively design, implement and execute a process, including Project Delivery Risk, defined as the risk that individual projects are not managed on time, on scope and on budget and will not meet the objectives for which they were initiated
Product, Suitability Risk & Fiduciary Risk	The risk of failure to design, implement and maintain a product or service to achieve expected outcomes throughout the lifecycle of the product. This includes Suitability Risk, which is the risk of offering inappropriate advice or product(s) to an RBC client, as well as Fiduciary Risk, which is the risk of failing to fulfil RBC's obligations to a person to whom a duty is owed under applicable law within the jurisdiction when RBC or the individual employee is acting in a fiduciary relationship, whether knowingly or unknowingly.
Regulatory Compliance Risk	The risk of failing to comply with laws, rules, regulations, or prescribed practices in any jurisdiction in which RBC operates.
Safety & Security Risk	The risk of failure in the physical safety and security of employees, clients and others when in or about RBC's premises or on RBC business; safeguarding of physical assets, operations and facilities.
Tax Risk	The risk of an unexpected result with impact to earnings, capital, business operations, or reputation as a result of failure to comply with regulatory tax requirements.
Third Party Risk	The risk of failure to effectively on-board, manage or terminate Third Party or Intra-Group service providers ("suppliers") where this failure may expose RBC to service disruptions, regulatory action, financial loss, litigation or reputational damage.

32. Risk management (cont'd)

Overview

Operational risk is the single most important risk to RBCIS Bank. How well RBCIS manages and monitor the operational risk reflects on RBCIS's success and reputation in the market place. For nature and the complexity of RBCIS's organisation, the inherent operational risk before mitigation would be high. RBCIS Bank has the expertise and good operational risk management programs and practices to manage the operational risk in the business processes. Based on the nature and complexity of RBCIS's operations, RBCIS Bank has identified a number of key risk drivers determining the overall operational risk profile.

Third Party and Outsourcing risks

RBCIS Bank has numerous outsourcing arrangements with RBC group legal entities and with a number of third-party service providers, including BIL and IBM (for certain processes relating to the services RBCIS provides to RBCIS's clients). Intra group outsourcing activities also exist within RBCIS Bank when certain processes are performed by one legal entity on behalf of the others in the service delivery to the clients. Such arrangements are done at arm's length and formal service agreements are in place. RBCIS Bank applies RBC Group policy and standards in managing all outsourcing arrangements requirements and to international and local regulated market standards, due to the fact that RBC operates on a global basis. Outsourcing arrangements are classified into material and non-material arrangements; each material arrangement risk is reviewed and re-assessed on a regular basis. Each arrangement has established a formal service level agreement (SLA) that stipulates the availability, reliability and performance targets, level of support to users, continuity planning and escalation process.

Processing and Execution risk

Processing and Execution risk is one of the main inherent risk the Business platform is submitted to.

Business first line of defence and second line of defence developed specific risk practices targeting process and execution risk:

- Automation of process in key operational areas prone to human errors (e.g. Shareholder Services and Transaction Management trade capture).
- Process RCSA programs, driving a number of process controls enhancements.

Conduct Risk: The Bank uses the term "Risk Conduct and Culture" to address the industry topics of Risk Culture and Conduct Risk. The term is defined as a shared set of behavioural norms that sustains RBCIS's core Values and enables the Bank to proactively identify, understand and act upon RBCIS's risks, thereby protecting RBCIS's clients, safeguarding RBCIS's shareholders' value, and supporting the integrity, soundness and resilience of financial markets.

The Bank's Business is mostly based on Institutional Clients instructions/mandated Business activities. Therefore inherent Conduct risk is lower than within Banks with more exposure to Private Asset Management and Trading activities for own book.

Nonetheless the Bank could face Conduct risk through the following events:

- Front running large FX direct execution orders.
- Rogue FX trading – outside of trading mandate.
- Overcharging mandated FX fees.
- AML/KYC (pervasive Clients due diligence deficiencies).
- Internal Fraud.
- Non adherence to delegated lending authority.
- Conflict of interest such as representing the Client and the Bank for the same activity or External Directorship/ Outside activity or Gifts and entertainment for Client facing staff.
- Misbehaviour of employees identified as material risk takers leading to exposures not in line with RBCIS Bank conservative risk policies and risk profile.

32. Risk management (cont'd)

Bank has developed extensive mitigation strategy that is composed of the following main elements:

- RBC Values and articulation into expected behaviours.
- Leading by example and Tone from the top management.
- Strong risk culture, framework and governance.
- Policies and framework: Code of Conduct Policy, Remuneration policy, Trading Policies and Standing orders.
- Generic Controls: employee interview & selection, employees screening, mandatory trainings, yearly employee performance discussion inclusive adherence to RBC values and code of conduct.
- Specific controls: mandatory leaves, AML/KYC checks, and a number of technical checks on transactions in the dealing room.
- Enforcement of Market Risk Takers (MRT) regulation.

Operational risk governance and policies

The Board of Directors has final responsibility with respect to operational risk matters, directly or through delegation to the Risk Committee reporting to the Board of Directors. Responsibilities include:

- Shaping and influencing Risk Conduct; approving Risk Appetite.
- Ensuring that management has in place frameworks, policies, processes and procedures to manage credit risk (including approval authority for Credit Risk Framework and key enterprise-wide credit risk policies), and evaluating the organization's effectiveness in managing credit risk.
- Reviewing operational reporting, stress testing, significant exposures and exceptions to limits.

Risk Assessment and Quantification approach

The overall Operational Risk is assessed through a combination of qualitative and quantitative methods. A variety of risk and control criteria are used to generate the risk profiles for each legal entity part of the Bank and for the material products part of client service offering. These risk profiles are analysed at an aggregate level to provide a view of the risk profile of the business and the local platform as a whole. These profiles are reported to various committees for discussion and action. Specific risks and issues as well as overall themes are discussed.

RBCIS Bank has embedded Operational risk management in all of its activities by leveraging the main elements of the Operational Risk Management Framework outlined below:

- Risk and Control Self-Assessment (RCSA) – Performed both at an Enterprise level and at a regional business unit or process level, these assessments provide an integrated source of Operational risk and control information.
- External Operational Risk Event Review – Provides 'lessons learned' and emerging industry trends. Group Risk Management (GRM) Operational Risk team performs internal analysis to investigate whether or not controls are in place to mitigate against such events and recommends additional actions, where required.
- Internal Operational Risk Event Management – Operational risk events, including those resulting in actual losses and non-monetary events are monitored by Operational Control team (with oversight from GRM Operational Risk). The focus is on a complete understanding of root cause and mitigation plans for these events with a view to mitigating repeat occurrences.
- Operational Risk Scenarios – A number of Scenario analyses is undertaken on an annual basis to proactively identify plausible events with a potentially high impact but low probability of occurrence. The primary scenario topics are provided by Enterprise Operational Risk Management (EORM) and are further supplemented at a Business level via Business platform specific key identified risks.
- Operational Risk Issue and Actions Tracking and Monitoring – Operational risk issues and actions identified as a result of RCAs/risk events are entered into RBC's global Enterprise Operational Risk Management database, Open Pages, and tracked by Operational Control team until resolution.
- Key Risk Indicator (KRI) Program – KRIs are set and monitored for each business on a continuous basis with thresholds set annually.
- New product/Initiatives Risk Assessment: Every new initiative, including changed/new product go through an assessment of potential contribution to future end state operational risk. Mitigations are identified and monitored throughout the initiative lifecycle in order to stay within risk appetite once delivered.

32. Risk management (cont'd)

In addition to the above EORM practices, GRM Operational Risk Management team (and, where applicable, Operational Control) is informed of other risk types through Function specific programs in order to form an opinion on the complete risk profile across the RBC defined 16 operational risk types. This would be the case for the following one (non exhaustive list):

- Business Continuity Risk.
- Information Technology Risk.
- Regulatory Compliance.
- Money Laundering Risk.
- Third Party risk.

Risk Control and Reporting

The Operational Risk Appetite Framework is a formally articulated structure comprised of an operational risk appetite, operational risk profile and operational risk tolerances and limits. The operational risk profile is compared to tolerances and limits, to held identifying mitigation actions where required. The risk profile is presented to the Executive Committee on a monthly basis and to the Risk committee of the Board on a quarterly basis. In addition and support of the Operational risk profile, the operational risk limits and tolerance are further articulated into ORM practice and tools:

- KRI limits definition.
- Risk Control Assessment definition and scale of tolerated residual risk. RCA is used as a wider range of practices.
- New Product/Initiatives: the New Business Committee and Integrated Risk Profile tools include level definition of acceptable risk.

Operational Risk Measurement Methodologies

RBCIS Bank has implemented a scenario-based loss-distribution approach which is already in place at another RBC entity and that was vetted by the RBC Model Validation Team.

The submitted model employs a scenario-based loss-distribution approach to compute the Operational Risk Economic Capital ("OREC"). In this approach, various operational risk loss scenarios are developed by GRM Operational Risk and Business teams, in conjunction with the appropriate business functions and subject matter experts. The scenarios are specific to RBCIS Bank's operational risk profile and take into account information which includes internal/external historical loss data and business environment and internal control factors.

Each scenario is characterized by a frequency distribution and a severity distribution, assumed to be Poisson and lognormal, respectively, and calibrated to the following scenario data:

- Likelihood of occurrence, expressed as "1 in n years" (used to calibrate the Poisson process).
- Most likely and maximum possible loss amounts (assumed to correspond to the 50^{th} and 99.9^{th} percentiles of the lognormal distribution, respectively, and used to calibrate the severity process).

For each scenario, once the frequency and severity distributions are calibrated, the model simulates 10 million possible losses for the next year. In each simulation, the number of loss occurrences is generated from the Poisson distribution and the amount for each loss is generated independently from the lognormal distribution, with the losses being added up. The final step is to aggregate the simulated losses across all scenarios to form a single distribution consisting of 10 million losses, from which the OREC is determined as the 99.9^{th} percentile.

32. Risk management (cont'd)

e. Capital Adequacy

Capital risk is the risk that the Bank has insufficient capital resources to meet the minimum regulatory requirements, to support its credit rating and to support growth and strategic options.

i. Capital management

Capital adequacy and regulatory capital are monitored on a monthly basis by the RBCIS Executive Committee (ExCo) and on a quarterly basis by the RBCIS Bank Assets & Liability Committee (ALCO).

The Committee reviews reports and monitors compliance on RBCIS Bank's exposure to balance sheet related risks, including interest rate risk, liquidity and funding risk and capital adequacy.

The Committee is chaired by the RBCIS Bank Treasurer or in his absence, the Chief Financial Officer (Deputy Chair).

During the year, the capital leverage ratios of RBCIS Bank and its related subsidiaries have complied with the prescribed regulatory requirements and internal minimum ratios contained in the Capital Management Policy set on the basis of assessment of the results of various risk capital measures and business considerations, taking into account all regulatory minimum requirements, and including a cushion determined by stress tests, historical volatilities of capital, capital requirements and balance sheets.

The regulatory report (COREP) is sent to the CSSF quarterly.

ii. Regulatory capital

Basel III Accords set the standards and provided necessary guidelines for European and national regulators to define the legislation and regulations for banking supervision and minimum regulatory capital requirements. The three-pillar based Accord renders mandatory for all banks to define, approve and implement their own approaches to measure capital requirements for credit, market and operational risk exposures under the Pillar I. Also, it induces banks to implement risk management best practices and to define complementary measures through economic capital calculation for risks not covered under the Pillar I of the Accord.

As a significant bank in Luxembourg, RBC Investor Services Bank S.A. and all its subsidiaries are subject to the direct supervision of the European Central Bank, operated by a Joint Supervisory Team composed of members from the ECB and from its consolidating regulator ("CSSF") and the application of the provisions of CRD IV package - Capital Regulatory Directives 2013/36/EU (including subsequent delegated acts) and EU Regulation 2019/876 (Capital Regulatory Requirements II) which amended circular 575/2013 (Capital Regulatory Requirements) as well as CRD V package – Capital Regulatory Directive 2019/878.

Corporate Treasury, European Treasury, Capital Measurement Unit has the responsibility to apply appropriate techniques of calculation and to monitor any changes of the regulation.

The following approaches are applied to produce the COREP reporting for the jurisdictions of RBC Investor Services Bank S.A. where it is expected:

- Standardised approach for credit risk.
- Standardised measurement approach for market risk, and
- Standardised approach for operational risk.

32. Risk management (cont'd)

RBCIS Bank regulatory capital is composed of Tier 1 high quality capital, and Tier 2 debt issuance. Therefore, the regulatory capital was composed of share capital, retained earnings and reserves created by appropriations of retained earnings, and long term subordinated debt. The book value of intangible assets is deducted from the Common Equity Tier 1 capital. Current year profit is not taken into account for the determination of regulatory capital.

In line with EBA guideline 2016/11 version 2, further information on capital adequacy and the required capital regulatory limits are available on the Pillar III disclosure published on the internet site of the Bank.

Solvency ratio under Basel III requirements

In EUR'000	Oct 31, 2022	Oct 31, 2021
Tier 1 Capital	1,148,489	1,130,581
Total Deduction Tier 1	(87,692)	(100,397)
Net Tier 1 Capital	1,060,797	1,030,184
Tier 2 Issuance	524,451	448,211
Eligible own funds	1,585,248	1,478,395
Capital requirements:		
Credit risk and counterparty risk	331,205	403,390
Operational risk	56,681	59,627
Market risk:		
Interest rate risk	19	195
Foreign exchange risk	5,907	1,820
Total capital requirements	393,812	465,032
$\frac{\text{Eligible own funds}}{\text{Capital requirements x 12.5}}$	32.20%	25.43%

Portfolio Exposures by Risk Weights under Standardised approach

	October 31, 2022	
EUR'000	Total Exposure after CRM (1)	Weighted Avg. RW (2) (%)
Banking Institutions	1,623,706	24.50
Central Government, supranational and multilateral development Banks	12,336,063	0.05
Equity	126,752	159.26
Covered Bonds	2,262	20.00
Corporate	4,372,649	96.01
Other	263,840	97.20
Total	18,725,272	22.84

32. Risk management (cont'd)

EUR'000	October 31, 2021 Total Exposure after CRM (1)	 Weighted Avg. RW (2) (%)
Banking Institutions	8,179,983	20.80
Central Government, supranational and multilateral development Banks	9,479,868	0.07
Equity	126,752	159.26
Covered Bonds	67,298	10.33
Corporate	5,050,021	66.63
Other	311,475	99.12
Total	23,215,397	22.06

(1) Credit Risk Mitigation ("CRM").
(2) Risk Weight ("RW").

33. Lease liabilities

RBC Investor Services as lessor

The Bank is not active in leasing as a lessor.

RBC Investor Services as lessee

Analysis of movements in lease liabilities

EUR'000	Oct 31, 2022	Oct 31, 2021
As 1 November	61,259	70,118
Net lease additions and disposals (1)	(6,444)	225
Interest Expense	655	202
Lease payments during the year	(7,631)	(9,282)
FX Translation impact	96	(4)
Balance at October 31	47,935	61,259

(1) Lease additions and disposals includes changes to contracts for leased premises in Luxembourg and the Milan Branch

Maturity analysis of lease liabilities

Future net minimum lease payments are as follows:

EUR'000	Oct 31, 2022	Oct 31, 2021
Not later than 1 year	7,626	7,973
Later than 1 year and not later than 5 years	30,387	30,205
Later than 5 years	15,615	23,912
Total (3)	53,628	62,090

(3) Amounts without VAT.

The amounts to be settled within or after one year are disclosed in Note 36.

34. Related party disclosures

Related parties include the parent bank, Royal Bank of Canada, associated companies, post-employment benefit plans for the benefit of RBCIS's employees, key management personnel, the Board of Directors of RBC (Directors), close family members of key management personnel and Directors, and entities which are, directly or indirectly, controlled by, jointly controlled by or significantly influenced by key management personnel, Directors or their close family members.

For transfer pricing purposes, the Bank applies a residual profit split methodology as determined by the OECD's Profit Split method (residual analysis) ("RPS method"). The financial impact of the RPS method is recorded in the Statement of Profit and Loss (refer to Note 7 for further details).

a. Related party transactions

EUR'000		Oct 31, 2022		Oct 31, 2021
	Subsidiaries (1)	Other related parties (2)	Subsidiaries (1)	Other related parties (2)
Balance sheet				
Loans and receivables (6)	135	313,901	507	7,783,981
Investments in subsidiaries	102,152	-	126,752	-
Derivatives (assets) (3)	-	345,588	-	251,565
Other assets	14,184	36,592	12,176	63,719
Borrowings and deposits (5)	954,158	952,784	572,890	2,907,622
Derivatives (liabilities) (3)	-	443,390	-	233,073
Subordinated debt (4)	-	524,451	-	448,211
Other liabilities	21,759	25,272	22,609	34,867
Statement of profit or loss				
Interest income (6)	3,167	65,434	2,838	13,140
Interest expense (3), (5)	(3,398)	(29,406)	(125)	(21,855)
Fee and commission income	1,484	3,272	1,460	2,505
Fee and commission expense	(27,902)	(52)	(24,263)	(65)
Dividend income	46	-	1,997	-
Net income from financial instruments at fair value through profit or loss (3)	(835)	(114,649)	(1,270)	209,540
Net gain on investment	-	-	-	-
Other income and expense	(11,114)	31,055	(13,262)	10,221
General and administrative expenses	(87)	(27,485)	(552)	(22,313)
Off balance sheet				
Derivatives/Spot transactions to receive (3)	-	61,898,784	-	75,617,077
Derivatives/Spot transactions to deliver (3)	-	62,062,387	-	75,549,754
Derivatives/Spot transactions to receive highest month-end notional during year (3)	-	99,773,517	-	75,617,077
Derivatives/Spot transactions to deliver highest month-end notional during year (3)	-	99,387,172	-	75,549,077
Guarantees issued and commitments provided	--	-	50,000	-
Custody assets entrusted from	15,807,881	-	21,482,538	-

Related parties include parties having the ability to control, jointly control or significantly influence the Bank.

(1) Refers to the subsidiaries of RBC Investor Services Bank S.A..
(2) This represents transactions with related parties of the Bank, other than subsidiaries of RBC Investor Services Bank S.A..
(3) The Bank entered into forward and spot foreign exchange contracts with RBC London Branch to facilitate client transactions. The disclosure of notional amounts as of the end of the year/period and the highest month-end notional amount during the year/period is considered the most meaningful information to represent transactions during the year/period.
(4) During financial year 2020, RBCIS Bank S.A. issued US$518 million of new subordinated Tier 2 Debt ("Notes") as part of a capital restructure initiative in order to anticipate a minimum requirement for own funds and eligible liabilities (MREL) target of 24%. The Tier 2 Debt was subscribed by RBC (Barbados) Funding Ltd ("RBFL" "Issuer").

34. Related party disclosures (cont'd)

(5) On April 30, 2020, the Bank executed a Deposit Agreement with RBC Caribbean Investments Limited (CI) whereby CI may make deposits up to US$3 billion with RBCIS. The Deposit Agreement matured and was repaid in October 2022.
(6) RBCIS has executed a deposit agreement with Royal Bank of Canada (RBC), whereby RBCIS may deposit up to US$8 billion with RBC. RBCIS has also executed a deposit agreement with RBC Europe Ltd. Both deposit agreements matured during FY 2022.

All transactions with related parties have been dealt on an arms' length basis.

In 2022 and 2021, transactions linked to post-employment defined benefit plans were entirely carried out with counterparties outside the Bank.

b. Key management compensation

Key management personnel and Directors

Key management personnel are defined as those persons having authority and responsibility for planning, directing and controlling the activities of RBC and its subsidiaries, directly or indirectly. They include the senior members of RBC called the Group Executive (GE). The GE is comprised of the President and Chief Executive Officer, and the Chief Officers and Group Heads, who report directly to him. The GE is ultimately responsible for all material decisions of RBC. The GE is also responsible for establishing the overall strategic direction of the RBC Group and, in that regard, sets global parameters for the RBC Group within which the board of directors and management of the Bank exercise their respective discretion to make decisions concerning the strategic direction and day-to-day management of the Company. The Directors of RBC do not plan, direct, or control the activities of RBCIS; they oversee the management of the business and provide stewardship.

Compensation of key management personnel and Directors

The following tables present the compensation paid to key management personnel and Directors.

	For the year ended(1)	
EUR million	Oct 31, 2022	Oct 31, 2021
Salaries and other short-term employee benefits (2)	20	13
Post-employment benefits (3)	1	2
Share-based payments	30	24
Total	51	39

(1) Key management personnel and RBC Directors received their remuneration from RBC. No direct compensation is charged to the subsidiary by RBC in respect of the services provided.
(2) Includes the portion of the annual variable short-term incentive bonus that certain executives elected to receive in the form of deferred share units. RBC Directors receive retainers but do not receive salaries and other short-term employee benefits.
(3) RBC Directors do not receive post-employment benefits.

Stock options, stock awards and shares held by key management personnel, Directors and their close family members

	Oct 31, 2022		Oct 31, 2021	
	Nr. of units held	Value EUR million	Nr. of units held	Value EUR million
Stock options (1)	2,409,294	44	2,369,659	57
Other non-option stock base awards (1)	914,496	85	983,004	89
RBC common shares	170,312	16	183,783	17
Total	3,494,102	145	3,536,446	163

(1) Directors do not receive stock options or any other non-option stock based awards.

34. Related party disclosures (cont'd)

Transactions, arrangements and agreements involving key management personnel, Directors and their close family members

In the normal course of business, RBC provides certain banking services to key management personnel, Directors, and their close family members. These transactions were made on substantially the same terms, including interest rates and security, as for comparable transactions with persons of a similar standing and did not involve more than the normal risk of repayment or present other unfavourable features.

As at October 31, 2022, total loans to key management personnel, RBC Directors and their close family members were EUR 10 million (October 31, 2021 – EUR 10 million). RBC had no stage 3 allowance or provision for credit losses relating to these loans as at and for the years ended October 31, 2022 and October 31, 2021. No guarantees, pledges or commitments had been given to key management personnel, RBC Directors or their close family member.

35. List of subsidiaries

Name	Country of incorporation	Percentage of capital held
RBC Investor Services Belgium S.A.	Belgium	100.00
RBC Investor Services Bank France S.A.	France	100.00
RBC Investor Services France S.A. (indirect*)	France	100.00
RBC Investor Services Holding (Hong Kong) Limited	Hong Kong	80.00
RBC Investor Services Trust Hong Kong Limited (indirect**)	Hong Kong	80.00
RBC Investor Services Ireland Limited	Ireland	100.00
RBC Investor Services (Malaysia) Sdn Bhd	Malaysia	100.00
RBC Investor Services Trust Singapore Limited	Singapore	100.00
RBC Investor Services UK LLP	United Kingdom	66.67

* RBC Investor Services Bank France S.A. owns 100% of RBC Investor Services France S.A..
** RBC Investor Services Holding (Hong Kong) Limited owns 80% of RBC Investor Services Trust Hong Kong Limited.

Branches

Name
RBC Investor Services Bank S.A. New York Rep Office
RBC Investor Services Bank S.A. Dublin Branch
RBC Investor Services Bank S.A. Milan Branch
RBC Investor Services Bank S.A. Zurich Branch
RBC Investor Services Bank S.A. London Branch

Associated companies accounted for by the equity method

The Bank has no companies accounted for by the equity method.

36. Recovery and settlement of on-balance sheet assets and liabilities

The table below presents an analysis of assets and liabilities recorded on the balance sheet by amounts to be recovered or settled within one year and after one year, as at the balance sheet date, based on contractual maturities and certain other assumptions outlined in the footnotes below. The Bank manages the liquidity risk of various products based on historical behavioural patterns that are often not aligned with contractual maturities. Amounts to be recovered or settled within one year, as presented below, may not be reflective of management's long-term view of the liquidity profile of certain balance sheet categories.

36. Recovery and settlement of on-balance sheet assets and liabilities (cont'd)

EUR'000			Oct 31, 2022			Oct 31, 2021
	Within one year	After one year	Total	Within one year	After one year	Total
Assets						
Cash and balances with central banks (1)	12,199,259	-	12,199,259	9,338,056	-	9,338,056
Loans and advances to banks	719,390	-	719,390	8,137,562	-	8,137,562
Loans and advances to customers	1,652,027	-	1,652,027	1,149,529	124,686	1,274,215
Investment securities	257,099	367,960	625,059	454,856	384,424	839,280
Derivatives (2)	756,888	-	756,888	449,984	-	449,984
Investments in subsidiaries	-	102,152	102,152	-	126,752	126,752
Current tax assets	2,313	298	2,611	4,831	-	4,831
Tangible assets	547	55,180	55,727	578	74,448	75,026
Goodwill and other intangible assets	55,023	68,683	123,706	-	129,765	129,765
Deferred tax assets	2,226	327	2,553	55	907	962
Other assets	155,039	471	155,510	204,240	1,142	205,382
Assets held for sale	18,900	-	18,900			
Total assets	**15,818,711**	**595,071**	**16,413,782**	**19,739,691**	**842,124**	**20,581,815**
Liabilities						
Deposits form banks	1,533,974	-	1,533,974	907,256	-	907,256
Customer borrowings and deposits (3)	12,259,613	-	12,259,613	17,257,676	-	17,257,676
Derivatives (2)	726,159	-	726,159	515,673	-	515,673
Current tax liabilities	347	-	347	81	-	81
Provisions and other obligations	18,510	8,722	27,232	33,596	10,195	43,791
Deferred tax liabilities	-	-	-	26	23	49
Other Liabilities	120,037	2,432	122,469	201,726	881	202,607
Lease Liability	7,081	40,854	47,935	7,982	53,277	61,259
Subordinated Debt	-	524,451	524,451	-	448,211	448,211
Total liabilities	**14,665,721**	**576,459**	**15,242,180**	**18,924,016**	**512,587**	**19,436,603**

(1) Cash and balances with central banks are assumed to be recovered within one year.
(2) Derivatives not designated in hedging relationships are presented as within one year as this best represents in most instances the short-term nature of the trading activities.
(3) Customer borrowings and deposits are presented as within one year due to their being repayable on demand or at short notice on a contractual basis.

37. Subsequent events

The balance sheet and profitability of the Bank have continued to demonstrate strong resilience with no material adverse impacts. The Bank continues to maintain solid capital, liquidity, and leverage ratios with sufficient buffers in excess of internal and regulatory requirements. The Bank continues to be not materially impacted by the war in Ukraine.

The sale of the Hong Kong and Singapore subsidiaries completed in the 1st fiscal quarter of 2023. Reference also Note 43.

37. Subsequent events (cont'd)

On December 23, 2022, RBC and CACEIS completed the signing of the Sale and Purchase Agreement (SPA), to sell the Business to CACEIS. In addition the parties will be entering into a Transitional Services Agreement ("TSA") which will become effective upon the closing of the transaction for the provision of certain services between RBC, CACEIS and the Business, for a limited period of time following completion of the transaction.

There have been no material events after the reporting period that would require disclosure or adjustment to the October 31, 2022 financial statements.

38. Exchange rates

		Oct 31, 2022		Oct 31, 2021	
Currencies		Spot rates	Average rates	Spot rates	Average rates
Australian dollar	AUD	1,5458	1,5128	1.5369	1.5834
Canadian dollar	CAD	1,3465	1,3623	1.4312	1.4964
Swiss franc	CHF	0,9895	1,0062	1.0589	1.0868
Danish krone	DKK	7,4453	7,4399	7.4396	7.4384
Pound sterling	GBP	0,8616	0,8509	0.8446	0.8663
Hong Kong dollar	HKD	7,7549	8,2466	8.9932	9.2548
Japanese yen	JPY	146,8864	137,4630	131.7168	129.5056
Malaysian ringgit	MYR	4,6654	4,6228	4.7866	4.9065
Norwegian krone	NOK	10,2748	10,0715	9.7624	10.2495
Swedish krone	SEK	10,9154	10,5957	9.9286	10.1497
Singapore dollar	SGD	1,3989	1,4545	1.5591	1.5959
US dollar	USD	0,9879	1,0522	1.1559	1.1917

The above spot rates have been applied in the translation of monetary items at the end of each reporting period. In addition. the above spot and average rates have been applied in the translation of foreign entities into the reporting currency.

39. Guarantees, commitments and other off-balance sheet arrangements

Regular way trades

EUR'000	Oct 31. 2022	Oct 31. 2021
Loans to be delivered and purchases of assets	1,705,430	2,512,936
Borrowings to be received and sales of assets	1,705,318	2,512,789

Guarantees

EUR'000	Oct 31. 2022	Oct 31. 2021
Guarantees given to customers	75,033	-
Guarantees given to banks	20,356	66,854
Guarantees received	3,575	3,575

Collaterals

EUR'000	Oct 31. 2022	Oct 31. 2021
Financial instrument given as collateral (1)	262,302	318,830
Financial instrument received as collateral (2)	72,443	108,232

(1) Carrying amount of securities pledged as collateral to clearing houses.
(2) Carrying amount of collateral received to secure derivatives transactions.

39. Guarantees, commitments and other off-balance sheet arrangements (cont'd)

Loan commitments

EUR'000	Oct 31. 2022	Oct 31. 2021
Unused lines granted to customers (1)	1,285,253	733,495

(1) Committed credit facility.

Assets under Administration (AUA)

EUR'000	Oct 31. 2022	Oct 31. 2021
Assets under Administration (rounded)	787,396,287	1,037,437,000

40. Profit and loss items by country

EUR'000			Oct 31. 2022
	Net operating revenue	Profit before income tax	Income tax
Members of the European Union			
Luxembourg	343,843	38,994	(11,507)
Ireland	22,290	716	(108)
Italy	2,838	(239)	(57)
UK	638	264	(100)
Rest of Europe			
Switzerland	11,734	815	(160)
Americas			
United States of America	6	265	(102)
Total	381,349	40,815	(12,034)

EUR'000			Oct 31. 2021
	Net operating revenue (1)	Profit before income tax (1)	Income tax
Members of the European Union			
Luxembourg	293,164	19,345	(4,437)
Ireland	23,078	140	(38)
Italy	22,390	421	(1,228)
UK	494	115	(52)
Rest of Europe			
Switzerland	10,380	83	77
Asia			
Hong Kong	-	-	-
Americas			
United States of America	(10)	208	(76)
Total	349,496	20,312	(5,754)

(1) Net operating revenue and profit before income tax were reclassified for prior year figures, in order to align with the 2021 classification after intercompany eliminations.

41. Subordinated Debt

EUR'000	Oct 31, 2022	Oct 31, 2021
Opening Balance	448,211	444,674
FX Revaluation	76,133	3,462
Issued	-	-
Accrued Interest	107	75
Total subordinated debt	524,451	**448,211**

On May 19, 2020, RBCIS Bank ("Issuer") issued US$518 million of new subordinated Tier 2 Debt as part of a capital restructure initiative in order to anticipate a Minimum Requirement for own funds and Eligible Liabilities (MREL) target of 24%.

The Tier 2 Debt was subscribed by RBC (Barbados) Funding Ltd. ("RBFL").

The principal terms and conditions of the subordinated tier 2 debt are set out below.

(a) The Notes constitute direct, unsecured and subordinated obligations of the Issuer and rank pari passu, without any preference among themselves, with all other outstanding unsecured and subordinated obligations of the Issuer. The rights and claims of the Noteholders against the Issuer in respect of the Notes are subordinated to the claims of the Senior Creditors.
(b) The Notes are not secured or subject to a guarantee that enhances the seniority of the claims of the Noteholders.
(c) Unless previously redeemed and cancelled as provided below, the Issuer shall redeem the Notes at their principal amount on 2029. The Notes do not include any incentive for their principal amount to be redeemed or repaid by the Issuer prior to their maturity.
(d) Interest is payable based on the three-month deposits in U.S. dollars per Thomson Reuters page LIBOR01.

42. Other notes

Fonds de Garantie des dépôts Luxembourg ("FGDL") and Fonds de résolution ("FRL")

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

FGDL – Deposit Guarantee Scheme

This new schemes covers eligible deposits of each depositor up to an amount of EUR 100,000 and investments up to an amount of EUR 20,000. The Law also provides that deposits resulting from specific transactions or fulfilling a special social or other purpose are covered for an amount above EUR 100,000 for a period of 12 months.

The target level of funding of the FGDL is set at 0.8% of covered deposits, as defined in article 163 number 8 of the Law, of the relevant credit institutions and is to be reached by the end of 2018 through annual contributions. The contributions are to be made in the form of annual payments during the years 2016 to 2018. When the level of 0.8% is reached, the Luxembourg-based authorised credit institutions shall continue contributing for 8 additional years in order to reach an additional safety buffer of 0.8% of covered deposits as defined in article 163 number 8 of the Law.

RBC Investor Services Bank S.A. is a member of the Luxembourg DGS. At present the vast majority of the Bank's clients are non-eligible depositors.

42. Other notes (cont'd)

FRL – Resolution Fund

Directive 2014/59/EU of the European Parliament and of the Council of May 15, 2014 established a framework for the recovery and resolution of credit institutions and investment firms ("BRRD"). The BRRD provides comprehensive measures that would enable national authorities to intervene in a troubled institution at a sufficient early stage. thereby preserving financial stability. The Directive requires that each participating Member State establish a national resolution authority overseen by the Single Resolution Board.

The BRRD requires that a Resolution Plan be prepared for all institutions in scope that defines the preferred resolution strategy for each institution. The Resolution Plan will be drawn up by the Single Resolution Board and National Resolution Authorities for Luxembourg this is the Commission de Surveillance du Secteur Financier ("CSSF") based on analysis of data provided by credit institutions within participating Member States and will be subject to an annual update. The National Resolution Authority will remain largely independently responsible for the smaller and less significant credit institutions. For those under the supervision of the Single Supervisory Board, as is the case for RBC Investor Services, the Single Resolution Board will be responsible for the resolution plans. Resolution tools that will be available to the resolution authorities include bail-in of shareholders and creditors, sale of business, bridge institution and asset separation.

The financing of such resolutions would be borne by the banking sector, through Resolution Funds. These will be funded by annual contributions by authorized credit institutions to reach the target of 1% of covered deposits by 2024. The contributions will be based on the relative proportion of total liabilities, less own funds, covered deposits. deductions & derivative adjustments. adjusted for relative risk factors. This amount will be collected from the credit institutions through annual contributions during the years 2015 to 2024. The amount paid by the Bank for the year ended October 31, 2022 in that respect is EUR 16,145,179 and is included under General and Administrative Expenses (October 31, 2021: EUR 12,536,828).

43. Assets Held for Sale

On December 15, 2021, RBC Investor Services Holding (Hong Kong) Limited signed a Sale and Purchase agreement to sell its 100% wholly owned subsidiary, RBC Investor Services Trust Hong Kong Limited, to Standard Chartered Bank (Hong Kong) Limited.

On October 12, 2022, the Board of Directors of RBC Investor Services Bank S.A. approved the transfer its 80% share ownership of RBC Investor Services Holding (Hong Kong) Limited ("Holdco HK") including its 100% wholly owned subsidiary, RBC Investor Services Trust Hong Kong Limited, to Royal Bank Holding Inc. ("RBHI). This transaction completed in the 1st quarter of fiscal year 2023.

On October 12, 2022, the Board of Directors of RBC Investor Services Bank S.A. approved the sale of 100% owned subsidiary, RBC Investor Services Trust Singapore Ltd (RBCIST), to Royal Bank Holding Inc.(RBHI). This transaction completed in the 1st quarter of fiscal year 2023.

These transactions are in line with the strategy of RBC IS Bank to exit the Asia Pacific region and focus on European market.

The carrying amount of Investment in Subsidiaries reported as "Assets held for Sale" as at 31 October 2022 is EUR 19 million, which comprises RBC Investor Services Holding (Hong Kong) Limited (EUR 13 million) and RBC Investor Services Trust Singapore Limited (EUR 6 million).