novobanco

2022 MARKET DISCIPLINE

INDEX

1 Declaration of responsibility .... - 14 -

2 Scope of Application and risk management policies .... - 15 -

2.1 Novo Banco: origins, structure and activity .... - 15 -

2.3 The risk function .... - 23 -

2.3.1 Main risks and risk appetite requirements .... - 23 -

2.3.2 Responsibility functions in risk management .... - 28 -

2.3.3 Governance structures and risk management committees .... - 29 -

2.3.4 Risk management organisation and functions .... - 32 -

2.3.5 Scope, measurement techniques and hedging policies of each specific risk category .... - 37 -

2.4 The audit function .... - 37 -

2.5 The compliance fuction .... - 38 -

2.6 Heads of risk, audit, and compliance functions coordination .... - 38 -

2.7 Remuneration policies .... - 38 -

2.7.1 Relevant information .... - 38 -

2.7.2 Limits to remuneration in novobanco .... - 39 -

2.7.3 Selection of employees who can significantly influence the risk profile of novobanco .... - 40 -

2.7.4 Specific rules of novobanco's remuneration policies .... - 40 -

2.7.5 Remuneration in 2022 of employees who can significantly influence the risk profile of novobanco .... - 42 -

2.8 Positions held by the members of the management body .... - 45 -

2.9 Policy for selection and assessment of the management and supervisory bodies and key function holders .... - 45 -

3 Adequação Capital adequacy .... - 47 -

3.1 Capital management at novobanco Group .... - 47 -

3.2 Regulatory capital adequacy .... - 49 -

3.2.1 Solvency ratios components .... - 49 -

3.2.1.1 Own funds .... - 49 -

3.3 Capital adequacy at 31 December 2022 .... - 52 -

3.4 Capital adequacy quantitative information .... - 53 -

3.5 Capital buffers .... - 56 -

3.6 Leverage ratio .... - 58 -

3.7 Internal capital adequacy assessment .... - 61 -

3.8 Minimum requirement for own funds and eligible liabilities (MREL) .... - 63 -

4 Counterparty credit risk .... - 64 -

4.1 Determination of value at risk .... - 64 -

4.2 Approval and control process .... - 65 -

4.3 Quantitative information on counterparty credit risk - 65 -

5 Credit Risk - 70 -

5.1 Management of credit risk - 70 -

5.1.1 Impairment loss definitions and estimation methods - 72 -

5.1.2 Impairment loss definitions and estimation methods for other assets - 78 -

5.1.3 Provisions/impairments - 79 -

5.2 Concentration Risk - 80 -

5.2.1 General overview - 80 -

5.2.2. Description of concentration risk assessment process - 81 -

5.2.3. Concentration risk in the internal capital adequacy assessment process (ICAAP) - 83 -

5.3. Quantitative information on credit risk - 83 -

5.4. Calculation of credit risk weighted assets - 91 -

5.4.1 General overview - 91 -

5.4.2. Standardised approach - 91 -

5.4.3. Internal ratings-based approach - 92 -

5.4.4. Quantitative information on credit risk weighted assets - 102 -

5.5. Backtesting of internal PD parameter used in IRB approach - 106 -

5.6. Backtesting of internal LGD parameter used in IRB approach - 109 -

5.7. Backtesting of internal CCF parameter used in IRB approach - 110 -

5.8. COVID-19 - 111 -

6 Credit risk mitigation techniques - 113 -

6.1. General overview - 113 -

6.2. Valuation of collaterals received and haircuts - 113 -

6.3. Concentration of hedging amounts per instrument - 114 -

6.4. Treatment of associated risks - 114 -

6.5. Quantitative information on credit risk mitigation techniques - 115 -

7 Securitisation operations - 119 -

7.1 Asset securitisation underlying management principles - 119 -

7.1.1 Asset securitisation objectives in novobanco Group - 119 -

7.1.2 novobanco Group's role in securitisation activity - 119 -

7.2. Description of asset securitisation operations and activities - 120 -

7.3. Accounting policies - 122 -

7.4. Risks inherent in securitisations and quantification - 123 -

7.5. Management of investments in securitisations - 124 -

7.5.1 Management of banking book positions - 124 -

7.5.2 Management of trading book positions - 125 -

7.6. Calculation methods of own funds requirements for securitisation exposures - 127 -

8 Market Risk - 129 -

8.1. Management of Market Risk - 129 -

8.1.1 Quantitative information on market risk - 129 -
8.2. Calculation methods of own funds requirements for market risk - 130 -
8.3. Own funds requirements for market risk - 130 -
9 Equity exposures in the banking book - 132 -
9.1. General overview - 132 -
9.2. Quantitative information - 133 -
10 Operational risk - 134 -
10.1. General overview - 134 -
10.1.1. Management practices - 134 -
10.1.2. Calculation of own funds requirements under the standardised approach - 137 -
10.1.3. Calculation of relevant indicator - 138 -
10.2. Quantitative information on operational risk - 139 -
11 Interest rate risk on the banking book - 140 -
11.1. Qualitative information - 140 -
11.2. Quantitative information on the interest rate risk on the banking book - 143 -
12 Liquidity risk - 144 -
12.1. Management of liquidity risk - 144 -
12.2. LCR disclosure - 146 -
12.3. Net stable funding ratio (NSFR) - 148 -
12.4. Encumbered assets disclosure - 149 -
12.4.1. Methodologies - 149 -
12.4.2. Quantitative information - 150 -
13 Management of ESG risks - 153 -
13.1. Qualitative information on environmental risks - 153 -
13.1.1. Business strategy and processes - 153 -
13.1.2. *Governance* - 156 -
13.1.3. Risk management - 159 -
13.2. Qualitative information on Social Risks - 164 -
13.2.1. Business strategy and processes - 164 -
13.2.2. *Governance* - 167 -
13.2.3. Risk Management - 168 -
13.3. Qualitative information on governance risks - 169 -
13.3.1. *Governance* - 170 -
13.3.2. Management of the governance risk of novobanco's customers - 170 -
13.4. Quantitative information - 171 -
14 . Annexes - 174 -

Market Discipline – Index of Tables

Table 1 - Entities directly consolidated into novobanco - 18 -

Table 2 - Sub-Groups of entities directly consolidated into novobanco - 18 -

Table 3 – Structured entities in consolidation scope - 19 -

Table 4 – Entities excluded from prudential scope - 19 -

Table 5 – Template EU LI1 (1st part) - Reconciliation between accounting and regulatory balance sheet - 20 -

Table 6 – Template EU LI1 (2nd part) - mapping of financial statement categories with regulatory risk categories - 21 -

Table 7 – Template EU LI2 - Main sources of differences between regulatory exposure amounts and carrying values in financial statements - 22 -

Table 8 – Significant investments in financial sector entities - 22 -

Table 9 – Risk appetite dimensions/metrics monitored in 2022 - 25 -

Table 10 – Minimum capital requirements on a sub-consolidated basis - 26 -

Table 11 – Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) of novobanco Group in 2022 - 27 -

Table 12 – Evolution of loan loss indicators in 2022 - 28 -

Table 13 – Heads of risk, audit, and compliance functions coordination - 38 -

Table 14 – Template EU REM1 — Remuneration awarded for the financial year - 43 -

Table 15 – Template EU REM2 — Special payments to staff whose professional activities have a material impact on institutions' risk profile (identified staff) - 43 -

Table 16 – Template EU REM3 — Deferred remuneration - 44 -

Table 17 – Template EU REM5 — Information on remuneration of staff whose professional activities have a material impact on institutions' risk profile (identified staff) - 45 -

Table 18 – Management positions held in other entities at 31 December 2022 - 45 -

Table 19 – CCA - Unused amount of compensation at 31 December 2022 - 48 -

Table 20 – Capital adequacy - 53 -

Table 21 – Reconciliation of accounting capital with regulatory capital - 54 -

Table 22 – Modelo EU OV1 - Overview of risk weighted exposure amounts - 55 -

Table 23 – Capital buffers applicable to novobanco - 58 -

Table 24 – Template EU LR1 - LRSum: Summary reconciliation of accounting assets and leverage ratio exposures - 59 -

Table 25 – Template EU LR3 - LRSpl: Split-up of on balance sheet exposures (excluding derivatives, SFTs and exempted exposures) - 59 -

Table 26 – Leverage ratio - 60 -

Table 27 – Template EU CCR1 – Analysis of CCR exposure by approach - 65 -

Table 28 – Template EU CCR3 – Standardised approach – CCR exposures by regulatory portfolio and risk - 66 -

Table 29 – Template EU CCR4 - IRB approach – CCR exposures by portfolio and PD scale - 66 -

Table 30 – Template EU CCR4 - IRB approach – CCR exposures by portfolio and PD scale - Institutions - 67 -

Table 31 – Template EU CCR4 - IRB approach - CCR exposures by portfolio and PD scale - Corporate .. - 67 -
Table 32 – Template EU CCR5 — Composition of collateral for CCR ..... - 68 -
Table 33 – Template EU CCR8 – Exposures to CCPs ..... - 68 -
Table 34 – Template EU CCR2 — Transactions subject to own funds requirements for CVA risk ..... - 69 -
Table 35 – Provisions / impairments balances ..... - 79 -
Table 36 – Provisions / Impairments increases / charges ..... - 79 -
Table 37 – Breakdown of customer loans portfolio and impairments by stage ..... - 80 -
Table 38 – Type of concentration ..... - 81 -
Table 39 – Template EU CR1: Performing and non-performing exposures and related provisions. ..... - 83 -
Table 40 – Template EU CR1-A: Maturity of exposures ..... - 84 -
Table 41 – Template EU CR2: Changes in the stock of non-performing loans and advances ..... - 84 -
Table 42 – Template EU CR2a: Changes in the stock of non-performing loans and advances and related net accumulated recoveries ..... - 84 -
Table 43 – Movement in Impairments / Provisions (1) at 31 December 2021 and 2022 ..... - 85 -
Table 44 – Gross exposure to and impairment of Customer Loans – Individual and Collective Assessment by type of loan at 31 December 2022 ..... - 85 -
Table 45 – Gross exposure to and impairment of Customer Loans – Individual and Collective Assessment by type of loan at 31 December 2021 ..... - 86 -
Table 46 – Gross exposure to and impairment of Customer Loans – Individual and Collective Assessment by geography at 31 December 2022 ..... - 86 -
Table 47 – Gross exposure to and impairment of Customer Loans – Individual and Collective Assessment by geography at 31 December 2021 ..... - 87 -
Table 48 – Template EU CQ1: Credit quality of forborne exposures ..... - 87 -
Table 49 – Template EU CQ2: Quality of forbearance ..... - 88 -
Table 50 – Template EU CQ3: Credit quality of performing and non-performing exposures by past due days .. - 88 -
Table 51 – Template EU CQ4: Quality of non-performing exposures by geography ..... - 89 -
Table 52 – Template EU CQ5: Credit quality of loans and advances to non-financial corporations, by industry - 89 -
Table 53 – Template EU CQ6: Collateral valuation - loans and advances ..... - 90 -
Table 54 – Template EU CQ7: Collateral obtained by taking possession and execution processes ..... - 90 -
Table 55 – Template EU CQ8: Collateral obtained by taking possession and execution processes – vintage breakdown ..... - 90 -
Table 56 – Types of risk models ..... - 93 -
Table 57 – Models used internally to calculate risk-weighted assets and IRB risk classes ..... - 97 -
Table 58 – Description of internal IRB models and regulatory limits considered at the level of risk parameters obtained ..... - 98 -
Table 59 – Template EU CR5 – Standardised approach ..... - 102 -
Table 60 – Template EU CR6 – IRB Foundation approach – Credit risk exposures by exposure class and PD range ..... - 103 -

Table 61 – Template EU CR6 – IRB Advanced approach – Credit risk exposures by exposure class and PD range - 104 -
Table 62 – Template EU CR10 — Specialised lending and equity exposures under the simple risk weighted approach - 105 -
Table 63 – Template EU CR8 – RWEA flow statements of credit risk exposures under the IRB approach. - 105 -
Table 64 – Geographical distribution of retail portfolio exposures and PD and LGD internal parameters (Internal Ratings Based Approach) - 106 -
Table 65 – Geographical distribution of corporate and institutionals portfolio exposures and PD internal parameter (Internal Ratings-Based Approach) - 106 -
Table 66 – *Backtesting of PD parameter for Large Corporate risk class* - 107 -
Table 67 – Backtesting of PD parameter for Retail - SME risk - 108 -
Table 68 – *Backtesting of PD parameter for Retail risk class – Exposures guaranteed by real estate* - 108 -
Table 69 – *Backtesting of PD parameter for retail risk class – Other retail* - 108 -
Table 70 – Backtesting of LGD internal parameter - 109 -
Table 71 – *Backtesting of CCF internal parameter* - 110 -
Table 72 – Template 2 - Breakdown of loans and advances subject to legislative and non-legislative moratoria by residual maturity of moratoria - 111 -
Table 73 – Template 3 - Information on newly originated loans and advances provided under newly applicable public guarantee schemes introduced in response to COVID-19 crisis - 112 -
Table 74 – Template EU CR3 – CRM techniques overview: Disclosure of the use of credit risk mitigation techniques - 115 -
Table 75 – Template EU CR4 – Standardised approach – Credit risk exposure and CRM effects - 116 -
Table 76 – Template EU CR7-A — IRB approach – Disclosure of the extent of the use of CRM techniques - 116 -
Table 77 – Standardised Approach – Exposures and types of CRM - 117 -
Table 78 – IRB Approach – Exposures and types of CRM - 118 -
Table 79 – Exposures with credit risk protection by sector - 118 -
Table 80 – Degree of involvement of novobanco Group in securitisation operations - 121 -
Table 81 – Description of securitisation operations - 122 -
Table 82 – Securitisation operations – Activity overview - 126 -
Table 83 – Securitisation operations – Analysis of losses - 126 -
Table 84 – Template EU-SEC1 — Securitisation exposures in the non-trading book - 127 -
Table 85 – Template EU-SEC3 — Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as originator or as sponsor - 128 -
Table 86 – Template EU-SEC4 — Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as investor - 128 -
Table 87 – Template EU-SEC5 — Exposures securitised by the institution - Exposures in default and specific credit risk adjustments - institution acting as investor Institution acts as originator or as sponsor - 128 -
Table 88 – Market Risk Values (novobanco Group) - 129 -

Table 89 – Template EU MR1 – Market risk under the standardised approach at 31 December 2022 ..... - 130 -
Tbale 90 – Template EU MR1 – Market risk under the standardised approach at 31 December 2021 ..... - 131 -
Table 91 – Equity exposures in the banking book ..... - 133 -
Table 92 – Accounting headings contributing to determine the Relevant Indicator ..... - 138 -
Table 93 - Template EU OR1 - Operational risk own funds requirements and risk-weighted exposure amounts ..... - 139 -
Table 94 – Interest rate risk ..... - 143 -
Table 95 – Template EU LIQ1 — Quantitative information of LCR ..... - 147 -
Table 96 – Modelo EU LIQ2 — Net Stable Funding Ratio ..... - 149 -
Table 97 – Template EU AE1 - Encumbered and unencumbered assets ..... - 150 -
Table 98 – Template EU AE2 - Collateral received and own debt securities issued ..... - 151 -
Table 99 – Template EU AE3 - Sources of encumbrance ..... - 151 -
Table 100 – Credit quality of exposures by sector, issues and residual maturity ..... - 171 -
Table 101 – Energy efficiency of properties given as collateral. ..... - 172 -
Table 102 – Exposures to the 20 most carbon intensive companies ..... - 172 -
Table 103 – Exposures subject to physical risk ..... - 173 -
Table 104 – Other climate change mitigating actions that are not covered in Regulation (EU) 2020/852 . - 173 -

Market Discipline – Index of Annexes

Annex I – Template EU CCA: Main features of regulatory own funds instruments and eligible liabilities instruments..174

Annex II – Template EU CC1 - Composition of regulatory own funds..175

Annex III – Template EU CC2 - Reconciliation of regulatory own funds to balance sheet in the audited financial statements..178

Annex IV – Template EU KM1 - Key metrics template ………………………………..…...………………………179

Annex V – Template IFRS9 / Article 468 of CRR - Comparison of institutions' own funds and capital and leverage ratios with and without the application of transitional arrangements for IFRS 9 or analogous ECLs.……………..………………………………..180

Annex VI – Template EU LI3 – Outline of the differences in the scopes of consolidation (entity by entity)……………………………………………………………………………………………………..…………..181

Annex VII – Template EU LR2 - LRCom: Leverage ratio common disclosure ………………………………….182

Annex VIII – Template EU CCyB1 - Geographical distribution of credit exposures relevant for the calculation of the institution-specific countercyclical buffe……………………………………………………………………….184

Annex XI – Template EU CCyB2- Amount of institution-specific countercyclical capital……………………….185

Annex X – Location of complementary information in Annual Report……………………….............................186

Market Discipline - List of abbreviations / acronyms (alphabetical order)

ACTD	Accounting, Consolidation and Taxation Department
BES	Banco Espírito Santo, S.A.
BEST	Banco Electrónico de Serviço Total, S.A.
BIS	Bank of International Settlements
CAE	Economic Activity Code
CALCO	Capital and Assets and Liabilities Committee
CCA	Contingent Capital Agreement
CCF	Credit Conversation Factor
CD	Credit Department
CET1	Common Equity Tier I
CIU	Collective Investment Undertakings
CompID	Compliance Department
COREP	Tables defined in Commission Implementing Regulation (EU) No 680/2014 of 16 April 2014 laying down implementing technical standards with regard to supervisory reporting of institutions according to Regulation (EU) No 575/2013 of the European Parliament and of the Council
CPMD	Capital Planning and Management Department
CRAC	Credit Risk Analysis Committee
CRD	Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms
CRMG	Credit Risk Monitoring Group
CRR	Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms
CSRBB	Credit spread risk on the banking book
CVA	Credit valuation adjustment (risk)
DTA	Deferred tax assets
EAD	Exposure at default (equivalent to concept of exposures subject to weighting)
EBA	European Banking Authority
ECB	European Central Bank
ECL	Expected credit loss
ELBE	Expected loss best estimate
ESG	Environment, Sustainability and Governance
FCC	Financial and Credit Committee
GRD	Global Risk Department
GSB	General and Supervisory Board
HQLA	High Quality Liquid Assets
IAD	Internal Audit Department

IAS	International Accounting Standards
ICAAP	Internal Capital Adequacy Assessment Process
IE	Individual entrepreneur
IFRS	International Financial Reporting Standards
IMV	Internal Models Validation
IRB	Internal Ratings Based
IRRBB	Interest Rate Risk on the Banking Book
IRRBB	Interest rate risk on the banking book
ISDA	International Swaps and Derivatives Association
LCP	Liquidity contingency plan
LCR	Liquidity Coverage Ratio
LD	Legal Department
LDP	Low default portfolios
LFCIFC	Legal Framework of Credit Institutions and Financial Companies (Portuguese acronym - RGICSF) (Decree-Law no. 298/92, as amended)
LGD	Loss given default
LME	Liability Management Exercise
ML	Mortgage loans
MREL	Minimum requirement for own funds and eligible liabilities
MVO	Model Validation Office
NBA	Novo Banco dos Açores, S.A.
NCA	National Competent Authority
NPA	Non-performing Assets
NPE	Non-performing Exposures
NPL	Non-performing Loans
OTC	Over-the-counter
PD	Probability of Default
PFE	Potential Future Exposure
PL	Personal loans
QCCP	Qualifying central counterparty
RAF	Risk appetite framework
RI	Relevant indicator. Measure used to calculate capital requirements for operational risk.
RTC	Risk Taking Capacity
RtD	Rating Department
RWA	Risk weighted asset
S&P	Standard and Poor's
SME	Small and medium-sized enterprises

SPE	Special Purpose Entity
SREP	ECB's Supervisory Review and Evaluation Process
STE	Short Term Exercise - set of reports developed to complement the data provided by banks subject to ECB oversight for the purposes of SREP/Pillar 2
TCFD	Task Force on Climate Related Financial Disclosures
TFD	Treasury and Finance Department
Tier I	Tier 1 capital
Tier II	Tier 2 capital
TRIM	ECB's Targeted Review of Internal Models
VaR	Value-at-Risk

Introductory Note

The banking sector has been adopting increasingly sophisticated techniques to assess the risks inherent to its activity, a stance clearly encouraged by the current prudential regulation framework applicable to the banking business. This regulatory framework is based on three pillars applying to the sector's institutions, essentially viewing an increase in the sensitivity of minimum capital requirements to the credit, market and operational risk to which the institutions are exposed (Pillar I) and the reinforcement of the banking supervision process not only to ensure that these minimum requirements are met but also to encourage institutions to develop better risk monitoring and management techniques (Pillar II). Finally, Pillar III, which deals with "Market Discipline", aims to complement the other two pillars in so far as it establishes a set of minimum requirements for banks' public disclosure of key information elements, namely the composition of their capital, their level of exposure to the various types of risk and the processes used to monitor and manage such risks, and consequently their capital adequacy and liquidity position.

In light of this regulatory framework and with a specific focus on Pillar III, Novo Banco Group (hereinafter novobanco Group) is releasing this "Market Discipline" report, which is primarily of a prudential nature and aims to ensure compliance with the disclosure requirements outlined in Part VIII of the consolidated and updated text of Regulation (EU) no. 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms (CRR).

The information disclosed in this report relates to the end of financial year 2022 and is presented on a sub-consolidated basis for novobanco Group.

Note that the information provided in this report is complemented by targeted information, which is of interest to the general public, available on the “Institutional” and “Investor” areas of the website of Novo Banco, S.A., (www.novobanco.pt) , namely Novo Banco's 2022 Annual Report.

1 Declaration of responsibility

The Executive Board of Directors of Novo Banco, S.A. hereby declares that:

I. All procedures deemed necessary for the public disclosure of information in accordance with the requirements contained in Part VIII of the CRR and related guidelines prepared and made public by the EBA have been developed in the preparation of this "Market Discipline" report with reference to the end of financial year 2022. The Board further declares that to the extent of its knowledge, all the information disclosed in this document is true and reliable;

II. The quality of the information disclosed, including that concerning or originating from entities comprised within the relevant financial group for prudential purposes in which the institution is included, is adequate;

III. The risk management policies and systems implemented in Novo Banco, S.A. are appropriate to the profile and strategy outlined for the institution;

IV. The Board undertakes to promptly disclose any significant changes occurring during the financial year subsequent to that to which this "Market Discipline" document refers.

For all due effects, the information in this document, disclosed with reference to the end of financial year 2022, has already been influenced during 2023 by the following events that may be considered as relevant facts:

- 1 February 2023 - novobanco announces new Chief Financial Officer (CFO)

novobanco informed that the GSB had approved, subject to Fit & Proper, Mr. Benjamin Dickgiesser as a new member of the Executive Board of Directors for the current mandate ending in 2025, with the position of Chief Financial Officer. Following this announcement, on 24 February 2023, Mr. Benjamin Dickgiesser stepped down as member of the GSB.

- 13 February 2023 - novobanco announces end of Restructuring Period

novobanco reported on the communication from the European Commission regarding the successful conclusion of its Restructuring Period, carried out in the context of the sale of 75% of novobanco's share capital. The Monitoring Trustee's final report will be prepared following novobanco's presentation of the 2022 audited accounts.

Lisbon, 17 March 2023

Executive Board of Directors

2 Scope of Application and risk management policies

2.1 Novo Banco: origins, structure and activity

Origins and structure

Novo Banco, S.A. Novo Banco, S.A. (novobanco or Bank) is the main entity of the novobanco financial Group, focusing its activity on the banking business. novobanco was incorporated on the 3rd of August 2014 under resolution of the Board of Directors of the Bank of Portugal on the same day, at 8:00p, under Article 145- G (5) of the Legal Framework of Credit Institutions and Financial Companies (RGICSF)[1] approved by Decree-Law No. 298/92, of 31 December, following the resolution measure applied by the Bank of Portugal to Banco Espírito Santo, S.A. (BES), under the terms of paragraphs 1 and 3-c) of Article 145-C (c) 1 and 3) of the RGICSF, from which resulted the transfer from BES to novobanco of certain assets, liabilities, off-balance sheet items and assets under management of BES.

As a result of the resolution measure applied, Fundo de Resolução ("Resolution Fund") became the sole owner of the share capital of novobanco, in the amount of 4,900 million euros. novobanco acquired the status of transition Bank, with a limited duration, as the Portuguese State assumed the commitment before the European Commission to sell it within two years from the date of its incorporation, extendable for one year.

Fundo de Resolução signed the sale agreement of novobanco on 31 March 2017. The sales process was concluded on 18 October 2017, following the acquisition of a majority stake (75%) of its share capital by Nani Holdings, SGPS, SA, a company owned by the North-American Group Lone Star. The acquisition was carried out through two capital increases in the amount of 750 million euros and 250 million euros, in October and December, respectively.

With the conclusion of the sale process, novobanco ceased to be considered a transition Bank and began to operate normally, although still being subject to certain measures restricting its activity, imposed by the European Competition Authority.

Since 18 October 2017, the financial statements of novobanco are consolidated by Nani Holdings SGPS, S.A., with registered office at Avenida D. João II, No. 46, 4A, Lisbon. LSF Nani Investments S.à.r.l., headquartered in Luxembourg, is the parent company of the Group

Novo Banco, S.A. has its registered office in Lisbon, at Avenida da Liberdade, no. 195.

novobanco Group (hereinafter Group or novobanco Group) has a retail network comprising 292 branches in Portugal and abroad (31 December 2021: 311 branches), including a branch in Spain (in the process of being closed) and a branch in Luxembourg. novobanco also has 2 representative offices in Switzerland (4 on 31 December 2021) and one in Spain.

[1] References to the RGICSF refer to the version in force on the date of the resolution measure. The current version of the RGICSF, namely its article 145, includes amendments operated through Law 23-A 2015, of 26 March, which came into force on the day following its publication.

More detailed information on the origins of novobanco may be found in note 1 (activity and group structure) to the consolidated financial statements forming part of novobanco's 2022 Annual Report.

Activity and Strategy

More information on novobanco's strategic positioning and activity can be found in the Management Report, which is part of novobanco's Annual Report.

Relevant risk management events

Point 2.3 - Risk Management in the Management Report and Note 44 - Risk management - to the consolidated financial statements, both included in novobanco's 2022 Annual Report, provide more information on risk management in 2022.

Contingent Capital Agreement (CCA)

In line with the conditions agreed in novobanco's sale process, a Contingent Capital Agreement was entered into. Under this agreement, if the capital ratios drop below a predefined threshold, and cumulatively, losses are recorded in a delimited portfolio of assets, the Resolution Fund makes a payment corresponding to the lower of the losses recorded and the amount needed to restore the capital ratios to the pre-established threshold, up to a maximum limit of 3.89 billion euros (see Note 38 – Contingent liabilities and commitments - to the consolidated financial statements, forming part of novobanco's 2022 Annual Report). The capital corresponds to a previously defined set of assets with an initial net book value (June 2016) of approximately 7.9 billion euros. As of 31 December 2022, these assets had a net book value of 1.1 billion euros. This amount essentially results from receipts and recoveries, as well as losses recorded (31 December 2021: net book value of 1.8 billion euros).

Taking into consideration the losses posted by novobanco at 31 December 2020, 2019, 2018 and 2017, the conditions were met for the Bank to request payment from the Resolution Fund of 429,013 thousand euros,1,035,016 thousand euros, 1,149,295 thousand euros and 791,695 thousand euros in 2021, 2020, 2019 and 2018, respectively.

The amount recorded in 2020 as receivable under the Contingent Capital Agreement (598 million euros) differs from the amount actually paid. This is due to disagreements between novobanco and the Resolution Fund, regarding (i) the provision for discontinued operations in Spain, and (ii) the valuation of participation units, leading to a limitation to the immediate access to this amount, which despite being recorded as receivable against other reserves, was deducted by the Bank on 31 December 2021 from own funds for solvency levels calculation purposes (165 million euros). In addition, the amount of the variable remuneration of the Executive Board of Directors relative to financial years 2019 and 2020 (3.9 million euros) was also deducted.

In 2021 the Bank booked under other reserves the amount of 209 million euros as receivable from the Resolution Fund under the CCA. This amount results, on the date of each balance sheet, from the losses incurred and the regulatory ratios in force at the time of their determination. This amount was not paid. As a result of the above and also in line with the Regulator's guidelines, at 31 December 2022 and 2021, this amount was also deducted from the calculation of the regulatory capital of novobanco.

novobanco considers the amounts pending receipt relative to 2020 and 2021 as due under the Contingent Capital Agreement and is triggering the legal and contractual mechanisms at its disposal to ensure their receipt (see Note 38 – Contingent liabilities and commitments - to the consolidated financial statements, forming part of novobanco's 2022 Annual Report).

2.2 Scope and basis of consolidation for accounting and prudential purposes

Consolidation scope

Group companies in which the Bank has a direct or indirect holding higher or equal to 20%, or over which the Bank exercises management control or significant influence, and that were included in the consolidation perimeter, are presented below.

Table 1 - Entities directly consolidated into novobanco

	Year incorporated	Year acquired	Registered office	Activity	Share holding %	Consolidation method
NOVO BANCO, SA	2014	-	Portugal	Commercial Banking		
Novo Banco dos Açores, SA (novobanco Açores)	2002	2002	Portugal	Commercial Banking	57,53%	Full consolidation
BEST - Banco Electrónico de Serviço Total, SA (BEST)	2001	2001	Portugal	Electronic banking	100,00%	Full consolidation
NB África, SGPS, SA	2009	2009	Portugal	Holding	100,00%	Full consolidation
GNB - Gestão de Ativos, SGPS, SA (GNB GA)	1992	1992	Portugal	Holding	100,00%	Full consolidation
ES Tech Ventures, S.G.P.S., SA (ESTV)	2000	2000	Portugal	Holding	100,00%	Full consolidation
NB Finance, Ltd. (NB FINANCE)	2015	2015	Cayman Islands	Issue and distribution of securities	100,00%	Full consolidation
GNB Concessões, SGPS, SA (GNB CONCESSÕES)	2002	2003	Portugal	Holding	100,00%	Full consolidation
Espírito Santo Representações, Ltda. (ESREP)	1996	1996	Brazil	Representation services	99,99%	Full consolidation
Aroleri, SLU	2021	2021	Spain	Real estate development	100,00%	Full consolidation
Fundo de Capital de Risco NOVO BANCO PME Capital Growth	2009	2009	Portugal	Venture capital fund	100,00%	Full consolidation
Fundo de Gestão de Património Imobiliário - FUNGEPI - Novo Banco	1997	2012	Portugal	Real estate fund management	100,00%	Full consolidation
Fundo de Gestão de Património Imobiliário - FUNGEPI - Novo Banco II	2011	2012	Portugal	Real estate fund management	100,00%	Full consolidation
ImoInvestimento – Fundo Especial de Investimento Imobiliário Fechado	2012	2012	Portugal	Real estate fund management	100,00%	Full consolidation
Prediloc Capital – Fundo Especial de Investimento Imobiliário Fechado	2006	2012	Portugal	Real estate fund management	100,00%	Full consolidation
Imogestão – Fundo de Investimento Imobiliário Fechado	2006	2013	Portugal	Real estate fund management	100,00%	Full consolidation
Invesfundo VII – Fundo de Investimento Imobiliário Fechado	2008	2013	Portugal	Real estate fund management	100,00%	Full consolidation
NB Património - Fundo de Investimento Imobiliário Aberto	1992	2014	Portugal	Real estate fund management	96,25%	Full consolidation
NB Arrendamento - Fundo de Investimento Imobiliário Fechado para Arrendamento Habitacional	2009	2012	Portugal	Real estate fund management	100,00%	Full consolidation
Fimes Oriente - Fundo de Investimento Imobiliário Fechado	2004	2012	Portugal	Real estate fund management	100,00%	Full consolidation
Fundo de Investimento Imobiliário Fechado Amoreiras	2006	2015	Portugal	Real estate fund management	95,24%	Full consolidation
NB Branches - Fundo Especial de Investimento Imobiliário Fechado	2006	2019	Portugal	Real estate fund management	100,00%	Full consolidation
Febagri-Actividades Agropecuárias e Imobiliárias SA	2006	2012	Portugal	Real estate development	100,00%	Full consolidation
JCN - IP - Investimentos Imobiliários e Participações, SA	1995	2012	Portugal	Real estate development	100,00%	Full consolidation
Greenwoods Ecoresorts empreendimentos imobiliários, SA	2012	2012	Portugal	Real estate development	100,00%	Full consolidation
Imalgarve - Sociedade de Investimentos Imobiliários, SA	1986	2014	Portugal	Real estate development	100,00%	Full consolidation
Herdade da Boina - Sociedade Imobiliária	1999	2012	Portugal	Real estate development	100,00%	Full consolidation
Benagil - Promoção Imobiliária, SA	1970	2012	Portugal	Real estate development	100,00%	Full consolidation
Promofundo - Fundo Especial de Investimento Imobiliário Fechado	2008	2018	Portugal	Real estate fund management	100,00%	Full consolidation
Locarent - Companhia Portuguesa de Aluguer de Viaturas, SA (LOCARENT)	2003	2003	Portugal	Renting	50,00% b	Equity method
UNICRE - Instituição Financeira de Crédito, SA	1974	2010	Portugal	Non banking financing	17,50% a	Equity method
Edenred Portugal, SA	1984	2013	Portugal	Services provider	50,00% b	Equity method
Multipessoal Recursos Humanos - SGPS, S.A	1993	1993	Portugal	Management of shareholdings	22,52%	Equity method

a) The percentage presented above reflects the Group's economic interest. These entities were included in the consolidated balance sheet via the equity method as the Group exercises significant influence over their activities
b) Entities consolidated under the equity method as the voting rights grant control to the other shareholders

Table 2 - Sub-Groups of entities directly consolidated into novobanco

	Year incorporated	Year acquired	Registered office	Activity	Share holding %	Consolidation method
GNB - Gestão de Ativos, SGPS, SA (GNB GA)	**1992**	**1992**	**Portugal**	**Holding**	**100,00%**	**Full consolidation**
GNB Fundos Mobiliários - Sociedade Gestora de Organismos de Investimento Coletivo, SA	1987	1987	Portugal	Investment fund management	100,00%	Full consolidation
GNB Real Estate - Sociedade Gestora de Organismos de Investimento Coletivo, SA	1992	1992	Portugal	Investment fund management	100,00%	Full consolidation
GNB - Sociedade Gestora de Fundos de Pensões, SA	1989	1989	Portugal	Investment fund management	100,00%	Full consolidation
GNB - Sociedade Gestora de Patrimónios, SA	1987	1987	Portugal	Wealth management	100,00% b)	Full consolidation
GNB - International Management, SA	1995	1995	Luxembourg	Investment fund management	100,00%	Full consolidation
ES Tech Ventures, S.G.P.S., SA (ESTV)	**2000**	**2000**	**Portugal**	**Holding**	**100,00%**	**Full consolidation**
Yunit Serviços, SA	2000	2000	Portugal	Internet portal management	33,33%	Equity method
Fundo de Capital de Risco NOVO BANCO PME Capital Growth	**2009**	**2009**	**Portugal**	**Fundo de Capital de Risco**	**100,00%**	**Full consolidation**
Righthour, SA	2013	2013	Portugal	Services	100,00%	Full consolidation
GNB Concessões, SGPS, SA (GNB CONCESSÕES)	**2002**	**2003**	**Portugal**	**Holding**	**100,00% a)**	**Full consolidation**
Lineas – Concessões de Transportes, SGPS, SA	2008	2010	Portugal	Holding	40,00%	Equity method

a) The percentage presented above reflects the Group's economic interest. These entities were included in the consolidated balance sheet via the equity method as the Group exercises significant influence over their activities
b) Entities consolidated under the equity method as the voting rights grant control to the other shareholders

Additionally, and bearing in mind the requirements of IFRS 10, the consolidation scope of novobanco also included the following structured entities at the end of 2022:

Table 3 – Structured entities in consolidation scope

	Year incorporated	Year acquired	Registered office	Share-holding %	Consolidation method
Lusitano Mortgages No.6 plc (*)	2007	2007	Ireland	100%	Full consolidation
Lusitano Mortgages No.7 plc (*)	2008	2008	Ireland	100%	Full consolidation

(*) - EStructured entities set up in the scope os securitization operations, recorded in the consolidated financial statements in accordance with the continued involvement of the Group in these operations, determined based on the percentage of the equity pieces held of the respective vehicles (see Note 41)

novobanco Group's prudential and accounting consolidation scopes were not coincident at the end of December 2022. The main cause for the differences between the two scopes is the fact that the investment funds controlled by novobanco do not consolidate into the prudential scope.

Companies not included in the prudential scope but fully consolidated in the accounting scope:

Table 4 – Entities excluded from prudential scope

	Year incorporated	Year acquired	Registered office	Activity	Share-holding %	Consolidation method
NOVO BANCO, SA	2014	-	Portugal	Commercial banking		
Fundo de Capital de Risco NOVO BANCO PME Capital Growth	2009	2009	Portugal	Venture capital fund	100,00%	Full consolidation
Fundo de Gestão de Património Imobiliário - FUNGEPI - Novo Banco	1997	2012	Portugal	Real estate fund management	100,00%	Full consolidation
Fundo de Gestão de Património Imobiliário - FUNGEPI - Novo Banco II	2011	2012	Portugal	Real estate fund management	100,00%	Full consolidation
ImoInvestimento – Fundo Especial de Investimento Imobiliário Fechado	2012	2012	Portugal	Real estate fund management	100,00%	Full consolidation
Prediloc Capital – Fundo Especial de Investimento Imobiliário Fechado	2006	2012	Portugal	Real estate fund management	100,00%	Full consolidation
Imogestão – Fundo de Investimento Imobiliário Fechado	2006	2013	Portugal	Real estate fund management	100,00%	Full consolidation
Invesfundo VII – Fundo de Investimento Imobiliário Fechado	2008	2013	Portugal	Real estate fund management	100,00%	Full consolidation
NB Património - Fundo de Investimento Imobiliário Aberto	1992	2014	Portugal	Real estate fund management	55,90%	Full consolidation
NB Arrendamento - Fundo de Investimento Imobiliário Fechado para Arrendamento Habitacional	2009	2012	Portugal	Real estate fund management	100,00%	Full consolidation
Fimes Oriente - Fundo de Investimento Imobiliário Fechado	2004	2012	Portugal	Real estate fund management	100,00%	Full consolidation
Fundo de Investimento Imobiliário Fechado Amoreiras	2006	2015	Portugal	Real estate fund management	95,24%	Full consolidation
Febagri-Actividades Agropecuárias e Imobiliárias SA	2006	2012	Portugal	Real estate development	100,00%	Full consolidation
JCN - IP - Investimentos Imobiliários e Participações, SA	1995	2012	Portugal	Real estate development	95,28%	Full consolidation
Greenwoods Ecoresorts empreendimentos imobiliários, SA	2012	2012	Portugal	Real estate development	100,00%	Full consolidation
Imalgarve - Sociedade de Investimentos Imobiliários, SA	1986	2014	Portugal	Real estate development	100,00%	Full consolidation
Herdade da Boina - Sociedade Imobiliária	1999	2012	Portugal	Real estate development	100,00%	Full consolidation
Benagil - Promoção Imobiliária, SA	1970	2012	Portugal	Real estate development	100,00%	Full consolidation
Promofundo - Fundo Especial de Investimento Imobiliário Fechado	2008	2018	Portugal	Real estate fund management	100,00%	Full consolidation
NB Branches - Fundo Especial de Investimento Imobiliário Fechado	2006	2019	Portugal	Real estate fund management	100,00%	Full consolidation

For more information on the difference between novobanco Group's accounting and prudential scopes, see **Annex VI – Template EU LI3 – Outline of the differences in the scopes of consolidation (entity by entity)**.

Additionally, Note 1 - Activity and Group Structure - to the consolidated financial statements forming part of novobanco's 2022 Annual Report, provides more detailed information about the entities included in the accounting consolidation scope.

The accounting and prudential balance sheets correspond to the consolidation scope of novobanco Group's accounts (as set out in novobanco's 2022 Annual Report) and the consolidation scope considered for prudential purposes. The differences between the two balance sheets as at 31 December 2022 are detailed in Table 5.

Table 5 – Template EU LI1 (1st part) - Reconciliation between accounting and regulatory balance sheet

million euros

	2021-12			2022-12		
	Accounting Perimeter	Adjustments	Prudential Perimeter	Accounting Perimeter	Adjustments	Prudential Perimeter
ASSETS						
Cash, cash balances at central banks and other demand deposits	5 872	(14)	5 858	6 599	(42)	6 557
Financial assets held for trading	378	-	378	172	-	172
Financial assets mandatorily at fair value through profit or loss	800	950	1 749	314	816	1 130
Financial assets designated at fair value through profit or loss	-	-	-	-	-	-
Financial assets at fair value through other comprehensive income	7 221	-	7 221	2 331	-	2 331
Financial assets at amortised cost	26 040	(2)	26 038	32 778	2	32 780
Securities	2 339	-	2 339	8 183	-	8 183
Loans and advances to banks	50	(1)	50	44	-	44
(of which: Operations with reverse repurchase agreement)	-	-	-	-	-	-
Loans and advances to customers	23 651	(2)	23 649	24 551	2	24 553
Derivatives — Hedge accounting	20	-	20	563	-	563
Fair value changes of the hedged items in portfolio hedge of interest rate risk	31	-	31	(384)	-	(384)
Investments in subsidiaries, joint ventures and associates	95	(4)	91	120	-	120
Tangible assets	864	(624)	240	799	(534)	265
Tangible fixed assets	239	1	240	299	(34)	265
Investment properties	625	(625)	-	500	(500)	-
Intangible assets	68	(0)	68	70	-	70
Tax assets	780	(0)	780	956	-	956
Current tax assets	36	(0)	36	33	(1)	32
Deferred tax assets	744	-	744	923	-	923
Other assets	2 443	20	2 463	1 618	(17)	1 601
Non-current assets and disposal groups classified as held for sale	9	(1)	9	60	(3)	57
TOTAL ASSETS	**44 619**	**325**	**44 943**	**45 995**	**221**	**46 216**
LIABILITIES						
Financial liabilities held for trading	306	-	306	99	-	99
Financial liabilities designated at fair value through profit or loss	-	-	-	-	-	-
Financial liabilities measured at amortised cost	40 216	381	40 597	40 987	207	41 194
Deposits from banks	10 745	-	10 745	9 705	-	9 705
(of which: Operations with repurchase agreement)	1 530	-	1 530	2 151	-	2 151
Due to customers	27 582	381	27 963	29 278	207	29 485
Debt securities issued, Subordinated debt and liabilities associated with transferred assets	1 514	-	1 514	1 629	-	1 629
Other financial liabilities	375	0	375	375	-	375
Derivatives — Hedge accounting	44	-	44	120	-	120
Fair value changes of the hedged items in portfolio hedge of interest rate risk	-	-	-	-	-	-
Provisions	443	43	485	413	22	435
Tax liabilities	15	(4)	12	8	-	8
Current tax liabilities	12	(1)	12	8	-	8
Deferred tax liabilities	3	(3)	-	1	(1)	-
Share capital repayable on demand	-	-	-	-	-	-
Other liabilities	443	(67)	376	840	14	854
Liabilities included in disposal groups classified as held for sale	1	1	2	15	-	15
TOTAL LIABILITIES	**41 469**	**353**	**41 822**	**42 483**	**242**	**42 725**
EQUITY						
Capital	6 055	-	6 055	6 305	-	6 305
Accumulated other comprehensive income	(1 045)	32	(1 014)	(1 235)	33	(1 202)
Retained earnings	(8 577)	-	(8 577)	(8 577)	-	(8 577)
Other reserves	6 501	(23)	6 478	6 439	(48)	6 391
Profit or loss attributable to Shareholders of the parent	185	(26)	159	561	(5)	556
Minority interests (non-controlling interests)	31	(12)	19	18	-	18
TOTAL EQUITY	**3 149**	**(29)**	**3 121**	**3 512**	**(21)**	**3 491**
TOTAL EQUITY AND LIABILITIES	**44 619**	**325**	**44 943**	**45 995**	**221**	**46 216**

More detail on novobanco Group's structure and the consolidation policies followed by the Bank is provided in notes 1 and 7 (main accounting policies) to the consolidated financial statements forming part of novobanco's 2022 Annual Report.

Table 6 provides the breakdown of the main prudential balance sheet items by risk category, at 21 December 2022.

Table 6 – Template EU LI1 (2nd part) - mapping of financial statement categories with regulatory risk categories

million euros

	2022-12					
	Balance in prudential perimeter	Balance distribution per risk category				
		Credit risk	CCR	Securitization	Market risk	Deductions from own funds
ASSETS						
Cash, cash balances at central banks and other demand deposits	6 557	6 557				
Financial assets held for trading(1)	172		135		172	
Financial assets mandatorily at fair value through profit or loss	1 130	1 130				
Financial assets designated at fair value through profit or loss	-	-				
Financial assets at fair value through other comprehensive income	2 331	2 331		0		-
Financial assets at amortised cost	32 780	31 768	-	1 012		
Securities	8 183	8 183				
Loans and advances to banks	44	44	-			
Loans and advances to customers	24 553	23 541		1 012		
Derivatives — Hedge accounting	563		563			
Fair value changes of the hedged items in portfolio hedge of interest rate risk	(384)	(384)				
Investments in subsidiaries, joint ventures and associates	120	120				
Tangible assets	265	265				
Tangible fixed assets	265	265				
Investment properties	-	-				
Intangible assets	70					70
Tax assets	956	660				296
Current tax assets	32	32				
Deferred tax assets	923	627				296
Other assets	1 601	1 541			1	60
Non-current assets and disposal groups classified as held for sale	57	57				
TOTAL ASSETS	**46 216**	**44 046**	**698**	**1 012**	**173**	**425**
LIABILITIES						
Financial liabilities held for trading	99				99	
Financial liabilities designated at fair value through profit or loss	-					
Financial liabilities measured at amortised cost	41 194		2 151			
Deposits from banks	9 705		2 151			
Due to customers	29 485					
Debt securities issued, Subordinated debt and liabilities associated with transferred assets	1 629					
Other financial liabilities	375					
Derivatives — Hedge accounting	120		120			
Provisions	435					
Tax liabilities	8					
Current tax liabilities	8					
Deferred tax liabilities	-					
Other liabilities	854					
Liabilities included in disposal groups classified as held for sale	15					
TOTAL LIABILITIES	**42 725**	**-**	**2 271**	**-**	**99**	**-**

(1) Trading derivatives are subject to counterparty credit risk (CCR) and market risk.

The total amount of exposures underlying the calculation of risk-weighted assets differs from the total amount of assets reported in the prudential balance sheet. This is due to the specific criteria for determining the amount of exposures under the CRR. The main differences between the two figures are presented in Table 7.

Table 7 – Template EU LI2 - Main sources of differences between regulatory exposure amounts and carrying values in financial statements

million euros

	2022-12				
		Items subject to			
	Total [1]	Credit risk framework	Securitisation framework	CCR framework	Market risk framework
Assets carrying value amount under the scope of prudential consolidation (as per template LI1)	45 928	44 046	1012	698	173
Liabilities carrying value amount under the scope of prudential consolidation (as per template LI1)	2 370			2 271	99
Total net amount under the scope of prudential consolidation	48 298	44 046	1 012	2 969	272
Off-balance-sheet amounts	8 398	8 398			
Differences in valuations					
Differences due to different netting rules, other than those already included in row 2					
Differences due to consideration of provisions	1 218	1 218		0	
Differences due to the use of credit risk mitigation techniques (CRMs)	-1 397			-1 397	
Differences due to credit conversion factors	-7 124	-7 124			
Differences due to Securitisation with risk transfer					
Other differences	162	-1 187	0	1 621	
Exposure amounts considered for regulatory purposes	**49 555**	**45 350**	**1 012**	**3 194**	

[1] Excluding balances within the scope of market risk and deductions from own funds.

Transfer of funds between novobanco Group entities

novobanco is not aware of any significant impediments to the timely transfer of own funds or prompt repayment of liabilities between itself and its subsidiaries.

Significant investments in financial sector entities

The companies in which novobanco holds a stake and are considered to be significant investments in financial sector entities for the purpose of deduction from own funds, where applicable, were the following at the end of 2022:

Table 8 – Significant investments in financial sector entities

	Year incorporated	Year acquired	Registered office	Activity	Share-holding %	Consolidation method
UNICRE - Instituição Financeira de Crédito, SA	1974	2010	Portugal	Non banking financing	17,50%	Equity method
Edenred Portugal, SA	1984	2013	Portugal	Services provider	50,00%	Equity method
Ijar Leasing Algérie	2011	2011	Algeria	Leasing	18,85%	Equity method

2.3 The risk function

The risk appetite framework (RAF) adopted by the novobanco Group provides strategic guidance for risk management by setting standards, norms, objectives and responsibilities for all areas of the Bank. This framework supports top management in managing risks effectively and developing a strong risk culture.

The risk management RAF defines:

- The main risks faced by novobanco Group
- The risk appetite requirements, or risk appetite statement (RAS)
- The responsibility roles in risk management
- The governance structures and risk management committees
- Risk management organisation and functions.

2.3.1 Main risks and risk appetite requirements

The Executive Board of Directors of novobanco approves the risk appetite as well as the governance and guiding principles for its definition, with the General and Supervisory Board's (GSB) prior approval.

The risk appetite reflects the strategy and objectives of the novobanco Group and defines the risk that the organisation is willing to accept when taking decisions. This risk appetite is defined as the level of risk that the novobanco Group is willing to accept in the development of its activities. It establishes touchpoints between the executive management of the Bank and the other management teams with regard to the current risk profile and its evolution, thus allowing for duly informed decisions.

The definition of the risk appetite is supported by the definition of limits. The objective of these limits is to control exposures and activities that may lead to changes in the Bank's concentration risk profile.

The risk appetite indicators are defined taking into account the following main management drivers:

- In **capital** management, novobanco aims to maintain compliance with capital ratios requirements, at all times, from both a regulatory perspective and an internal perspective;
- In terms of **liquidity** management, the Bank's objectives are to finance its medium and long-term assets with stable liabilities, to be able to withstand severe liquidity stress for a minimum period of 12 months and to comply at all times with the regulatory limits imposed for liquidity management; and
- In **asset quality** management, the Bank is committed to aligning its non-performing loan (NPL) ratios in each segment with those of its Portuguese and European peers without jeopardising provision coverage ratios. The reduction of NPLs will remain one of the main strategic priorities for the Bank, which has set the objective of achieving a NPL ratio of around 3% in the medium term. The Bank's lending strategy remains focused on credit activities in Portugal, in accordance with the goals outlined in its medium-term plan and

aligned with the objectives of the Portuguese business community. The Bank targets medium and low-risk companies and individuals, while ensuring appropriate remuneration for the risk associated with each operation. The Bank may grant loans outside Portugal within the business lines monitored by the Principal Finance Office (PFO) and Real Estate Finance Office (REFO).

- In the management of **non-financial** risks, the Bank recognises that it is not feasible to eliminate them on a cost-benefit basis, and therefore establishes tolerance levels according to the various categories of operational risk. In addition, the Bank assumes that activities must be carried out in accordance with novobanco Group's high ethical and conduct standards, which implies zero tolerance for inadequate conduct.

The indicators defined under the RAS for the main risks faced by the novobanco Group are monitored on a monthly basis by the Executive Board of Directors (EBD) via the Risk Committee, and by the General and Supervisory Board (GSB), via the GSB Risk Committee. To define the risk appetite, the Bank establishes a set of ratios and indicators (metrics) for monitoring the following exposure dimensions:

- Market based, by monitoring Portugal's sovereign rating and the national GDP;
- Profitability, by monitoring the net interest margin and risk margin;
- Capital, on a regulatory and economic basis, as detailed in the following points;
- Liquidity, through regularly monitoring of the LCR, NSFR, and ILR (internal liquidity ratio), the size of eligible assets for possible future funding needs from the ECB, the level of use of public funds, as well as through stress tests to assess the Bank's ability to survive under adverse scenarios;
- Credit, through the evolution of the loan book, the distribution of ratings, leverage and concentration levels, cost of risk and non-performing loans and non-performing assets ratios;
- Market risks, by controlling the exposure in the trading and investment portfolios and respective VaR (value at risk) as well as through pre-established maximum levels of losses in investments that are controlled on a daily basis.
- Pension Fund, by monitoring the Fund’s composition and performance through pre-established VaR limits and maximum loss levels (stop loss).
- Non-financial risks, by monitoring the operational risk losses assumed by the novobanco Group, as well as the core risk tolerance limits for the compliance, reputation, IT and Operational risk categories.

Table 9 – Risk appetite dimensions/metrics monitored in 2022

Dimension	Metric evaluated
Market based	Portuguese Svovereign Rating (S&P) GDP GDP year end forecast
Profitability	Cost of Risk / Banking Income Commercial Banking Income Cost to income (Commercial) Return on Assets (Total) Return on Equity (Total)
Capital	CET 1 ratio Tier 1 Total OF ratio Leverage Ratio MREL Economic View Capital Surplus
Liquidity	LCR NSFR Stress Survival Horizon ECB Available Elig. Assets Public Funds Usage Available Liquid Assets
Credit	Corporates (default risk capital) Individuals (default risk capital) Corporates Front Book (LT EL) Individuals Front Book (LT EL) Individuals (default risk capital) Total Gross Loan Book Portfolio RWAs (credit) Leveraged Transactions
Concentration	Concentration total capital (Top30)
Impairment	Total Impairment Flow (3 months average) Cost of Credit Risk
Delinquency	Non Performing Loans NPLs New Flows NPL Cover Ratio Growth Rate of NPL
Divestment	Restructuring Funds (NBV after deleverage) Real Estate (REO's + RE Funds) (NBV after deleverage)
Market - Trading Book	VaR 99% 10d Stop Loss Nominal

Dimension	Metric evaluated
Market - Banking Book	IRRBB - sVAR 99.9% 260d Regulatory shocks (worst EBA) Investment portfolio Nominal (M€) Investment portfolio VaR 99% 10d Investment portfolio P/L (Economic Capital Management) Non-HQLA portfolio Nominal Non-EUR portfolio Nominal Amortized Cost Nominal Corporate HQLA Amortised Cost Nominal Oil & Gas sector Nominal IRRBB - 12m projected NII under a - 50bps shock IRRBB - Total KRD on USD positions
Pension Fund Risk	Total pension Fund VaR 99% 22d Total pension Fund Stop Loss
Operational Risk	Level 1 -one off event €5 000k Threshold € 500k by event Net Loss Limit YTD: 3.15M€
Operational and Conduct Risk	Internal Frauds YTD Internal Fraud – Severity Graduation
Operational and Reputation Risk	Exit of High-Performance Employees, by their own init
Reputation Risk	Clients Complaints vs market - 3 Types Accounts, Mortgage and Consumer Credit Net Effect – Negative News Impact - External scoring
Compliance and Conduct Risk	Regulatory fines Delay in sending Core Regulatory Reports
Compliance | AML and FT Risk	Prevention of AML / FT - contracts (SLA 10 days) Prevention of AML / FT - finalize the business relationship (SLA 90 days)
IT Risk	Security Performance – External scoring Unauthorized external access Central systems affected by data loss due to malware PCs affected by data loss due to malware

Given their importance in novobanco's overall risk management process, we draw attention to certain regulatory metrics related to capital and liquidity management, as well to the Bank's strategy of reducing NPLs to increase asset quality.

Capital

The table below shows the solvency ratios calculated for the end of 2022 alongside the minimum ratios set by the ECB, which the Bank must meet on a sub-consolidated basis by the same date.

Table 10 – Minimum capital requirements on a sub-consolidated basis

Ratio	December 2022 *phased-in*	2022 capital requirement in response to the COVID-19 crisis				Total SREP capital 2022 ratio requirements (%)			
		Total	Components:			Totais	Components:		
			Pillar 1	Pillar 2 [1]	Reserves [2]		Pillar 1	Pillar 2 [1]	Reserves [2]
CET1	**13,70%**	**6,20%**	4,50%	1,69%	0,02%	**8,70%**	4,50%	1,69%	2,52%
T1	**13,71%**	**8,27%**	6,00%	2,25%	0,02%	**10,77%**	6,00%	2,25%	2,52%
Total capital	**16,01%**	**11,02%**	8,00%	3,00%	0,02%	**13,52%**	8,00%	3,00%	2,52%

[1] Mandatory pillar 2 requirement.

[2] Includes:
- Capital conservation buffer of 2.5%. Compliance temporarily suspended pursuant to supervisory measures in response to COVID-19.
- Counter-cyclical buffer currently set at 0% in Portugal has the value of 0,0188% in the case of the NB Group.
From the beginning of 2020, the O-SII reserve will only be complied with at the consolidated level (LSF Nani Investments S.à.r.l.).

The solvency ratios to be met in 2023 on a sub-consolidated basis remain the same as those established for 2022.

As can be seen in the table, all the ratios calculated for December 2022 on a phased-in basis are above the minimum regulatory SREP requirements, without considering the temporary waiver given by the ECB as a relief measure in the context of the COVID-19 pandemic.

As mentioned before, the amount receivable from the Resolution Fund under the CCA (209 million euros for the 2021 financial year) is not considered in the calculation of own funds.

Additional information on capital management in the novobanco Group can be found in chapter 3. - **Capital adequacy** of this report.

Liquidity

As far as liquidity management is concerned, the novobanco Group is considered to have maintained a stable funding and liquidity position during 2022.

novobanco Group's average liquidity coverage ratio (LCR) increased throughout 2022 (+ 40 p.p. YoY), to 190% at the end of the year, which compares favourably with the regulatory limit of 100%.

As for the net stable funding ratio (NSFR), the Bank exceeded the regulatory ratio of 100%, reaching 113% by the end of 2022. It should be noted that the group's available stable funding essentially consists of retail deposits, mostly stable, and wholesale funding maturing within more than one year.

Table 11 – Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) of novobanco Group in 2022

million euros

	Total weighted value (average)			
	2022-12	**2022-09**	**2022-06**	**2022-03**
Liquidity buffer	11 930	11 389	10 932	10 641
Total net cash outflows	6 279	6 329	6 472	6 664
Liquidity coverage ratio (%)	**190%**	**180%**	**170%**	**161%**

million euros

	Total weighted value (average)			
	2022-12	**2022-09**	**2022-06**	**2022-03**
Total available stable funding	27 491	31 202	30 793	32 710
Total required stable funding	31 135	27 928	28 663	28 534
Net Stable Funding Ratio (%)	**113%**	**112%**	**107%**	**115%**

Additional information on novobanco Group's liquidity management can be found in chapter **12. Liquidity risk** of this report.

Asset Quality

During 2022, several adaptations were required in light of the significant changes that occurred in the geopolitical and macroeconomic scenario. The outbreak and persistence of the Russia/Ukraine conflict led, among others, to a substantial increase in the cost of raw materials, significantly affecting production costs and, as a result, energy-intensive industries. In addition to this, there was a sharp increase in the cost of living, driven by successive hikes in reference interest rates (which had remained stable and negative for a prolonged period) and a widespread rise in consumer prices.

In response, from March to September 2022 the Bank systematically monitored and timely accounted for the impacts of this new scenario on impairment. This involved applying specific criteria and simulations to assess the potential effects of a deterioration in portfolio risk levels and/or IFRS9 risk parameters. From the 4th quarter of 2022 this involved:

(1) updating macroeconomic projections and, consequently, the scenarios supporting the impairment calculation as well as the associated IFRS9 risk parameters; and

(2) completing the exhaustive revision of the risk assessment of individually significant exposures to more energy-intensive economic activities,

which confirmed the previously estimated impact on impairment.

The portfolio's non-performing levels remained at controlled levels during 2022. At the same time, the Bank pursued the strategy of reducing non-performing assets. In the evolution of the main loan loss indicators, we therefore call attention to the reduction of the non-performing asset ratios, which reflects the Bank's efforts over the past few years to bring these indicators back to sustainable levels that align with the average in the banking sector. The coverage level by impairments remained high in 2022.

The following table shows the evolution of the loan-loss indicators between December 2021 and December 2022, and respective impairment coverages.

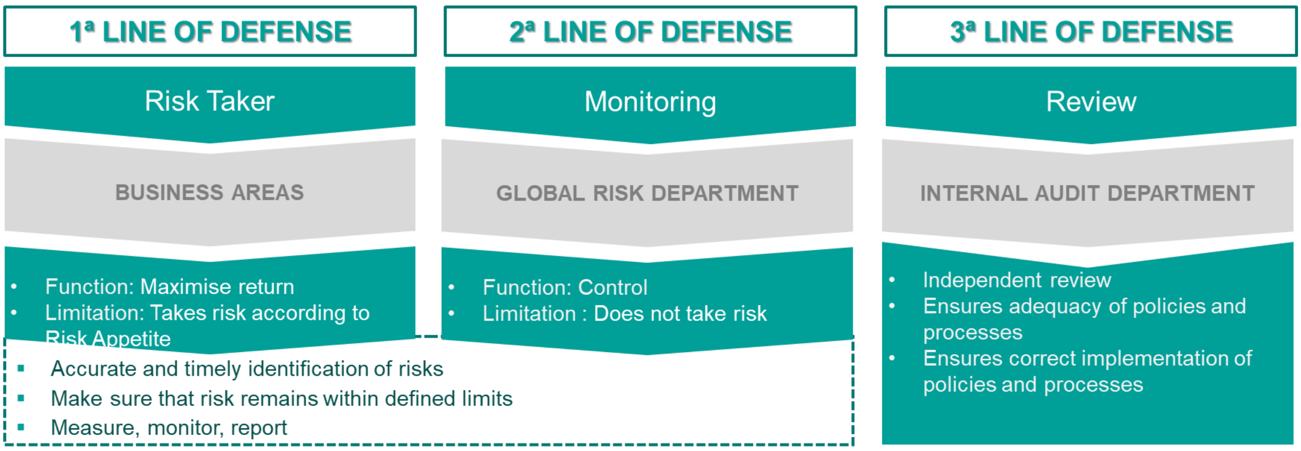
Table 12 – Evolution of loan loss indicators in 2022

Indicators	2021	2022	Annual change
Overdue Loans > 90 days / Customer Loans	1,2%	1,2%	0,1 p.p.
NPL / Customer loans and deposits with banks	5,7%	4,3%	-1,4 p.p.
Credit provision / Overdue loans > 90 days	430,2%	336,0%	-94,2 p.p.
Provisions for loans and and deposits with banks / NPL	71,4%	77,5%	6,1 p.p.
Provisions for loans / customer loans	5,0%	4,2%	-0,8 p.p.

Additional information on novobanco Group's asset quality can be found in chapter **5. Credit risk** of this report.

2.3.2 Responsibility functions in risk management

novobanco Group's Risk Management is based on the three internal lines of defence model, which views the adequate detection, measurement, monitoring and control of the risks to which the Bank is exposed.



1. The first line of defence is made up of the business areas (including operations and IT), whose responsibility is to ensure that risks are identified, measured, monitored, and reported accurately and that they remain within the defined limits. These areas have the objective of maximising return, having as limitation the risk appetite defined. The first line is, by definition, risk taker;
2. The second line of defence includes the Global Risk Department (GRD) and the Compliance Department (ComplD), the former being responsible for verifying that risk remains within the defined limits, through its correct identification, measurement, monitoring and reporting. The GRD is responsible for control functions and, in order to ensure the segregation of functions, is not risk-taker.
3. The third line of defence is the Internal Audit Department (IAD), which is responsible for ensuring that policies and processes are adequate and correctly implemented, and for their independent review.

2.3.3 Governance structures and risk management committees

The risk management function is organised in such a way as to allow effective management of the risks considered relevant and material by novobanco Group (those to which top management pays special attention and which may have an impact on the achievement of the objectives defined by the Bank) as well as the risk considered as emerging (those where little is known about their components, and whose impact may occur over a longer time horizon).

novobanco Group's risk management function's organisation model and committees are presented below.

Corporate Bodies	
General and Supervisory Board	Responsible for the supervision of all matters related to risk management, compliance and internal audit. Provides constant monitoring and assessment of the Bank's performance, especially in regard to the institution's strategy and general policies, commercial structure and decisions deemed strategic, owing to the sum or risk involved or their special nature, including compliance with capital requirements. The GSB elects or dismisses the members of the Executive Board of Directors, appoints the Chairman of the Executive Board of Directors, and oversees the performance of the Executive Board of Directors. Also responsible, directly or through the delegation of powers in its committees, for issuing a prior opinion on certain matters, including the risk policy of **novobanco** Group.
Executive Board of Directors	Responsible for defining the target risk profile by setting global and specific limits. Its responsibility also includes establishing the general principles of risk management and control, ensuring that the Group has the necessary skills and resources for that purpose

The General and Supervisory Board has set up the Financial Affairs Committee, the Nominations Committee and the Compliance Committee, composed exclusively of GSB members, and whose functions are described in point 5.2 Corporate Bodies: Composition and Functioning, of novobanco's 2022 Annual Report.

In order to streamline the efficiency of the Executive Board of Directors' strategic decision making and decision preparation process, several specialised committees were created, which play a relevant role in the area of risk management and control, in line with the decisions of the Executive Board of Directors:

EBD Specialised Committees	
Risk Committee	Responsible for issuing an opinion on, approving, under the powers delegated by the Executive Board of Directors, and monitoring novobanco Group's policies and risk levels. In this context, the Risk Committee is responsible for monitoring the evolution of novobanco Group's integrated risk profile, and for analysing and proposing methodologies, policies, procedures and instruments to assess and deal with all types of risk, namely credit, market, liquidity and operational.
Credit Committee	Responsible for deciding the main credit operations in which the novobanco Group participates, in line with the risk policies defined for novobanco Group.
Capital, Assets and Liabilities Committee (CALCO)	Responsible for defining balance sheet management principles/policies, namely regarding capital, product pricing (assets and liabilities), maximum volumes by product, market risks (interest rate, liquidity and exchange rate) and for monitoring their impact on the novobanco Group. The CALCO also monitors early warning indicators with regard to the Recovery Plan and Liquidity, proposing mitigation measures, and if necessary, triggering the recovery plan and/or the liquidity contingency plan.
Internal Control System Committee	The Committee monitors all issues related to novobanco Group's Internal Control System, without prejudice to the responsibilities attributed in this regard to the Executive Board of Directors and other Committees in place at novobanco Group, namely the Risk Committee, the Operational Risk Subcommittee and the Compliance and Product Committee.
Compliance and Product Committee	The Committee is the global forum where, from a compliance standpoint, products and services to be developed and/or distributed by NOVO BANCO are approved. The Committee must issue an opinion on all products and services within the scope of the signoff process. In this context, and among others, it is up to the Committee to make sure that the products and services in question comply with the applicable legislation and regulations, and were duly analysed and validated by the competent structures of the Bank. The Committee is also responsible for monitoring all relevant compliance matters, with particular emphasis on the analysis of new legislation and regulations possibly requiring adaptations in the Bank's internal regulations, as well as matters of conflicts of interest / conduct, products and financial intermediation, and money laundering.

Digital Transformation Committee	Responsible for defining and driving digital transformation at novobanco.
Investment and Costs Committee	Responsible for approving the execution of expenses, within the limits of the powers conferred upon it. Its objectives include the definition of an annual expenditure plan and the revision of the acquisitions strategy.
Extended Impairment Committee	Responsible for defining the amount of impairment to be allocated to clients or groups of clients to which novobanco has an exposure above 100 million euros.

Delegated Committees of the EBD's Risk Committee	
Operational Risk Committee	Responsible for developing and monitoring the operational risk policies and operational risk levels of novobanco. This sub-committee operates under delegation of the Risk Committee, to which it reports.
Extended Models Committee	Responsible for managing the models implemented at novobanco, including the approval and/or modification of existing models, and for monitoring the Model Risk, namely by regularly reporting on the global vision, adequacy assessment, robustness, predictive capability and legal compliance of the models in use at the Bank.

Support Committees	
Credit Risk Monitoring Committee (CRMC)	The main objective of the process developed by the Credit Risk Analysis Committee (CRAC) is the regular monitoring of outstanding credit risk in the retail segment. This process, which involves the analysis and assessment of clients that show symptoms of worsening creditworthiness, is conducted at least on an annual basis in each of the Regional Divisions. The analysis conducted during the CRAC process leads to customised recommendations aimed at mitigating the credit risk for each individual client.
Credit Risk Monitoring Group (CRMG)	Monthly process of analysis and assessment of clients showing symptoms of worsening creditworthiness and definition and monitoring of their strategic options, with the participation and intervention of technical areas of the Bank. The clients analysed by the CRMG are classified on a monthly basis into three risk categories - pre-watchlist, watchlist and recovery – according to certain pre-defined risk measurement criteria. The CRMG issues recommendations and defines actions to be taken concerning these clients, also defining the structures responsible for managing these clients. This analysis covers the corporate commercial segment, and on an annual basis all corporate groups with liabilities above 15 million euros (including good risk clients).

Impairment Committee	Impairment analysis and determination of the most appropriate impairment rate for each credit client. This involves an individual analysis of selected clients, based on information provided by the Commercial Structures regarding the client/group background, historical and forecast cash flows (when available) and existing collaterals. This committee also decides on changes to collective impairment.

2.3.4 Risk management organisation and functions

The Risk Management Function operates within the Global Risk Department (GRD) and Rating Department (RTD) and is independent from the business areas.

The GRD has the following main functions:

- To identify, assess, monitor and report on the different types of risk assumed, thus ensuring the holistic management of novobanco Group's overall risk exposure, compliance with internal and regulatory rules, and the execution and monitoring of mitigation actions;
- To implement the risk policies defined by the Executive Board of Directors and Risk Committee, through the definition of the risk-taking policy and principles;
- To implement and monitor the Risk Appetite Framework;
- To contribute to the value creation targets through the development and monitoring of methodologies for the identification and quantification of risks, such as internal rating models and capital and liquidity ratios, as well as support tools for the structuring, pricing and approval of transactions;
- To contribute continuously to improving internal techniques for assessing performance, provisioning and optimisation of capital requirements and the capital base;
- To ensure the necessary methodological adaptations in accordance with regulatory developments on risk issues.

The GRD is composed of five specialised areas, namely:

- Portfolio credit risk planning and monitoring;
- Market risk;
- Operational risk;
- Strategic Risk Management; and
- Calculation and control of risk-weighted assets.

Based on the governance principles defined, the novobanco Group's organisational model ensures that:

- The GRD is independent from the other areas of the Bank, namely the commercial areas and the credit decision area;
- The control of all risks is integrated in a single department, enabling a consistent and unified view of risk;
- All materially relevant risks are reported to the General and Supervisory Board, Executive Board of Directors, and Risk Committee.

Global Risk Department and Risk Management Function

At portfolio level, the loan-loss and provisioning levels of credit granted by novobanco Group is monitored by the Portfolio Credit Risk Planning and Monitoring area, whose main functions are:

- To monitor and report, internally and externally, the credit risk profile;
- To ensure budget planning and control / projections of credit risk / loan loss and impairment indicators;
- To report / validate regulatory reports on credit risk / loan loss ratio and impairment indicators;
- To develop and manage the credit risk impairment calculation model;

The Market Risk area has the following functions:

- To monitor, control and report market risks (banking book and trading book), including balance sheet interest rate risk, liquidity risk, counterparty risk and issuer risk of positions managed by the desk;
- To monitor and control the risk policies and limits established by the Executive Board of Directors, the Risk Committee and the Financial and Credit Committee (FCC) for the risks mentioned above, as well as for money market operations;
- To develop, together with the Treasury and Finance Department (TFD), the internal liquidity adequacy assessment process (ILAAP);
- To contribute with the calculation of economic capital for market risks for the GRD's internal capital adequacy assessment (ICAAP) process;
- To validate the valuation of level 1, 2 and 3 financial instruments subject to market risk limits;
- To identify new analysis methodologies, procedures and tools for market risks;
- To perform and participate in various stress test exercises.

The Operational Risk Area has the following main responsibilities:

- To design, monitor and maintain the Operational Risk Management System, ensuring uniformity, systematisation and recurrence in the identification, monitoring, control and mitigation of the main sources of operational risk;
- To propose and review the risk appetite for the various categories of operational risk, and to monitor it through key risk indicators (KRIs);

- To perform periodic cross-cutting operational risk assessment exercises, regulatory or specific for certain categories of risk;
- To analyse and classify the totality of incidents and sources of risk detected and reported by the various units in the Operational Risk Application (AGIRO);
- To identify and monitor the implementation of improvements identified through operational risk management tools;
- To propose the definition of Specific Operational Risk Policies and promote their periodic review and effective implementation within novobanco Group;
- To participate in the various sign-off processes in force at novobanco (processes, products and services, outsourcing). The area coordinates the GRD’s intervention in products and services sign-off processes;
- To issue opinions on reputational risk;
- To ensure the issuance of holistic risk assessment opinions on related-party transactions and assess their operational risk;
- To manage and keep updated the Group's Inventory of Models;
- To coordinate the process of preparing the Risk Management Reports of the various units of the novobanco Group in order to guarantee the completeness of the information legally required.

The Strategic Risk Management area covers modelling activities and also has an important role in risk policies.

At functional level, this area is subdivided into two units:

- Research and Development (R&D), whose functions are: (i) to develop and monitor methodologies and models for the identification and quantification of the various types of risk, including, for credit risk, the default probability (PD), loss given default (LGD), and credit conversion factor (CCF) models used in novobanco Group; (ii) to maintain the risk / value-based decision support tools used in novobanco Group; (iii) to support the business areas in the appropriation of risk-adjusted return concepts; (iv) to participate in the ICAAP, planning and stress test exercises, (v) to support the securitisation processes through the management of the rating assignment process and in the selection of portfolios in a risk transfer rationale, vi) to manage changes and extensions to the IRB method under its responsibility, in accordance with the specific regulations on this matter and the approach defined by novobanco Group.
- Risk / Process Policies, which is responsible for: (i) proposing risk policies; (ii) Taking part in the assessment of the efficiency and effectiveness of decision-making processes and proposals to redesign them, quantifying the risk parameters necessary for a cost-benefit analysis; (iii) drafting proposals for the definition of credit powers, which, if approved by the EBD, will be transposed by this area to the credit power regulations of novobanco's various segments/departments; (iv) developing models to support commercial risk-prevention actions for Individual Clients (pre-default phase), and (v) analysing and proposing transaction, client and portfolio approval power limits for the various types of risk.

The area of Calculation and Control of Risk-weighted Assets has the following main responsibilities:

- to ensure the calculation of novobanco Group's solvency viewing compliance with the relevant regulations and minimum regulatory solvency requirements and in accordance with the risk appetite level defined by the Executive Board of Directors:
- to contribute to efficient, profitable and sustained capital management, promoting the global adoption and finetuning of capital requirements' good management practices;
- to calculate risk-weighted assets and capital ratios (solvency and leverage) in accordance with the applicable rules;
- to report internally (to CALCO and/or Risk Committee) on the evolution over time of risk-weighted assets and capital ratios;
- to coordinate prudential reporting on capital ratios to the supervision authority, in COREP;
- to budget and control the evolution of risk-weighted assets and other metrics used to determine capital ratios;
- to simulate impacts on capital from substantial new operations, operations to be discontinued, or related methodological and regulatory changes;
- to project the evolution of risk-weighted assets, participating in the projection of future capital ratios within budgetary exercises, medium-term plans or other, as well as in internal or regulatory exercises involving capital requirements, namely ICAAP and Stress Tests;
- to assess opportunities to optimise capital requirements and monitor the execution of the corresponding initiatives approved by the Executive Board of Directors;
- to coordinate the preparation of novobanco Group's Market Discipline document (Pillar 3);
- to monitor and promote on an ongoing basis novobanco Group's internal adaptation to changes in capital ratios regulatory framework;
- to ensure the interactions with supervisors, internal and external auditors and other stakeholders regarding the capital ratios of the novobanco Group and its subsidiaries;
- to ensure the maintenance and development of the IT tools that support the calculation of RWAs for credit risk, among other metrics.

The Rating Department (RtD) is composed of two specialised areas, as follows: Credit Risk and Single Name Credit Risk Monitoring.

The Credit Risk area is organised into sub-teams specialised in the analysis and assignment of ratings by segments. It has the following main functions:

- to assign internal ratings according to the customer's size and business sector, in line with the different approaches defined by novobanco;

- to issue risk analyses, which may include specific recommendations on the credit relationship with certain customers, and to prepare technical opinions on investment support operations, forbearance, or other operations subject to credit risk;
- to participate in the Financial and Credit Committee and give its non-binding verbal opinion on the operations under consideration;
- to support the CRMG and the individual impairment analysis process (Impairment Committee);
- to support the response to external audits on individual credit impairment;
- to project potential losses in different macroeconomic scenarios, through an individual analysis of customer exposures in the commercial real estate, project finance and other major corporate loan portfolios.

The Single Name Credit Risk Monitoring Area has the following main responsibilities:

- to monitor and report single name credit risk;
- to coordinate the Individual Impairment Analysis and respective Impairment Committees;
- to coordinate the Credit Risk Monitoring Group (CRMG);
- to control and report internally and externally on the Major Risks, and to ensure the definition and control of internal single name concentration metrics.

The Independent Validation of Models, undertaken by the Model Validation Office (MVO), complements the risk management function's activities developed by the GRD and RtD. The MVO is responsible for ensuring an independent second line of defence in the validation of the main risk models used in the Bank under novobanco Group's model risk policy.

Its mission is to assess and issue an opinion on the quality of the models and internal rating systems used in the Bank and their adequacy to the business processes and regulations in force, as well as to recommend improvements that add value to the decision-making process regarding novobanco Group's risks.

The MVO operates in the framework of novobanco Group's Model Risk Policy and in accordance with the applicable guidelines and legislation, and is responsible for representing the Bank before the Supervisory Entities in matters related to the model and rating systems validation function.

More specifically, the MVO has the following general attributions:

- to execute the annual risk model validation plan defined in the Group's Model Risk Policy, in accordance with the established level and frequency outlined in the Prioritisation Matrix, and report to management its conclusions and recommendations;
- to ensure the qualitative and quantitative consistency of the process of validation of the rating systems and risk parameters used in the Bank, namely through the following tests and analyses: back-testing, calibration, discriminative power, representativeness, override analyses, stability, quality and adequacy of the data, assumptions and judgements used, verification of the correct application and use of the models (use tests),

benchmarking analyses and assessment of legal or macroeconomic changes that may impact the risk parameters.

- to propose and apply thresholds as triggers for additional investigation processes to the models subject to validation, and to ensure they are monitored;
- to identify opportunities for improving risk models and propose them to the management body and risk departments;
- to identify limitations to the models and ensure that they are adequately monitored and documented;
- to check if the corrective actions resulting from the validation processes are appropriately and timely reflected in the rating systems;
- to perform prior assessment or validation of relevant extensions or changes to rating systems;
- to ensure compliance with the legislation applicable to the validation function and represent the Bank before the Supervisory Entities in related matters;
- to maintain the Bank's Models Validation Framework permanently updated.

In order to ensure the independence of the Bank's validation function, the conclusions and recommendations contained in its validation reports are the exclusive responsibility of the MVO. However, preliminary versions of the final report may be discussed with and challenged by those responsible for the models.

The validation models and corrective measures are discussed and decided by the Models Committee.

2.3.5 Scope, measurement techniques and hedging policies of each specific risk category

The main sources of risk in novobanco Group's activity are credit risk (which includes counterparty credit risk), market risk, and operational risk. Each of these specific risk categories is dealt with in detail in the following chapters:

- chapter **4. Counterparty credit risk** and chapter 5. **Credit risk**;
- chapter **8. Market risk**;
- chapter **10. Operational risk**.

The risk mitigation policies and monitoring processes are described in chapter 6. Risk mitigation techniques.

2.4 The audit function

The internal audit function plays a relevant role in the assessment of novobanco Group's risk identification and control system. More detailed information on the audit function is provided in point 5.3 Internal Control, of the Management Report, in novobanco's 2022 Annual Report.

2.5 The compliance fuction

The Compliance function is an independent permanent function whose mission is to promote compliance with the legal, regulatory, operational, ethical and conduct obligations and duties at any time applicable to financial institutions as well as to their corporate bodies, management staff and employees within the framework of institutional control and supervision defined by the competent regulatory bodies and the legislation to which they are subject. More detailed information on the compliance function is provided in point 5.4 Main Policies, of the Management Report, in novobanco's 2022 Annual Report.

2.6 Heads of risk, audit, and compliance functions coordination

The table below identifies the novobanco employees responsible for the coordination of the departments that executed the risk, audit and compliance functions in 2022.

Table 13 – Heads of risk, audit, and compliance functions coordination in 2022

Function	Department	Responsible party	Month											
			2022-01	2022-02	2022-03	2022-04	2022-05	2022-06	2022-07	2022-08	2022-09	2022-10	2022-11	2022-12
Risk	Global Risk	Carlos Brandão												
		Carlos Moura												
	Ratings	Patricia Begonha												
Audit	Internal Audit	Pedro Reis												
Compliance	Compliance	Pedro Pinto												

2.7 Remuneration policies

2.7.1 Relevant information

In 2022, following the regular process of assessment and review under the General Framework of Credit Institutions and Financial Companies ("RGICSF") and Notice no. 3/2020 of the Bank of Portugal, the Remuneration Policies for the Management and Supervisory Bodies and the Employees (including the Identified Staff, i.e., those with a significant impact on novobanco's risk profile) were amended to incorporate changes in the applicable legal framework. Several departments of the Bank were involved in this process, according to their responsibilities, namely Human Capital, Legal, Risk and Compliance. These departments suggested and prepared the necessary changes to the Policies for subsequent approval by the competent corporate bodies, in accordance with the processes defined for each one.

- These changes included, among others, adaptations to updates in the legal and regulatory framework, namely the General Framework of Credit Institutions and Financial Companies introduced in December

2022 and the EBA Guidelines on remuneration. Variable Remuneration deferral period: updated to 5 years by regulatory imposition, as novobanco is considered a significant institution;

- Weight of deferred variable remuneration for Employees: introduction of a ceiling of 60% in the year of attribution, with deferral of 40% over the next 4 years (10% in each year). The amount in the year of attribution must consider the retention period defined for the portion in Remuneration Units;
- Weight of deferred variable remuneration for members of the EBD: introduction of a ceiling of 50% upfront in the year of attribution, with deferral of 50% over the next 4 years (12.5% in each year);
- Introduction of deferral exclusion conditions for Identified Staff when the total variable award is less than €50,000 and does not represent more than 1/3 of the employee's total annual remuneration;

The Remuneration Policies for the Management and Supervisory Bodies and the Employees reflect the Bank's objectives, strategy, structure and culture, and are based on meritocracy and transparency guiding principles. Their implementation aims to foster adequate professional practices and conducts, namely in the sale of products and services, as well as in the prevention of conflicts of interest with clients.

In addition to the aforementioned departments, the governance of Remuneration Policies is monitored by the Remuneration Committee of the GSB, formed by three members of the General and Supervisory Board (see 5.2.3 General and Supervisory Board - Remuneration Committee, in the Management Report of novobanco's 2022 Annual Report). In 2022 this committee held six meetings.

The responsibility for approving and amending the Remuneration Policy for Management and Supervisory Bodies lies with the General Meeting, which acts upon a proposal from the Remuneration Committee, subject to approval by the General and Supervisory Board. Similarly, the Remuneration Committee proposes the Remuneration Policy for Employees to the Executive Board of Directors for approval, which is then subject to final approval by the General and Supervisory Board.

2.7.2 Limits to remuneration in novobanco

Following the sale process of novobanco and in the context of the State aid granted, the Portuguese State made certain commitments to the European Commission (State Aid no.SA.49275 (2017 / N)) until the end of the Restructuring Period (hereinafter the “Restructuring Period”).

This situation entailed certain limitations to the remuneration of the members of the Management and Supervisory Bodies and to Employees of novobanco. For further detail see point 5.4 Main Policies - Remuneration Policies - Limits to remuneration in novobanco, in the Management Report of novobanco's 2022 Annual Report.

These limitations will cease to apply upon the end of the Restructuring Period, without no need for a revision of the Remuneration Policies. Deferred amounts that were created as a result of this remuneration cap will then be due for payment

2.7.3 Selection of employees who can significantly influence the risk profile of novobanco

Employees who significantly influence the risk profile of novobanco were selected in accordance with the regulations in force, namely Delegated Regulation (EU) No. 2021/923 of the European Commission.

The Remuneration Policy for Employees defines the qualitative and quantitative criteria for the selection of employees who have a significant impact on the risk profile of novobanco ("Identified Staff"):

- All employees whose professional activities have a material impact on the institution's risk profile in accordance with Articles 5 and 6 of Delegated Regulation (EU) No. 2021/923 of the European Commission and hold positions as Coordinating Managers or other Managers responsible for a department or area of the Bank and report directly to the EBD.
- Employees with management responsibilities over material business units;
- Control functions;
- Other Employees whose activity has an impact on the Bank's risk profile in accordance with article 5 of Delegated Regulation (EU) No. 2021/923 (qualitative criteria);
- Other Employees whose activity has an impact on the Bank's risk profile in accordance with article 6 of the Delegated Regulation (quantitative criteria) and:
    - are included in the following categories: (i) employees whose total remuneration exceeds, in absolute terms, 500,000 euros per year; (ii) employees who received in the previous financial year a total remuneration equal to or higher than the lowest total remuneration paid to any employee identified by the above criteria; or (iii) employees included in the 0.3% of permanent employees with the highest total remuneration in the institution.

Although these employees fall within the categories described above, it may be determined based on further information that their activities do not significantly affect the Bank's risk profile, thus warranting their exclusion.

2.7.4 Specific rules of novobanco’s remuneration policies

- **General and Supervisory Board**

Only the independent members of the General and Supervisory Board receive remuneration from novobanco. This remuneration is fixed and paid 12 times per year. Where applicable, the members of the General and Supervisory Board are also be subject to the limitations referred to in 2.7.2 above.

- **Executive Board of Directors**

The remuneration of the Executive Board of Directors consists of a fixed component and a variable component. The fixed remuneration is established according to the complexity, level of responsibility and skills required for the Function, and is paid 14 times per year.

The variable component of remuneration is set based on an individual and collective assessment of performance, in accordance with quantitative and qualitative criteria.

These criteria are set by the Remuneration Committee and informed in due time to the members of the Executive Board of Directors.

Hence the annual variable remuneration component is awarded based on the achievement of financial and non-financial objectives ("KPIs"), which are established and agreed upon annually with each member of the Executive Board of Directors. These KPIs may also entail compliance with ESG factors.

In addition to the established KPIs, the attribution of variable remuneration is also subject to the following conditions:

- It can only be attributed if it does not jeopardise the Bank's capacity to maintain a solid capital basis;
- It is only attributed if the Bank has a positive operational performance and the attribution is consistent with sound and effective risk management practices;
- It is subject to a maximum cap of 100% of the annual fixed remuneration, save if otherwise approved by the General Meeting;
- It is attributed over a multi-year framework, being deferred proportionally over a minimum period of five years. However, during the Restructuring Period, the amounts attributed were fully deferred and will only become a vested right, and consequently disbursed, at the end of this period, under the terms defined in the corresponding Policy;
- 50% of the amounts attributed will be paid at the time of attribution, the remaining 50% being deferred over the following four years;
- 50% of the amounts attributed will take the form of “Remuneration Units”, the value of which is determined by the Bank's financial indicators, as assessed by the Remuneration Committee.
- Except in the first year of employment, when a sign-on bonus may be granted, it is not permissible to establish a guaranteed variable remuneration.

The attribution of amounts in cash or “Remuneration Units” is based on the same performance criteria referred to above.

All amounts paid or subject to deferral, regardless of whether or not they have vested, shall be subject to risk adjustment, Malus and/or Clawback, including those that were deferred through application of the limits established in point i) (Limits to remuneration at novobanco).

In what concerns other benefits, such as health insurance or mobile phone, their attribution is aligned to the internal policies for the remaining employees of the Bank. It's worth noting that the Policy acknowledges the possibility of members of the Executive Board of Directors who were previously employees of the Bank before assuming their current roles retaining certain benefits contractually established, such as SAMS (healthcare services for banking sector employees), special loan conditions, and pension plans. In what concerns company cars, the models are defined according to the policy in force.

- **Identified Staff**

The attribution of a fixed remuneration shall reflect the skills, experience and responsibility inherent to the function performed, and shall not depend on performance. The attribution of variable remuneration to Identified Staff is the result of individual and collective performance assessment and shall take into account the principles described in point 5.4. Main Policies – Remuneration Policies / Identified Staff, in the Management Report of novobanco's 2022 Annual Report.

- **Risk Monitoring and Assessment**

Prior to any award, the Remuneration Committee requests from the Risk Department an assessment of the Bank's risk appetite and how the Remuneration Policies are aligned to it.

It should be noted that the risk appetite reflects the strategy and objectives of the NB Group, defining the risk that the organisation is willing to accept when taking decisions. As in previous years, the main indicators were defined according to three major priorities for action:

- In **Capital** management, NB aims to ensure compliance, at all, times, with capital ratios requirements, from both a regulatory perspective and an internal perspective;
- In terms of **Liquidity** management, the Bank's objectives are to finance its medium and long-term assets with stable liabilities, to be able to withstand severe liquidity stress for a minimum period of 12 months and to comply at all times with the regulatory limits imposed for liquidity management; and
- The Bank wants to continue to converge its **Non-Performing Loan** (NPL) ratios in each segment with those of its Portuguese peers, without jeopardising provision coverage ratios. The NPL reduction strategy remained one of the main action priorities in 2002, when the NPL ratio was 4.3%.

2.7.5 Remuneration in 2022 of employees who can significantly influence the risk profile of novobanco

The table below presents a summary of the amounts paid in 2022 as fixed and variable remuneration to the members of the Executive Board of Directors, General and Supervisory Board and Identified Employees.

Table 14 – Template EU REM1 — Remuneration awarded for the financial year

million euros

		2022-12			
		MB Supervisory function	MB Management function	Other senior management	Other identified staff
Fixed remuneration	Number of identified staff	10	8		47
	Total fixed remuneration	1,16	2,33		6,32
	Of which: cash-based	1,12	2,13		6,29
	Of which: shares or equivalent ownership interests				
	Of which: share-linked instruments or equivalent non-cash instruments				
	Of which: other instruments				0,03
	Of which: other forms	0,04	0,20		
Variable remuneration (*)	Number of identified staff		8		47
	Total variable remuneration		1,93		3,44
	Of which: cash-based		0,97		1,72
	Of which: deferred		0,97		1,18
	Of which: shares or equivalent ownership interests				
	Of which: deferred				
	Of which: share-linked instruments or equivalent non-cash instruments				
	Of which: deferred				
	Of which: other instruments				
	Of which: deferred				
	Of which: other forms		0,97		1,72
	Of which: deferred		0,97		1,18
Total remuneration		**1,16**	**4,26**		**9,77**

Table 15 – Template EU REM2 — Special payments to staff whose professional activities have a material impact on institutions' risk profile (identified staff)

million euros

	2022-12			
	MB Supervisory function	MB Management function	Other senior management	Other identified staff
Guaranteed variable remuneration awards				
Guaranteed variable remuneration awards - Number of identified staff		2		
Guaranteed variable remuneration awards -Total amount		0,17		
Of which guaranteed variable remuneration awards paid during the financial year, that are not taken into account in the bonus cap				
Severance payments awarded in previous periods, that have been paid out during the financial year				
Severance payments awarded in previous periods, that have been paid out during the financial year - Number of identified staff				
Severance payments awarded in previous periods, that have been paid out during the financial year - Total amount				
Severance payments awarded during the financial year				
Severance payments awarded during the financial year - Number of identified staff		2,0		3,0
Severance payments awarded during the financial year - Total amount		0,46		0,65
Of which paid during the financial year				0,65
Of which deferred		0,46		
Of which severance payments paid during the financial year, that are not taken into account in the bonus cap				
Of which highest payment that has been awarded to a single person		0,25		0,26

In 2022, there were no payments to the members of novobanco's corporate bodies by other group companies.

Pursuant to the Remuneration Policy for Members of the Management and Supervisory Bodies, in 2022 the members of the Executive Board of Directors were awarded total deferred Variable Remuneration in the amount of 1931 thousand euros, subject to fulfilment of several conditions, and according to the individual and collective assessment of their performance. This award does not correspond to vested rights and implied no payment.

The total variable remuneration awarded is subject to a maximum cap of 100% of the fixed annual remuneration of each member. 50% of this remuneration is awarded in cash and 50% in remuneration units. The value of the Remuneration Units at the date of the attribution is 1 (one) Euro, its value being reassessed by the Remuneration Committee at the time of payment. According to the "Regulation of Remuneration Units", at the time of payment, the value of the Remuneration Units can only be adjusted downwards relative to that defined at the time of award.

On the other hand, the Variable Remuneration attributed to the members of the Executive Board of Directors for 2022 is fully deferred and there will be no payments until after the end of the Restructuring Period. This Variable Remuneration does not constitute a vested right until after the end of the Restructuring Period and may be subject to the risk adjustment mechanisms provided for in the Remuneration Policy, namely, Malus and/or Clawback.

The 2022 Variable Remuneration attributed to the members of the Executive Board of Directors is subject to future adjustments. In particular, there is no vested right or certainty as to what final Variable Remuneration amount will be attributed or when payments will be made. More specifically:

(i) the right to receive it will only be effective after the end of the Restructuring Period and therefore no payments can be made until that date; and (ii) the value of the variable remuneration component paid in remuneration units may be less than the amount attributed or even zero, depending on the Bank's financial indicators at the time of payment, after the end of the restructuring period.

The table below provides a summary of the amounts of deferred remuneration for financial year 2022 and prior periods.

Table 16 – Template EU REM3 — Deferred remuneration

million euros

Deferred and retained remuneration	2022-12							
	Total amount of deferred remuneration awarded for previous performance periods	Of which due to vest in the financial year	Of which vesting in subsequent financial years	Amount of performance adjustment made in the financial year to deferred remuneration that was due to vest in the financial year	Amount of performance adjustment made in the financial year to deferred remuneration that was due to vest in future performance years	Total amount of adjustment during the financial year due to ex post implicit adjustments (i.e.changes of value of deferred remuneration due to the changes of prices of instruments)	Total amount of deferred remuneration awarded before the financial year actually paid out in the financial year	Total of amount of deferred remuneration awarded for previous performance period that has vested but is subject to retention periods
MB Supervisory function								
Cash-based								
Shares or equivalent ownership interests								
Share-linked instruments or equivalent non-cash instruments								
Other instruments								
Other forms								
MB Management function	5,46		5,46					1,93
Cash-based	2,73		2,73					0,97
Shares or equivalent ownership interests								
Share-linked instruments or equivalent non-cash instruments								
Other instruments	2,73		2,73					0,97
Other forms								
Other senior management								
Cash-based								
Shares or equivalent ownership interests								
Share-linked instruments or equivalent non-cash instruments								
Other instruments								
Other forms								
Other identified staff	2,83	1,15	1,68				2,25	1,18
Cash-based	1,41	0,58	0,84				1,13	0,59
Shares or equivalent ownership interests								
Share-linked instruments or equivalent non-cash instruments	1,41	0,58	0,84				1,13	0,59
Other instruments								
Other forms								
Total amount	**8,28**	**1,15**	**7,13**				**2,25**	**3,11**

There are no employees earning more than 1 million euros per year.

The table below presents a summary of the amounts paid as fixed and variable remuneration for financial year 2022 to the members of the Executive Board of Directors and other identified staff, broken down by activity segment.

Table 17 – Template EU REM5 — Information on remuneration of staff whose professional activities have a material impact on institutions' risk profile (identified staff)

million euros

	2022-12									
	Management body remuneration			Business areas						Total
	MB Supervisory function	MB Management function	Total MB	Investment banking	Retail banking	Asset management	Corporate functions	Independent internal control functions	All other	
Total number of identified staff										65
Of which: members of the MB	10	8	18							
Of which: other senior management					8		36	3		
Of which: other identified staff										
Total remuneration of identified staff	1,16	4,26	5,41		1,43		7,56	0,78		
Of which: variable remuneration		1,93	1,93		0,49		2,66	0,29		
Of which: fixed remuneration	1,16	2,33	3,48		0,94		4,89	0,49		

2.8 Positions held by the members of the management body

At the end of 2022, the members of the Board of Directors of novobanco also held management positions in other entities, belonging or not to the novobanco Group, as described in the following table:

Table 18 – Management positions held in other entities at 31 December 2022

	novobanco entities	Other entities
Mark Georges Bourke	1[(a)]	1[(b)]
Andrés Baltar Garcia	1[(c)]	2[(d)]
Luís Miguel Alves Ribeiro	1[(e)]	3[(f)]
Luísa Marta Santos Soares da Silva Amaro de Matos	1[(g)]	0
Rui Miguel Dias Ribeiro Fontes	0	0
Carlos Jorge Ferreira Brandão	0	0

(a) NB Finance Ltd

(b) APB Associação Portuguesa de Bancos

(c) LOCARENT - Companhia Portuguesa de Aluguer de Viaturas, S.A.

(d) CCILE - Câmara de Comércio Luso Espanhola e CCILC - Câmara de Comércio Luso Chinesa

(e) NOVOBANCO dos Açores, S.A.

(f) UNICRE, SIBS SGPS S.A., SIBS Forward Payment Solutions S.A.

(g) ES Tech Venture SGPS S.A.

2.9 Policy for selection and assessment of the management and supervisory bodies and key function holders

Novobanco has in place a Policy for the Selection and Assessment of the Management and Supervisory Bodies and Key Function Holders, thus ensuring compliance with the legal and regulatory framework in force and the implementation of the required governance standards for Significant Financial Institutions. This Policy aims to ensure that the members of the Management and Supervisory Bodies and other Key Function Holders meet all the fit and proper criteria to perform their functions, both at the time of appointment and throughout their mandates. This suitability to the function basically refers to the capacity to permanently ensure a sound and prudent management of the institution, which is assessed based on the following requirements: i) experience; ii) repute; iii) independence; iv) availability; and v) collective suitability (where applicable).

Biographical information on the members of the Executive Board of Directors and the General Supervisory Board, from which their knowledge, capabilities and skills can be ascertained, is provided in the "Institutional" area of the novobanco website (www.novobanco.pt).

In addition, novobanco regards certain individual traits as fundamental principles in its selection and assessment policy for management staff and management bodies. These traits are deemed essential for the effective functioning of the bank's operations and for the preservation of the appropriate conditions of operation as collegiate management bodies. These traits include:

- Diversity of qualifications, appropriate knowledge, skills and experience;
- Independence of thought and independence of the management members;
- Dedication of adequate time to their functions; and
- Promotion of gender diversity and balanced representation of genders in the various management forums.

Regarding diversity objectives, the Bank has been watching two key indicators with particular attention: (i) the pay gap and (ii) the representation of women in top management positions.

Regarding the pay gap, the Bank monitors this indicator on a monthly basis, with a more in-depth analysis taking place during the annual promotions process. The measurement of the pay-gap is function-adjusted. In the last year the pay gap stood at 5.7% (-0.2% YoY).

Concerning the representation of women in top management positions, there was a slight decrease in 2022, with women accounting for 26.8% of the first-line management positions, compared to 27.5% in the previous year.

novobanco recognises the significance of balancing professional and personal life, which is reflected in its Human Capital strategy. As part of the implementation of the Social Dividend programme, the Bank widely adopted practices to support work-life balance during the period under analysis, including under the teleworking policy, which was applied extensively. As a consequence of this analysis, it was decided to deepen the topic of diversity at novobanco and to adjust the policy of selection and assessment for the management staff and management bodies in this regard.

With specific regard to gender diversity, this policy now sets as an objective that in the next mandate, the Management and Supervisory Bodies must include at least 20% of the under-represented gender.

More detailed information on the Policy for Selection and Assessment of the Management and Supervisory Bodies and Key Function Holders is provided in point 5.4 Main Policies, in the Management Report of novobanco's 2022 Annual Report.

3 Adequação Capital adequacy

3.1 Capital management at novobanco Group

The main objective of novobanco Group's capital management is to ensure compliance with the Group's strategic objectives in terms of capital adequacy, respecting and enforcing the calculation rules for risk weighted assets, exposure (leverage), and own funds, and ensuring compliance with the solvency and leverage levels set by the supervision authorities, namely the ECB and the Bank of Portugal, and with the risk appetite internally established for capital metrics.

The Executive Board of Directors is responsible for defining the capital management strategy, which is integrated in the definition of novobanco Group's overall objectives and factored into the Bank's short and medium-term planning processes (e.g., budget, medium-term plan, ICAAP).

The Bank's capital ratios are monitored on a monthly basis by the Executive Board of Directors and the General and Supervisory Board through their delegated committees. This ensures that the Bank maintains its capital ratios within stipulated risk thresholds, and that mitigating measures are implemented to prevent non-compliance with these thresholds.

- **CRR's initial transitional arrangements**

The CRR and Directive 2013/36/EU of the European Parliament and of the Council (CRD), applicable to all European Union Member States, established uniform rules on prudential requirements for the activities of credit institutions, adopting the regulatory framework commonly known as Basel III.

The current regulatory framework, which came into force on 1 January 2014, provides for a set of transitional arrangements that enable banks to phase in the capital calculation rules under the CRR.

In 2016, the ECB Regulation (EU) 2016/445 established the criteria to be followed to implement the CRR transitional arrangements for own funds. This regulation applies exclusively to credit institutions classified as significant and subject to direct supervision by the ECB (where NB Group is included).

The transitional arrangements for novobanco, initially provided for in the CRR and regulated by ECB Regulation (EU) 2016/445, ceased to apply in 2018 upon completion of the last relevant phase-in period.

- **Recognition of IFRS 9 impacts**

At the start of 2018, the classification and measurement of the Bank's assets and liabilities were impacted by the entry into force of IFRS 9. In response, NB Group opted to phase in the recognition of these impacts on own funds using the static option, as permitted by Regulation (EU) 2017/2395 of the European Parliament and of the Council, which amended the CRR.

Following the entry into force of Regulation (EU) 2020/873 ("CRR Quick Fix") of the European Parliament and of the Council, amending the CRR as regards certain adjustments in response to the crisis caused by COVID-

19, novobanco and the Resolution Fund recognised a divergence regarding the application of these adjustments. As a result, novobanco opted for the dynamic option, which allows for the phased consideration of sudden increases in provisions for ECL that occurred since the beginning of the pandemic in the calculation of own funds.

The capital ratios presented below must therefore be considered from a phased-in perspective. Where relevant, an indication is given of the fully implemented CRR ratios.

The disagreement between novobanco and the Resolution Fund regarding the use of the "CRR Quick Fix" for phased recognition of the impacts resulting from IFRS 9 persists. The issue is under arbitration in the International Chamber of Commerce due to the impact of this change on the calculation of the compensation amount due by the Resolution Fund under the CCA in 2020.

Quantitative information on the impact of the IFRS 9 transitional period on the Bank's capital ratios as at 31 December 2022 can be found in **Annex V** to this document.

- **Contingent Capital Agreement (CCA)**

As previously referred, novobanco Group's Common Equity Tier I (CET1) and Tier I ratios are protected up to the amount of the losses already incurred on the assets protected by the CCA up to a limit of 3,890 million euros. When determining the compensation amounts needed to restore the contracted capital ratios in each period, any losses already incurred or expected on assets protected by the CCA, as well as the minimum ratios established for the period, are taken into consideration

The table below shows the amount available for future use as compensation under the CCA, as of 31 December 2022, taking into account the accumulated losses up to that date, in the event that there is a need to strengthen the capital base to comply with the contracted CET1/Tier I ratios.

Table 19 – CCA - Unused amount of compensation at 31 December 2022

	milhões de euros
Accumulated losses in CCA portfolio until 31 December 2021 (A) [(1)]	3 890
Amount of compensation received in 2018 relative to the end of 2017 (B)	792
Amount of compensation requested in 2019 relative to the end of 2018 (C)	1 149
Amount of compensation requested in 2020 relative to the end of 2019 (D)[(2)]	1 035
Amount of compensation requested in 2021 relative to the end of 2020 (E)[(3)]	429
Amount of compensation requested in 2022 relative to the end of 2021 (F)[(4)]	209
Amount of compensation used (G)=(B)+(C)+(D)+(E)+(F)	3 614
Unused amount of compensation (A)-(G)	**276**

[(1)] The amount of losses in CCA portfolio eligible for compensation was reached in 2020.

[(2)] Amount received from the Resolution Fund in 2020.

[(3)] Amount received from the Resolution Fund in 2021.

[(4)] Amount not received from the Resolution Fund up to the date of publication of this report.

3.2 Regulatory capital adequacy

3.2.1 Solvency ratios components

3.2.1.1 Own funds

Own funds refer to the total capital available to the Bank from a regulatory perspective, to deal with unexpected risks. In the current prudential framework, capital elements for the purpose of determining the solvency ratio are divided into: Common Equity Tier 1 (CET1), Tier 1 capital (Tier I) - which corresponds to the sum of CET1 and Additional Tier 1 (AT1) - and total own funds - which correspond to the sum of Tier I and Tier II capital (or T2).

3.2.1.1.1 Common Equity Tier I

The main components of novobanco Group's CET1 before prudential adjustments, at the end of 2022, were as follows:

- **Paid up share capital**

As of 31 December 2022, the Bank had share capital of 6,304,660,637.69 euros, represented by 10,391,043,938 registered shares with no par value, held by the following shareholders: Nani Holdings, S.G.P.S., S.A. (75.00%), the Resolution Fund (9.31%) and the Directorate-General for the Treasury and Finance (5.69%).

According to the agreements between the Resolution Fund and shareholder Lone Star, made in connection to the sale of 75% of novobanco's share capital, only the Resolution Fund's stake will be diluted upon the conversion of conversion rights under the special regime for deferred tax assets created by Law no. 61/201.

Information on the composition of the share capital can be found in Note 36 (Capital) to the consolidated financial statements forming part of novobanco's 2022 Annual Report.

- **Revaluation reserves, reserves and retained earnings and net profit for the year**

Information on the composition of these elements can be found in Note 37 (Other accumulated comprehensive income, retained earnings, other reserves and non-controlling interests) to the consolidated financial statements forming part of novobanco's 2022 Annual Report.

The ECB has decided that, due to the uncertainty surrounding the payment of the CCA amounts, which have been determined and recorded in reserves, they no longer meet the conditions established in Article 26(1) of the CRR. Therefore, until these amounts are received, they should not be recognised as Tier 1 Capital. Hence, and as mentioned above, the amount of compensation calculated under the CCA for 2021 (209 million euros) was not considered in the calculation of own funds as at the end of 2022.

- **Non-controlling interests**

This component includes the amounts of minority interests of other shareholders with equity investments in credit institutions or investment companies in which novobanco does not hold the full amount of the share capital. At the end of 2022, the only financial entity of novobanco Group that contributed to this component was Novo Banco dos Açores S.A., under the prudential balance sheet. The type of minority interests indicated can only be included in the calculation of own funds in the proportion that they cover the risk-weighted assets of these subsidiaries.

The main regulatory adjustments to novobanco Group's CET1 at the end of 2022 are described below.

- ***Goodwill***

Goodwill represents the difference between the acquisition cost of novobanco's equity holdings and the fair value of the Group's net assets, liabilities and contingent liabilities acquired

- **Other intangible assets**

This component mainly includes the amounts of investment in data processing systems.

- **Deferred tax assets (DTA) that rely on future profitability**

Deferred tax assets that rely on future profitability and do not arise from temporary differences net of associated tax liabilities result from differences between accounting results and results determined in accordance with the tax rules in force. DTAs associated with tax losses carried forward are currently fully deducted from CET1.

The remaining DTAs that rely on future profitability but do not arise from tax losses carried forward, are deducted by the amount exceeding the limit of 10%, calculated prior to this adjustment.

- **"*Additional Valuation Adjustment*" (AVA)**

The AVA is determined under the simplified approach set out in Chapter II of Commission Delegated Regulation (EU) 2016/101, as 0.1% of the sum of the absolute value of fair-valued assets and liabilities, which in absolute terms is lower than 15 billion euros.

- **Cash flow hedges reserve**

The fair value reserves related to gains or losses on cash flow hedges of financial instruments that are not valued at fair value, including projected cash flows, are removed from the calculation of own funds, as provided in Article 33-1-a) of the CRR.

- **Negative difference between provisions and expected losses resulting from the credit risk weighting of assets covered by the IRB approach**

Component resulting from the comparison between the overall level of expected losses in the portfolios, mostly credit, weighted by credit risk under the IRB approach and the respective level of value adjustments / provisions. Whenever the level of expected losses exceeds the level of value adjustments / provisions, the difference between the two is deducted from CET1.

- **Defined-benefit pension fund assets**

Defined benefit pension fund assets on the balance sheet of novobanco Group are deducted from Common Equity Tier 1, in accordance with Article 36(1)(e) of the CRR.

- **Irrevocable payment commitments to the Deposit Guarantee Fund and Single Resolution Fund**

As from 31 December 2018, according to indications from the ECB within the Supervisory Review and Evaluation Process (SREP), the deduction to CET1 of the commitments referred became mandatory.

- **Shortfall in minimum coverage for non-performing exposures (NPE) - prudential backstop**

This figure corresponds to the shortfall in coverage by provisions or other NPE adjustments in relation to the minimum levels stipulated under the CRR or considering the ECB's guidelines and expectations, namely within the scope of the SREP.

- **Securitisation exposures that qualify for a risk weight of 1250%**

The amount of securitisation exposures deducted from the amount of Common Equity Tier 1, in accordance with Article 36(1)(k) of the CRR.

3.2.1.1.2 Additional Tier I

At the end of 2022, the positive elements of novobanco Group's Additional Tier I (AT1) consisted exclusively of the eligible portion of minority interests of other shareholders of equity holdings in credit institutions in which novobanco does not hold the entire share capital. This Additional Tier I is added to CET1, permitting to determine Tier I capital.

3.2.1.1.3 Tier II Capital (Tier II)

At 31 December 2022, the positive elements of Tier II (T2) were the subordinated debt issued by the Bank in 2018 under the conditions established by the CRR, in the amount of 400 million euros, the eligible portion of minority interests of other shareholders of equity investments in credit institutions in which novobanco does not hold the entire capital, and the positive difference between provisions and expected losses resulting from the credit risk weighting of certain assets covered by the IRB approach.

3.2.1.2 Risk-weighted assets

Novobanco Group's risk-weighted assets as at 31 December 2022 were calculated in accordance with the CRR or other related guidance provided by the Bank of Portugal and the European Central Bank, as follows: credit and counterparty credit risk-weighted assets, under the IRB or standardised approach, depending on the applicability of the rules for partial use of the IRB approach in force in novobanco Group; operational risk-weighted assets under the standardised approach; market risk-weighted assets, under the standardised approach; and credit valuation adjustment (CVA) risk-weighted assets, under the standardised approach.

Chapters **4. Counterparty credit risk, 5. Credit risk, 8. Market risk and 10. Operational risk** provide additional qualitative and quantitative information on the calculation of novobanco Group's RWA (pillar 1).

3.3 Capital adequacy at 31 December 2022

The minimum total capital ratio that must be met under the CRR (Article 92) is 8%. Under the same Article, the minimum Tier I and CET1 ratios are 6% and 4.5%, respectively.

In addition to the minimum requirements established in the CRR, the ECB, in the context of the SREP, determined compliance by the novobanco Group with the Pillar II capital requirement of 3.00% for the 2022 financial year. 56.25% of this requirement is ensured by CET1, 18.75% by AT1 and 25% by T2.

Moreover, in the calculation of the minimum solvency ratios that it must comply with, the novobanco Group must take into account the capital conservation and countercyclical buffers (see section **3.5 Capital buffers**), which must be ensured by CET1.

The minimum ratios to be met under the CRR are thus increased by the requirements stipulated both for Pillar 2 (P2R) and for the buffers referred to in the previous paragraph. Therefore, without considering the temporary waiver regarding the capital conservation buffer, the CET1, Tier I and total capital ratios that novobanco Group had to meet at the end of 2022 were 8.70%, 10.77% and 13.52% (always depending on the Bank's risk-weighted assets). Considering the temporary waiver granted by ECB as a relief measure in the context of COVID-19, the CET1, Tier I and total capital ratios to be met by the Bank are 6.20%, 8.27% and 11.02%, respectively.

At the end of 2022, novobanco Group's phased-in total capital, Tier I and CET1 ratios were 16.01%, 13.71% and 13.70%, respectively.

If fully implemented under CRR, novobanco Group's CET1, Tier I and total capital ratios would be 13.1%, 13.1% and 15.5% at the end of 2022.

At the end of 2022 novobanco Group met the ECB solvency ratio requirements.

Table 20 – Capital adequacy

	million euros	
	2021-12	**2022-12**
Surplus(+)/Deficit(-) of common equity tier 1 capital	1 646	1 966
Common equity tier 1 capital ratio (%)	11,1%	13,7%
Surplus(+)/Deficit(-) of *Tier 1 capital*	1 273	1 647
Tier 1 capital ratio (%)	11,1%	13,7%
Surplus(+)/Deficit(-) of total capital	1 281	1 710
Total capital ratio (%)	13,1%	16,0%

It should be noted that the surpluses/ shortfalls in regulatory capital, at its various levels, indicated in the table above, only take into account the minimum ratios that must be met under Article 92 of the CRR.

Additional details on the main solvency metrics can be found in **Annex IV**, among other information.

The following section provides the breakdown of own funds and own funds requirements (considering a rate of 8% of risk-weighted assets rate) by source of risk.

3.4 Capital adequacy quantitative information

Table 21 shows the reconciliation of prudential capital on the balance sheet with regulatory capital at 31 December 2021 and 31 December 2022, from a phased-in perspective.

Table 21 – Reconciliation of accounting capital with regulatory capital

million euros

	Consolidated	
	2021-12	2022-12
Capital	6 055	6 305
Reserves, retained earnings and other comprehensive income	(3 112)	(3 388)
Net income for the year attributable to shareholders of the Bank	159	556
A1 - Equity attributable to shareholders of the Bank	**3 102**	**3 473**
Non-controlling interests (minority interests)	19	18
A2 - Equity (prudential perspective)	**3 121**	**3 491**
Non-controlling interests (minority interests)	(12)	(10)
Cash flow hedges reserve	-	100
Adjustments of additional valuation	(10)	(4)
Transitional period to IFRS9	237	126
Goodwill and other intangibles	(69)	(73)
Insufficiency of provisions given the expected losses	(8)	-
Defined benefit pension fund assets	-	(60)
Deferred tax assets [1]	(168)	(296)
Shortfall in minimum coverage for non-performing exposures	(45)	(50)
Securitisation exposures	-	(17)
Irrevocable commitments to DGF/SRF	(68)	(72)
Other [2]	(209)	(209)
B - Regulatory adjustments to equity	**(353)**	**(564)**
C - Own principal funds level 1 - CET 1 (A2+B)	**2 768**	**2 927**
Non-controlling interests elegible for additional Tier 1	1	2
D - Additional own funds Level 1 - Additional Tier 1	**1**	**2**
E - Level 1 own funds - Tier 1 (C+D)	**2 769**	**2 928**
Subordinated liabilities elegible for Tier 2	399	399
Non-controlling interests elegible for Tier 2	2	2
Other elements elegible for Tier 2	106	89
F - Level 2 own funds - Tier 2	**507**	**490**
G - Total own funds (E+F)	**3 276**	**3 418**

[1] Includes deferred tax assets that rely on future profitability and do not arise from temporary differences (tax losses carried forward) and part of the deferred tax assets that rely on future profitability and arise from temporary differences not covered by law 61/2014..

[2] Since the end of 2020 includes the adjustments to CCA receivables, reflected in reserves, not received from the Resolution Fund (-209 million euros)

Total own funds increased by 142 million euros in 2022 compared to the end of 2021 (approximately +4.3%) essentially due to positive results of € 556 million.

The positive impacts on own funds were partially offset by several effects, namely:

- Decrease in revaluation reserves (-290 million euros);
- Impact of the IFRS 9 transitional period (static option -66 million euros and dynamic option -44 million euros);
- Deductions relative to DTAs that rely on future profitability and exceed the 10% limit of own funds calculated prior to this adjustment (-128 million euros);
- Deduction of defined-benefit pension fund assets on novobanco Group's balance sheet (-60 million euros).

The increase in total own funds was driven by the increase in Common Equity Tier I (159 million euros) and partially offset by the 17 million euro reduction in the positive difference between provisions and expected losses resulting from the credit risk weighting of certain assets covered by the IRB approach, reflected in Tier II capital.

Annexes **I, II** and **III** of this report contain complementary tables with the description of the main features of own funds instruments and detailed information on the calculation and reconciliation of own funds.

Table 22 shows risk-weighted assets and capital requirements for 31 December 2021 and 31 December 2022 on a phased-in basis by risk category.

Table 22 – Modelo EU OV1 - Overview of risk weighted exposure amounts

million euros

	Risk weighted exposure amounts (RWEAs)		Total own funds requirements
	2021-12	2022-12	2022-12
Credit risk (excluding CCR)	**21 562**	**18 755**	**1 500**
Of which the standardised approach	3 784	3 991	319
Of which the Foundation IRB (F-IRB) approach	13 736	11 440	915
Of which: slotting approach	-	-	-
Of which: equities under the simple riskweighted approach	977	532	43
Of which the Advanced IRB (A-IRB) approach	2 193	2 286	183
Counterparty credit risk - CCR	**480**	**703**	**56**
Of which the standardised approach	205	120	10
Of which internal model method (IMM)	-	-	-
Of which exposures to a CCP	0	28	2
Of which credit valuation adjustment - CVA	240	439	35
Of which other CCR	35	116	-
Settlement risk	-	-	-
Securitisation exposures in the non-trading book (after the cap)	**1**	**150**	**12**
Of which SEC-IRBA approach	1	150	12
Of which SEC-ERBA (including IAA)	-	-	-
Of which SEC-SA approach	-	-	-
Of which 1250%	-	-	-
Position, foreign exchange and commodities risks (Market risk)	**1 207**	**78**	**6**
Of which the standardised approach	1 207	78	6
Of which IMA	-	-	-
Large exposures	-	-	-
Operational risk	**1 678**	**1 670**	**134**
Of which basic indicator approach	-	-	-
Of which standardised approach	1 678	1 670	134
Of which advanced measurement approach	-	-	-
Amounts below the thresholds for deduction (subject to 250% risk weight)	**300**	**323**	**26**
Total	**24 929**	**21 355**	**1 708**

Novobanco Group's phased-in own funds requirements totalled 1,708 million euros at December 2022. As shown in the table above, credit risk (excluding CCR) was the largest source of these requirements, accounting for 88% of NB Group's total requirements. This represents a decrease of 286 million euros compared to the own funds requirements at December 2021. This reduction mainly resulted from:

- 225 million euro decrease in capital requirements for credit risk, due to the significant reduction in exposure to non-strategic assets with high weighting factors (e.g., restructuring funds, real estate), specific management measures (e.g., synthetic securitisation) and strong discipline at the level of risk-weighted assets;
- 95 million euro reduction in capital requirements for market risk.

3.5 Capital buffers

In addition to the minimum thresholds for solvency ratios set out in the CRR, the CRD introduced macro-prudential policy instruments, namely capital buffers, aimed at strengthening the solvency of financial institutions and, consequently, strengthening the stability of the financial system.

More specifically, the Bank of Portugal's Organic Law, and the RGICSF, as amended by Decree-Law No 157/2014 of 24 October, which transposed the CRD into national law, provide the legal basis for the implementation of these capital buffers.

This section of the report describes the capital buffers conceptually applicable to the novobanco Group at the reference date of this report, namely: the other systemically important institutions buffer, the countercyclical buffer and the capital conservation buffer.

- **Other Systemically Important Institutions (O-SII) buffer**

The Other Systemically Important Institutions buffer (O-SII buffer) aims to mitigate the accumulation of systemic risks associated with misaligned incentives and moral hazard.

Under Title VII-A - section IV of the RGICSF, the National Competent Authority (NCA), in the case of Portugal the Bank of Portugal, may impose higher capital requirements on O-SIIs, between 0 and 2% of the total amount of exposures, in order to compensate for the higher risk these institutions pose to the financial system, because of their size, their importance for the economy of the Member State concerned or of the European Union in general, their complexity or degree of interconnectedness with other financial sector institutions and, in the event of their insolvency, these institutions' potential contagion to the other financial and non-financial sectors.

The O-SII buffer must be made up of CET1 and applied only on a consolidated basis. Under Bank of Portugal's Notice no. 4/2015, novobanco was identified as an O-SII for 2018, and was applied an O-SII buffer of 0.125% from January 2018 and 0.25% from January 2019. In January 2020, the Bank of Portugal determined that the O-SII buffer would be applied on a consolidated basis (LSF Nani Investments S.à.r.l.) at a rate 0.375% in 2020 and 2021 and 0.50% from January 2022.

- **Countercyclical capital buffer**

A The countercyclical capital buffer is an additional buffer of Common Equity Tier 1 capital, and its purpose is to protect the banking sector in periods when risks of system-wide stress are growing due to excessive credit growth. When risks materialise or recede, this additional capital buffer ensures that the banking sector is better equipped to absorb losses and remain solvent, while continuing to provide credit to the real economy.

NCAs are responsible for setting and disclosing, on a quarterly basis, the countercyclical buffer rate that applies to all credit institutions and investment firms with credit exposures to the domestic private non-financial sector. The rate is set between 0% and 2.5% (of the total risk exposure amount), unless exceptional circumstances justify the setting of a higher rate. As referred, Section III of title VII-A of the RGICSF sets the legal basis for the implementation of the countercyclical capital buffer in Portugal.

The buffer rate for each institution is a weighted average of the countercyclical buffer rates that apply in the countries where the credit exposures of that institution are located. Buffer rates up to 2.5% must be mutually and automatically reciprocated if set by other EU/EEA Member States. If set by third countries authorities, buffer rates up to 2.5% must be recognised provided that the third country countercyclical capital buffer framework is deemed as equivalent by the Bank of Portugal. When buffer rates set by other EU/EEA Member States or third countries are above 2.5%, the Bank of Portugal will decide on their recognition on a case-by-case basis.

The countercyclical buffer rate applicable to the exposures located in Portugal was 0% in 2022. Taking into account the geographical distribution of the NB Group's (credit) exposures, the applicable institution-specific countercyclical buffer was 0.0188%.

Annexes **VIII** and **IX** to this Report provide additional information on the calculation and amount of novobanco Group’s countercyclical capital buffer at the end of 2022.

- **Capital conservation buffer**

The capital conservation buffer, provided for in Article 138-D of the RGICSF, approved by Decree-Law No. 282/92 of 31 December, is aimed at accommodating unexpected losses arising from a potentially adverse scenario, enabling institutions to maintain a stable flow of funding to the real economy.

Section II of title VII-A of the RGICSF establishes that this buffer requirement may be phased in from 1 January 2016, imposing a capital conservation buffer rate of 0.625% (of total exposure amount) in 2016, 1.25% in 2017, 1.875% in 2018 and 2.5% in 2019 and beyond.

The Bank of Portugal's Notice no. 6/2016 confirmed the phased-in requirement of a capital conservation buffer as described in the previous point.

The table below summarises the capital buffers applicable to the novobanco Group, as known on this date:

Table 23 – Capital buffers applicable to novobanco

Capital buffers (as a percentage of risk exposure amount)	2022	2023
Other Systemically Important Institution buffer [(1)]	-	-
Specific countercyclical capital buffer	0,0% a 2,5%	0,0% a 2,5%
Capital conservation buffer	2,500%	2,500%

[(1)] From the beginning of 2020, the O-SII reserve will only be complied with at the consolidated level (LSF Nani Investments S.à.r.l.).

3.6 Leverage ratio

The calculation of the leverage ratio was introduced by the CRR at the start of 2014. This regulatory ratio is calculated according to the rules defined in Part VII of the CRR and Delegated Regulation (EU) 2015/62, as an institution's capital measure (specifically Tier I capital) divided by that institution's total exposure measure. The regulatory leverage ratio is designed to complement solvency ratios by acting as a final limit on the excessive indebtedness of financial institutions.

Unlike solvency ratios, which use risk-weighted assets as the denominator, the exposure measure used to calculate the leverage ratio is fundamentally insensitive to risk. This exposure measure corresponds to all the Bank's assets and off-balance sheet items included in its prudential consolidation perimeter after certain adjustments, namely the exclusion of amounts deducted from own funds or the application of credit conversion factors (CCF) to off-balance sheet items. Repo-style transactions contribute to the exposure measure duly adjusted by the corresponding funded credit protection, as provided in Article 220 of the CRR. Derivatives contribute to the exposure measure at market value, added of the potential future credit exposure determined under Article 274 of the CRR, where applicable.

The table below shows the adjustments applied to total assets as they appear in the published financial statements as of 31 December 2022, for the purpose of determining the phased-in exposure measure which is used as the denominator of the leverage ratio.

Table 24 – Template EU LR1 - LRSum: Summary reconciliation of accounting assets and leverage ratio exposures

million euros

	2022-12
	Applicable amount
Total assets as per published financial statements	45 995
Adjustment for entities which are consolidated for accounting purposes but are outside the scope of prudential consolidation	221
(Adjustment for securitised exposures that meet the operational requirements for the recognition of risk transference)	-
(Adjustment for temporary exemption of exposures to central banks (if applicable))	-
(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the total exposure measure in accordance with point (i) of Article 429a(1) CRR)	-
Adjustment for regular-way purchases and sales of financial assets subject to trade date accounting	-
Adjustment for eligible cash pooling transactions	-
Adjustments for derivative financial instruments	26
Adjustment for securities financing transactions (SFTs)	914
Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	1 695
(Adjustment for prudent valuation adjustments and specific and general provisions which have reduced Tier 1 capital)	-4
(Adjustment for exposures excluded from the total exposure measure in accordance with point (c) of Article 429a(1) CRR)	-
(Adjustment for exposures excluded from the total exposure measure in accordance with point (j) of Article 429a(1) CRR)	-
Other adjustments	-700
Total exposure measure	**48 147**

The following table shows the detail of the asset component of the exposure measure, as of 31 December 2022.

Table 25 – Template EU LR3 - LRSpl: Split-up of on balance sheet exposures (excluding derivatives, SFTs and exempted exposures)

million euros

	2022-12
Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:	**44 945**
Trading book exposures	38
Banking book exposures, of which:	44 907
Covered bonds	67
Exposures treated as sovereigns	12 876
Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns	1 185
Institutions	838
Secured by mortgages of immovable properties	445
Retail exposures	12 209
Corporates	12 464
Exposures in default	855
Other exposures (eg equity, securitisations, and other non-credit obligation assets)	3 968

The leverage ratio is subject to a period of observation by the supervision authorities, after which its binding calibration that must be met by institutions under Pillar 1 is determined. The minimum benchmark leverage ratio was 3% at the end of 2022.

Table 26 shows the main components of the exposure measure, Tier I and phased-in and fully implemented leverage ratios at the end of December 2022. As previously mentioned, following the end of the transitional period provided for in the CRR and Regulation (EU) 2016/445 of the ECB (at the beginning of 2018 for novobanco) the only material reason for maintaining phased-in and fully implemented figures was the consideration of the IFRS 9 transitional arrangements that came into force at the end of 2019, with only the static option, and with both the static and dynamic options at the end of 2020, as detailed in section **3.1 Capital Management at novobanco Group**.

Table 26 – Leverage ratio

million euros

	2021-12	2022-12
Total Exposure	**46 814**	**48 516**
Repo-style transactions	216	914
Derivatives: Market value	237	779
Derivatives: *Add-on* (PFE)	198	182
Undrawn credit lines that may be unconditionally cancelled by the Bank at any time and without prior notice	530	530
Off-balance sheet items of medium/low risk	313	285
Off-balance sheet items of medium risk	401	490
Other off-balance sheet items	705	391
Other assets	44 214	44 945
Exposure - Transitional regime	**46 523**	**48 147**
Assets deducted in the determination of Tier I - Transitional regime	-291	-369
Tier I **- Transitional regime**	**2 769**	**2 928**
Leverage ratio - Transitional regime	**6,0%**	**6,1%**
Exposure - Full CRR implementation	**46 541**	**48 130**
Assets deducted in the determination of Tier I - Full CRR implementation	-273	-386
Tier I **- Full CRR implementation**	**2 509**	**2 789**
Leverage ratio - Full CRR implementation	**5,4%**	**5,8%**

NB Group's phased-in leverage ratio at the end of 2022 was slightly higher than at the end of December 2021. This was due to the increase in Tier I, which more than offset the increase in exposure that also occurred during the year. At 6.1%, the leverage ratio of the novobanco Group was well above the minimum reference ratio of 3%, and therefore the risk of excessive leverage was unlikely to materialise.

The leverage ratio is monitored on a monthly basis by the Executive Board of Directors and the General and Supervisory Board, through their delegated committees. This ensures that this ratio is maintained within the risk thresholds stipulated by the EBD through the implementation of mitigating measures that prevent this threshold from being overstepped. Additional information on the calculation of novobanco Group's leverage ratio at the end of 2022 is provided in **annex VII - Template EU LR2 - LRCom: Leverage ratio** common disclosure to this report.

3.7 Internal capital adequacy assessment

The novobanco Group performs internal capital adequacy assessment exercises (ICAAP), in accordance with the regulations in force and the supervisor's guidelines. These exercises aim to assess whether the level of capital that novobanco has at its disposal is adequate to cover the material risks arising from its activity and strategy.

The ICAAP exercise is carried out from a regulatory perspective and an economic perspective:

i) the regulatory perspective considers the capital requirements for pillar 1 risks, plus the regulatory requirements for pillar 2 (pillar 2 requirement or P2R and pillar 2 guidance or P2G) and the regulatory buffers.

ii) The internal perspective is determined through novobanco's assessment of potential losses for all material risks. In addition to Pillar 1 risks (credit, market, operational and CVA risks), Pillar 2 risks - namely credit concentration risk, interest rate risk on the banking book (IRRBB), pension fund risk, and ESG risk - are also quantified, using internal models and methodologies. Moreover, the need to allocate additional capital requirements for risks already contemplated in Pillar 1 is also assessed. Finally, a management buffer is also considered on top of the total capital requirements that cover both Pillar 1 and Pillar 2 risks.

The exercise includes two components: one at the reference date of the exercise, which quantifies the risks faced by novobanco at that date and a projection component, which estimates the evolution of material risks over the following three years. These projections are conducted for two types of scenarios: a baseline scenario, representing novobanco’s best estimates for the evolution of its activity at the time of the exercise and in line with its strategic plan; and an adverse scenario, which aims to reflect a more severe context for the future development of novobanco's activities.

In the adverse scenario projections, shocks associated with all material risks are applied to the available capital (via P&L). Idiosyncratic factors related to specific characteristics of novobanco are also considered.

Governance of this process is ensured by the following chain: i) a panel of experts (comprising staff from the GRD and the Capital Planning and Management Department (CPMD), ii) an ICAAP coordination team, comprising senior staff from the GRD and CPMD, which discusses the main guidelines of the ICAAP exercise and, finally, iv) the Executive Board of Directors and the Risk Committee of the General and Supervisory Board, where the exercise is challenged and formally approved.

Through the ICAAP exercise, novobanco assesses whether the capital available is sufficient to cover the capital needs arising from the risks to which it is exposed. For this reason, the identification and assessment of the materiality of the risks faced by novobanco Group in the pursuit of its activity are very important stages of the ICAAP.

The first step in the risk identification process is to pinpoint all the risks to which the entity is or could be exposed. For this purpose, novobanco Group relies on its internal risk taxonomy, which lists and exhaustively defines all the risks to which it is or may be exposed (long list).

The next step is to assess the relevance and materiality of each of these risks, resulting in a short-list of materially relevant risks that are then quantified and translated into the corresponding capital requirements.

The following are the main risks considered materially relevant in the last ICAAP exercise:

Credit risk:

- Risk of default;
- Concentration risk;
- Sovereign risk.

Market risk on the banking book:

- Interest Rate Risk on the Banking Book (IRRBB);
- Equities risk;
- Credit spread risk:
- Real estate risk;
- Pension fund risk.

Market risk on the trading book:

- Market risk on the trading book;
- CVA risk.

Operational risk:

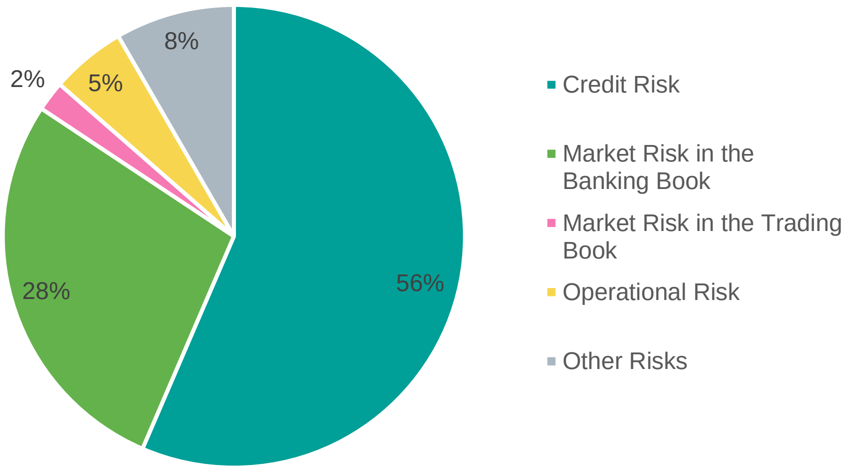
- Operations risk, communication systems risk, compliance risk, and reputational risk.

Other risks:

- Environment, Social and Governance (ESG) risk

The following chart shows the breakdown of capital needs by each of these risks, as assessed in the last ICAAP exercise. The most relevant risks for novobanco Group are credit risk (56%) and market risk (30%).

Breakdown of capital needs per type of risk



The ICAAP exercise and updates to the exercise carried out throughout the year permitted to conclude that novobanco is compliant with the risk appetite defined for the capital metrics and is adequately capitalised, both from an economic and a regulatory perspective.

3.8 Minimum requirement for own funds and eligible liabilities (MREL)

Point 4. Capital and Liquidity of the Management Report, in novobanco's 2022 Annual Report, provides information on the MREL requirements that apply to novobanco

4 Counterparty credit risk

4.1 Determination of value at risk

For internal management purposes, the value of counterparty credit risk in foreign exchange, money market, securities and derivatives transactions is quantified and monitored daily. The counterparty risk of the various financial instruments is calculated as the potential loss associated with each operation.

The methodologies in place to determine potential loss depend on the type of financial instruments, where current exposure is calculated for cash instruments (securities and money market) and potential future exposure for foreign exchange instruments and derivatives. Potential future exposure (PFE) is calculated at 95%. The value at risk is reduced by the negative exposure values of operations, whenever there are netting agreements under standard ISDA (International Swaps and Derivatives Association) agreements or similar agreements with counterparties.

The netting agreements established allow, in the event of default by the counterparty, to settle in advance unmatured transactions at their market value and determine a single net amount to be settled.

The PFE is calculated with a 95% level of confidence as the maximum net present value (NPV) that a transaction can reach over its life. The PFE of a counterparty takes into account the effects of netting referred to above, as well as the diversity between the future market value of different transactions allocated to a counterparty.

As to transactions subject to collateral agreements, these can be CSA agreements or ISDA FIA agreements (operations under clearing), both within the scope of ISDA agreements. Under the CSA agreements established by NB Group, deposits are made with the party whose transactions in progress have a positive net market value on the working day following their computation. The exposure to these counterparties is thus calculated as the 2-day PFE instead of being calculated at maturity. In addition to a variation margin for the net market value of transactions, an initial margin is also determined for ISDA FIA agreements, corresponding to the VaR of each transaction. For transactions under these agreements, exposure is calculated by adding the net value of the initial margin posted with the central counterparty to the 2-day PFE (potential exposure relative to the variation margin component) calculated.

In collateral agreements, the collateral is generally in cash, but can also be in the form of securities (bonds). The thresholds of the contracted collateral agreements are equal to zero, which means that the collateral amounts are due as soon as the market value of the transaction becomes positive, subject to the agreed conditions on the minimum transfer amount. Therefore, a downgrade of novobanco's external rating will have no impact on the amount of collateral to be transferred.

For prudential purposes, and following the entry into force in June 2021 of Regulation (EU) 2019/876 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) No 575/2013 as regards the counterparty risk, the amount subject to counterparty credit risk weighting for each position in derivative instruments is calculated under the standardised approach (SA-CCR) defined in Article 274 of the CRR. For repurchase transactions, the amount subject to counterparty credit risk weighting is calculated according to the rules of the comprehensive approach to financial collateral, as laid down in Chapter 4 of Title II of the CRR.

Once the exposure amount of weighted exposures has been estimated, the procedures subsequently followed to calculate counterparty credit risk weighted assets are identical to those described in **Section 5.4. Calculation of credit risk weighted assets**.

4.2 Approval and control process

The limits to counterparty and issuer credit risk are proposed by the business areas, based on internal ratings and complementary credit risk analyses of the counterparties, and are approved in accordance with the credit standard in force at novobanco. The approved limits block the trading desk from trading in transactions that exceed these limits. Exposure to credit risk and the use of risk limits are determined and monitored on a daily basis by the GRD. The overstepping of risk limits is reported to the business areas and the Executive Board of Directors for reduction of exposure or approval of the excesses.

4.3 Quantitative information on counterparty credit risk

The following tables detail the calculation of counterparty credit risk-weighted assets (under the CRR) with reference to December 2022.

Table 27 – Template EU CCR1 – Analysis of CCR exposure by approach

million euros

		2022-12								
		Replacement cost (RC)	Replacement cost / Current market value	Potential future exposure (PFE)	EEPE	Alpha used for computing regulatory exposure value	Exposure value pre-CRM	Exposure value post-CRM	Exposure value	RWEA
EU-1	EU - Original Exposure Method (for derivatives)	-	-	-		1,4	-	-	-	-
EU-2	EU - Simplified SA-CCR (for derivatives)	-	-	-		1,4	-	-	-	-
1	SA-CCR (for derivatives)	4 934	181	101		1,4	-	238	237	120
2	IMM (for derivatives and SFTs)				-	1,4	-	-	-	-
2a	*Of which securities financing transactions netting sets*				-		-	-	-	-
2b	*Of which derivatives and long settlement transactions netting sets*				-		-	-	-	-
2c	*Of which from contractual cross-product netting sets*				-		-	-	-	-
3	Financial collateral simple method (for SFTs)						-	-	-	-
4	Financial collateral comprehensive method (for SFTs)						2 257	914	914	116
5	VaR for SFTs						-	-	-	-
6	**Total**						**2 257**	**1 152**	**1 152**	**236**

Table 28 – Template EU CCR3 – Standardised approach – CCR exposures by regulatory portfolio and risk

million euros

Exposure classes	2022-12											
	Risk weight											Total exposure value
	0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Other	
Central governments or central banks	-	-	-	-	-	-	-	-	-	-	-	-
Regional government or local authorities	-	-	-	-	-	-	-	-	-	-	-	-
Public sector entities	-	-	-	-	-	-	-	-	-	-	-	-
Multilateral development banks	-	-	-	-	-	-	-	-	-	-	-	-
International organisations	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	-	-	699	-	-	-	-	-	-	-	-	699
Corporates	-	-	-	-	-	-	-	-	25	-	-	25
Retail	-	-	-	-	-	-	-	0	-	-	-	0
Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	-	-	-	-
Exposures in default	-	-	-	-	-	-	-	-	-	-	-	-
Items associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	-	-
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-
Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-
Claims in the form of CIU	-	-	-	-	-	-	-	-	-	-	-	-
Equity exposures	-	-	-	-	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-	-	-	-	-
Total exposure value	**-**	**-**	**699**	**-**	**-**	**-**	**-**	**0**	**25**	**-**	**-**	**725**

Tables 29, 30 and 31 show the detail of CCR exposures subject to risk weighting in accordance with the IRB approach.[2]

Table 29 – Template EU CCR4 - IRB approach – CCR exposures by portfolio and PD scale

million euros

PD scale (%)	2022-12						
	Exposure value	Exposure weighted average PD (%)	Number of obligors	Exposure weighted average LGD (%)	Exposure weighted average maturity (years)	RWEA	Density of risk weighted exposure amount
0,00 a < 0,15	917	0,05%	53	45%	-	116	12,60%
0,15 a < 0,25	109	0,19%	13	45%	-	30	27,46%
0,25 a <0,50	74	0,30%	26	45%	-	37	49,33%
0,50 a <0,75	8	0,63%	15	45%	-	7	80,51%
0,75 a <2,50	11	1,10%	14	45%	-	11	97,43%
2,50 a <10,00	4	5,94%	22	45%	-	7	148,33%
10,00 a <100,00	2	40,34%	6	45%	-	5	270,71%
100,00 (*default*)	0	100,00%	2	45%	-	-	-
Total (all CCR relevant exposure classes)	**1 126**	**0,21%**	**151**	**45%**	**-**	**212**	**18,79%**

[2] Exposure-weighted average maturity value considers a maturity limit of 2.5 years in accordance with the information provided in COREP Own Funds.

Table 30 – Template EU CCR4 - IRB approach – CCR exposures by portfolio and PD scale - Institutions

million euros

PD scale (%)	2022-12						
	Exposure value	Exposure weighted average PD (%)	Number of obligors	Exposure weighted average LGD (%)	Exposure weighted average maturity (years)	RWEA	Density of risk weighted exposure amount
Institutions							
0,00 a < 0,15	911	0,05%	33	45%	-	114	12,56%
0,15 a < 0,25	0	0,15%	-	45%	-	0	53,31%
0,25 a <0,50	-	-	-	-	-	-	-
0,50 a <0,75	2	0,63%	1	45%	-	2	81,67%
0,75 a <2,50	-	-	-	-	-	-	-
2,50 a <10,00	-	-	-	-	-	-	-
10,00 a <100,00	2	-	-	45%	-	5	276,10%
100,00 (*default*)	-	-	-	-	-	-	-
Subtotal (Institutions)	**915**	**0,13%**	**34**	**45%**	**-**	**121**	**13,24%**

Table 31 – Template EU CCR4 - IRB approach - CCR exposures by portfolio and PD scale - Corporate

million euros

PD scale (%)	2022-12						
	Exposure value	Exposure weighted average PD (%)	Number of obligors	Exposure weighted average LGD (%)	Exposure weighted average maturity (years)	RWEA	Density of risk weighted exposure amount
Corporate - SME							
0,00 a < 0,15	2	0,06%	13	45%	-	0	17,84%
0,15 a < 0,25	5	0,17%	3	45%	-	2	33,80%
0,25 a <0,50	52	0,33%	15	45%	-	25	47,96%
0,50 a <0,75	0	0,64%	10	45%	-	0	51,79%
0,75 a <2,50	1	1,12%	4	45%	-	1	78,23%
2,50 a <10,00	1	4,28%	14	45%	-	1	91,00%
10,00 a <100,00	0	25,02%	6	41%	-	0	168,66%
100,00 (*default*)	-	-	-	-	-	-	-
Subtotal (Corporate - SME)	**62**	**0,44%**	**65**	**45%**	**-**	**29**	**47,47%**
Corporates - Specialised Lending							
0,00 a < 0,15	-	-	-	-	-	-	-
0,15 a < 0,25	-	-	-	-	-	-	-
0,25 a <0,50	-	-	-	-	-	-	-
0,50 a <0,75	-	-	-	-	-	-	-
0,75 a <2,50	-	-	-	-	-	-	-
2,50 a <10,00	-	-	-	-	-	-	-
10,00 a <100,00	-	-	-	-	-	-	-
100,00 (*default*)	-	-	-	-	-	-	-
Subtotal (Corporates - Specialised Lending)	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Corporate — Other							
0,00 a < 0,15	5	0,04%	3	45%	-	1	18,42%
0,15 a < 0,25	103	-	5	3%	-	28	27,13%
0,25 a <0,50	23	-	11	45%	-	12	52,46%
0,50 a <0,75	6	-	4	45%	-	5	81,66%
0,75 a <2,50	10	1,10%	10	45%	-	10	99,38%
2,50 a <10,00	3	6,68%	8	45%	-	5	174,17%
10,00 a <100,00	0	40,96%	-	45%	-	0	252,50%
100,00 (*default*)	0	-	2	45%	-	-	-
Subtotal (Corporate - Other)	**150**	**0,47%**	**43**	**16%**	**-**	**61**	**40,81%**

Table 32 – Template EU CCR5 — Composition of collateral for CCR

million euros

Collateral type	2022-12							
	Collateral used in derivative transactions				Collateral used in SFTs			
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received		Fair value of posted collateral	
	Segregated	Unsegregated	Segregated	Unsegregated	Segregated	Unsegregated	Segregated	Unsegregated
Cash – domestic currency	-	56	-	401	-	1 397	-	-
Cash – other currencies	-	-	-	-	-	-	-	-
Domestic sovereign debt	-	-	-	-	-	-	-	-
Other sovereign debt	-	-	-	-	-	-	-	-
Government agency debt	-	-	-	-	-	-	-	-
Corporate bonds	-	-	-	-	-	-	-	-
Equity securities	-	-	-	-	-	-	-	-
Other collateral	-	-	-	-	-	-	-	-
Total	**-**	**56**	**-**	**401**	**-**	**1 397**	**-**	**-**

Table 33 – Template EU CCR8 – Exposures to CCPs

million euros

	2022-12	
	Exposure value	RWEA
Exposures to QCCPs (total)		**28**
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	699	28
(i) OTC derivatives	699	28
(ii) Exchange-traded derivatives	-	-
(iii) SFTs	-	-
(iv) Netting sets where cross-product netting has been approved	-	-
Segregated initial margin	-	
Non-segregated initial margin	-	-
Prefunded default fund contributions	-	-
Unfunded default fund contributions	-	-
Exposures to non-QCCPs (total)		-
Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which	-	-
(i) OTC derivatives	-	-
(ii) Exchange-traded derivatives	-	-
(iii) SFTs	-	-
(iv) Netting sets where cross-product netting has been approved	-	-
Segregated initial margin	-	
Non-segregated initial margin	-	-
Prefunded default fund contributions	-	-
Unfunded default fund contributions	-	-

The credit valuation adjustment (CVA) is an adjustment to the fair value (or price) of a derivative instrument that takes into account counterparty credit risk. The purpose of the own funds requirement for credit or CVA valuation adjustment risk is to capitalise the risk of future changes in CVA.

CVA risk applies to all OTC derivatives, other than credit derivatives recognised to reduce credit risk-weighted exposure amounts, contracted with counterparties corresponding to financial entities or investment funds.

The novobanco Group uses the standardised approach to calculate the capital requirements for CVA risk (converted to RWAs) by multiplying the capital requirements by 12.5 (or 1/0.08) in accordance with the rules stipulated in Title VI of Part III of the CRR

The following table shows the value of exposures subject to CVA risk and corresponding risk-weighted exposure amounts at December 2022.

Table 34 – Template EU CCR2 — Transactions subject to own funds requirements for CVA risk

million euros

	2022-12	
	Exposure value	RWEA
Total transactions subject to the Advanced method	-	-
(i) VaR component (including the 3× multiplier)		-
(ii) stressed VaR component (including the 3× multiplier)		-
Transactions subject to the Standardised method	1 013	439
Transactions subject to the Alternative approach (Based on the Original Exposure Method)	-	-
Total transactions subject to own funds requirements for CVA risk	**1 013**	**439**

At the end of 2022 the Bank had no credit derivatives in portfolio.

Additional information on transactions involving derivative instruments can be found in notes 23 (Financial assets and liabilities held for trading), 25 (Derivatives - Hedge accounting and fair value changes of the hedged captions) and 42 (Fair value of financial assets and liabilities) to the consolidated financial statements included in novobanco's 2022 Annual Report.

5 Credit Risk

5.1 Management of credit risk

Credit risk represents the potential financial loss arising from the failure of a borrower or counterparty to honour the contractual obligations established with novobanco within the scope of its lending activity. Management and control of this type of risk are based on an internal risk identification, assessment and quantification system.

The credit risk management process involves the commercial areas, as proponents of credit operations, the Credit Department (CD), as decision-maker on credit operations, the RtD, which makes the financial analysis and monitors customers' credit risk, and the GRD, which outlines risk monitoring and control policies and actions.

As part of their responsibility for managing commercial relationships with customers, the commercial areas originate credit operations (making decisions under delegated powers) and also act as the first monitoring layer of these operations.

The mission of the CD is to execute the credit decision function at novobanco, ensuring that the management of the commercial relationship with the clients (handled by novobanco Group's commercial departments) remains separate from the decision process on clients' credit operations.

This organisational structure reflects a functional specialisation within the novobanco Group, based on an approach that places greater emphasis on technical and risk analysis in credit decision-making processes.

The scope of activity of the CD covers most of the Bank's commercial areas' operations, namely retail lending operations, corporate lending operations and operations originating in the international units of the novobanco Group, as well as the operations of the credit monitoring and recovery departments (corporate).

The client risk rating (rating/scoring) is a key supporting element of credit decisions and equally important to support business decisions at commercial level. Other relevant supporting elements are the analyses and recommendations issued by the RtD and the Credit Risk Monitoring Group (CRMG). The current credit decision model is thus based on a checks and balances rationale that supports a material delegation of decision powers, through the intervention of three independent areas with well-defined roles: commercial area, credit area and risk area.

Novobanco has been reining in its risk appetite over the last few years, namely in sectors such as real estate development and construction, as well as reducing credit exposure concentration per client.

The RtD has the following objectives: to assess the credit risk of novobanco Group's customers through the assignment of ratings, non-binding technical opinions and the calculation of loan impairments on an individual basis; to advise the Executive Board of Directors on the management of large customers' credit risk; and to monitor credit risk on an individual basis (single name exposures). Separating the credit risk area from the credit risk monitoring area has not only enabled a more concentrated focus on and more effective monitoring of customer risk, but has also improved the robustness of the credit decision-making process, and ensured complete segregation of functions between the risk assessment and risk control areas.

- **Monitoring of credit risk**

The credit risk monitoring and control activities in place at novobanco Group aim to quantify and control the evolution of credit risk and to allow the early definition of objective measures for cases showing a deterioration of risk, with a view to mitigating potential losses, as well as to outline global strategies for credit portfolio management.

To reach these objectives, these processes are conducted by i) the Credit Risk Analysis Group (CRAG), which monitors outstanding credit risk in the retail commercial segment on an annual basis; and ii) the Credit Risk Monitoring Group (CRMG), which analyses the corporate commercial segment's risk on a monthly basis.

The CRAG holds face-to-face meetings with the commercial structures to monitor clients with warning signals of a deterioration in credit quality, namely observed in their financial data, assets, behavioural profile and type of exposure to the banking system.

Risk mitigation recommendations adjusted to the specific context of each client are formulated during these meetings, and their implementation is subsequently assessed.

In addition, a review of clients with credit incidents/ warning signals is carried out and reported to the relevant retail structures on a monthly basis.

The CRMG methodology combines the analysis of deterioration of risk classes (Pre-Watchlist, Watchlist and Recovery) against pre-established credit risk assessment criteria with the analysis of the exposure of clients/groups. For specific cases, there are three different levels of CRMG meetings: CRMG I, CRMG II and Extended CRMG, each with distinct schedules and hierarchies of participants (Management, Coordinating Managers, and the Board of Directors), corresponding to varying levels of exposure to clients or client groups. The CRMG forum assesses Unlikely-to-Pay signs, reviews and validates risk classes and risk stages, and, where applicable, issues recommendations, determines mitigation actions are identifies KPIs to be monitored. Following this analysis, it decides on the most adequate structure.

In the context of monitoring and controlling credit portfolio risk, customers/groups are selected based on risk class deterioration, stage, and other indicators. The objective is to ensure broad coverage of the portfolio and to proactively identify potential risks to customers' financial stability by detecting negative trends that could impact their risk profiles.

CRMG meetings are held on a monthly basis. Extraordinary CRMG meetings are held when necessary, bringing together the different fora: CRMG I, CRMG II, Extended CRMG, Corporate Credit Recovery Department (CCRD) CRMG, and special CRMG. CRMG meetings are attended by representatives of the different departments.

- **Global analysis of the loan portfolio risk profile**

At novobanco Group, the management of the loan portfolio (the main source of credit risk) is an ongoing process that requires interaction among the various teams involved in the management of risk during the different stages of the credit process. The risk profile of loan portfolios, specifically in what concerns the evolution of credit exposure and the monitoring of credit losses, is reported on a monthly basis to the Risk Committee and the Financial and Credit Committee. Compliance with the approved credit limits and the correct functioning of the mechanisms for approval of credit lines used by the commercial areas in their day-to-day activity, are also regularly subject to analysis.

Note 44 - Risk Management to novobanco's 2022 Annual Report provides more detail on the loan portfolio's sectoral distribution, geographical distribution and loan loss indicators.

5.1.1 Impairment loss definitions and estimation methods

In this chapter we will describe in detail and clarify the relevant concepts of the model for calculating impairment for credit risk losses that has been implemented at novobanco, in accordance with IFRS 9 related regulations.

Scope

The Bank records impairment allowance for expected credit losses ("ECLs") for the following debt instruments

- Loans and advances to customers;
- Financial and performance guarantees;
- Import documentary credits;
- Confirmed export documentary credits;
- Undrawn loan commitments;
- Money market exposures;
- Securities portfolio.

The calculation of impairments in the securities portfolio only considers debt instruments recognised at amortised cost or fair value through other comprehensive income.

Staging

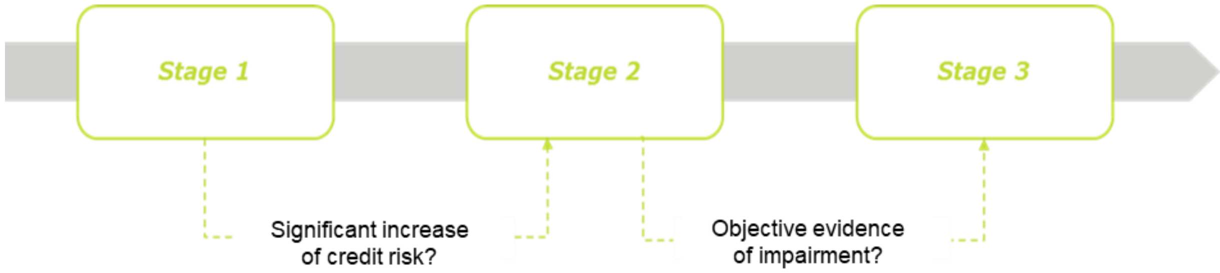
Impairment losses identified are recognised in the income statement and are subsequently reversed through the income statement if, in a subsequent period, the amount of the estimated loss decreases.

Impairment is based on the credit losses expected to arise over the lifetime of the asset (LTECL), unless there has been no significant increase in credit risk since origination, in which case the allowance is based on the 12 months' expected credit losses (12-month ECL).

In line with the regulations in force, novobanco has established a policy to assess whether a financial instrument's credit risk has increased significantly since initial recognition, based on changes in the risk of default over the lifetime to maturity of the financial instrument. Based on this process, the Bank aggregates its exposures by stage, as described below:

- Stage 1: includes all exposures without any indication of significant deterioration in credit risk and without active default status. For these exposures the impairment is recognised as a 12-month expected loss;
- Stage 2: includes all exposures where at least one indication of significant deterioration of credit risk has been identified. For these exposures, impairment is recognised at the present value of the expected losses accumulated until maturity. This universe also includes exposures in a quarantine period, i.e., exposures that have recently ceased to (1) show indications of significant deterioration of credit risk and/or (2) be in default status;
- Stage 3: includes all exposures classified in default - according to the Bank's internal definition which is aligned with the regulatory definition[3]. This definition includes, cumulatively:
    - Exposures that have materially defaulted for more than 90 consecutive days; or
    - Exposures that, while not being in material default for more than 90 consecutive days, are classified as "Unlikely to pay".

Therefore, in order to determine impairment, a stage classification is previously made for all exposures according to their level of credit risk, as summarised in the figure below:



Stage classification thus involves the following steps:

- ***Stage 3***

The stage attribution process starts by checking if stage 3 criteria apply. If the exposure is classified as in Default - according to the current internal definition - this exposure is classified in Stage 3.

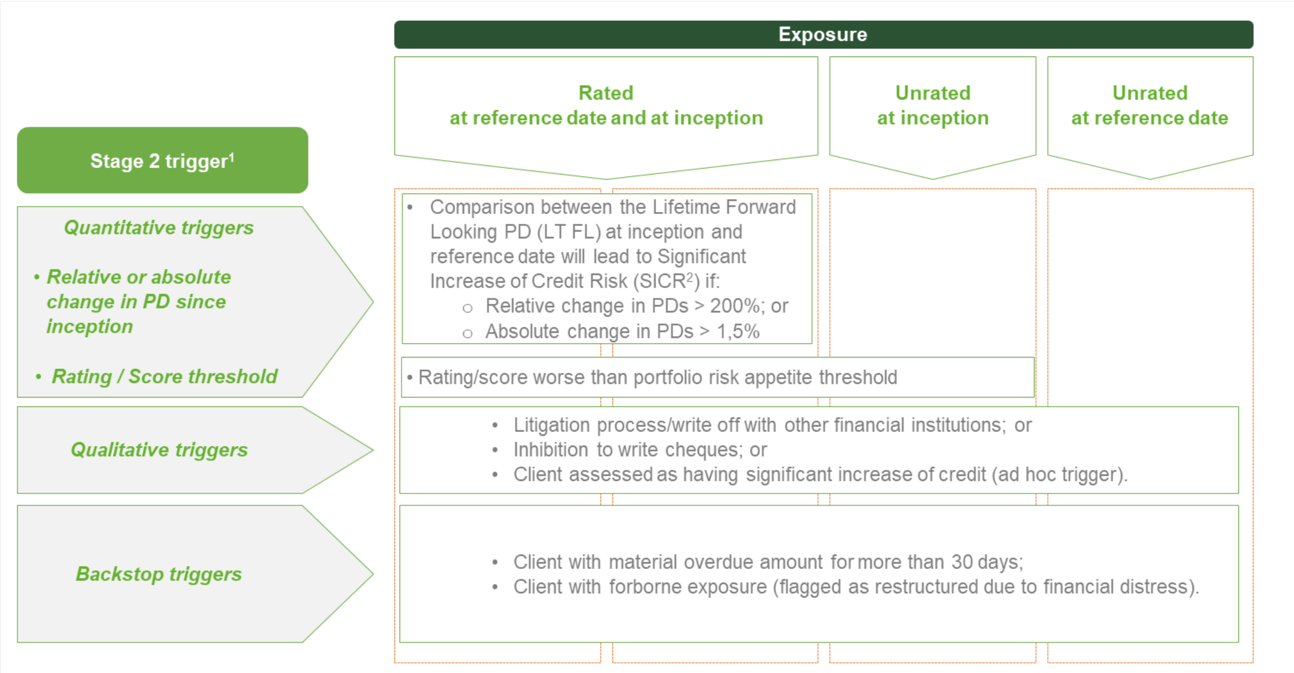
Exposures are classified in Stage 3 based on the occurrence of a default event, with objective evidence of loss occurring at the time when a significant change in the creditor-debtor relationship takes place, exposing the creditor to a monetary loss.

- ***Stage 2***

Exposures are classified in Stage 2 whenever there is a significant increase in the exposure credit risk. If there is no objective evidence of loss associated with the exposure, certain criteria are analysed to determine whether the credit risk of the exposure has significantly increased.

[3] EBA/GL/2016/07: Guidelines on the application of the definition of default under Article 178 of Regulation (EU) No 575/2013

A significant increase in credit risk is assessed through qualitative and quantitative evidence. Once it is ascertained that at least one of these triggers is active, the exposure is classified in stage 2. The table below shows the applicable criteria and thresholds:



[1] – Pending on the nature of the stage 2 trgger, contagion and probation period will be applied
[2] – SICR trigger will only be assessed if current Rating/Score is worse than/outside high quality buckets

As explained in IFRS 9, the assessment of a significant increase in credit risk also involves comparing the current risk level of an exposure against the level of risk at origination.

The Group assigns an internal credit risk grade to the exposure borrower, depending on exposure/borrower quality. This grade is associated with the probability of default. To determine whether the exposure credit risk has increased significantly since initial recognition, the Bank compares, at the reporting date, the exposure's lifetime probability of default with the probability of default at origination. Depending on whether the observed variation falls above a pre-established threshold - relative and/or absolute - the exposure is classified or not in Stage 2.

In addition to default events, the Group takes into account other events that could result in the classification of exposures in Stage 2, such as a material default lasting more than 30 days, risk events within the financial system, or an internal credit risk grade above a certain threshold, among others.

- ***Stage 1***

The classification of exposures in stage 1 depends on:

(i) the absence of active events that qualify for stage 3 and stage 2, as described above; or

(ii) whether these exposures fall under the low-credit risk exemption. These exposures, if not in stage 3, are automatically classified in stage 1.

Type of impairment analysis: Individual or Collective

The Group calculates collective and individual impairment for the basis of incidence through an initial classification of the credit risk level - Stage 1, 2 or 3 in the collective assessment model and going concern or gone concern approach in the individual analysis model, applicable only to stage 3.

If for a particular loan there is no objective evidence of impairment at individual level, the loan is grouped together with other loans that have similar credit risk characteristics (loan portfolio segment), and assessed collectively through the application of risk factors estimated for the exposure segment - collective assessment of impairment. If an impairment loss is identified on an individual basis, the amount of the impairment loss determined prevails over the collective impairment.

Clients under the following conditions must be subject to an Individual Analysis of Impairment:

- with exposure in Stage 3 and liabilities equal to or greater than €1,000,000 (or equal to or greater than €250,000 if CCRD clients);
- identified by the Committee itself on the basis of another justified criterion (e.g., sector of activity);
- assigned a specific impairment in the past;
- when, in the face of new evidence that may have repercussions on the impairment calculation, the client is proposed for analysis by one of the intervenients in the Impairment Committee or by another Body/Forum, namely the CRMG (e.g: Stage 3 reclassification under CRMG).

The identification of the target customers for Individual Analysis is updated monthly, in order to contemplate any changes that may occur throughout the year.

To carry out the collective assessment of impairment, exposures are grouped on the basis of similar credit risk characteristics, according to the risk assessment defined by the Bank. Risk factors are estimated for each of these homogeneous risk groups and then applied to the calculation of impairment.

To determine the collective impairment, the operations are allocated to risk sub-segments in accordance with the definitions in the table below:

<table>
<tr><td rowspan="2">1st Segmentation</td><td colspan="2">Client Type</td></tr>
<tr><td>Corporate</td><td>Individuals /Individual Entrepreneurs</td></tr>
<tr><td rowspan="2">2nd Segmentation</td><td>Risk Segment</td><td>Product Type</td></tr>
<tr><td>Large Corporate
Real Estate
Medium-sized Enterprises
Small companies
Start-Ups
Financial Institutions
Sovereigns</td><td>Mortgage
Consumer loans
Credit cards
Other Individuals</td></tr>
<tr><td>3rd Segmentation</td><td>Rating</td><td>Scoring</td></tr>
<tr><td rowspan="2">4th Segmentation</td><td colspan="2">Collaterals – LTV</td></tr>
<tr><td>Typically, Corporate segments consider the value of collateral for segmentation purposes</td><td>The mortgage segment considers the value of the asset financed for segmentation purposes</td></tr>
</table>

Scenarios

As required under IFRS 9, the impairment assessment must reflect different expectations of macroeconomic developments, i.e., it must incorporate multiple scenarios. In order to incorporate the effects of future macroeconomic behaviour in loss estimates, forward-looking macroeconomic estimates are included in some of the risk parameters used to calculate impairment. In fact, different possible scenarios giving rise to the same number of impairment results are considered.

In this context, the process of defining macroeconomic scenarios must follow these principles:

- Representative scenarios that capture existing non-linearities (e.g., a baseline scenario, an optimistic scenario and a pessimistic scenario);
- The baseline scenario must be consistent with the inputs used in other exercises in the Group (e.g., planning); This is ensured since the methodology used to calculate impairment was precisely the same as that used by the Group for internal and/or regulatory planning exercises. Consequently, the Group has developed macroeconomic regressions for the main loan portfolios, through which risk parameters are projected, taking into account the macroeconomic variables (GDP growth, unemployment rate, inflation,

interest rate, changes in real estate price, among others) assumed for a given projected time horizon. These models are subject to regular statistical monitoring and have been used by the Bank for several years. We thus believe that there is a significant use test factor, which, together with the statistical robustness evidenced by the tests performed and the obvious advantage of using a methodology consistent with the Group's practice in other processes, was the basis for our option;

- The alternatives to the baseline scenario are a more favourable scenario and an adverse scenario;
- The correlation between the projected variables should be consistent with economic reality (e.g., if GDP is increasing it is expected that unemployment is decreasing);

The macroeconomic scenarios and projections are also subject to weighting. Thus, when the scenarios are revised/updated (at least once a year), their weights, i.e., the relative weights in the final scenario, are also revised. Once the scenarios are updated, the values of the risk parameters are updated for later consideration in the scope of the impairment calculation. The final impairment calculated will thus result from the sum of the impairment values of each scenario, subject to weighting.

The baseline and alternative macroeconomic scenarios for the Portuguese economy are built based on a combination of econometric forecasts, forecasts from other external institutions and subjective expert judgements.

In the first component, GDP growth is estimated based on the forecast behaviour of expenditure components, where GDP = Consumption + Investment + Exports - Imports. The econometric specifications chosen are those that, after testing different alternatives, generate the best result.

The econometric estimates thus obtained are then weighted using forecasts from external institutions, according to the principle that the combination of different projections tends to be more accurate than one forecast only (the risk of errors and bias associated with specific methods and variables is minimised).

Price (consumer and real estate) and unemployment forecasts follow a similar methodology: own forecasts based on an estimated model, weighted with forecasts from external institutions, where available. In a baseline scenario, the projections for interest rates start from market expectations (provided by Bloomberg), with possible adjustments in accordance with the principles defined above, if considered appropriate (weighting by expert judgement and forecasts from external institutions). The alternative scenarios are based on the historical observation of deviations from the trend in GDP behaviour (expansion and contraction cycles), the EBA recommendations for extreme adverse scenarios, the stylised facts of economic cycles with respect to expenditure, prices, unemployment, etc., and estimates.

Currently, three scenarios are considered for the calculation of impairment on a collective basis: baseline, downside (or adverse) and more favourable.

The baseline scenario (with a relative weight of 65%) assumes strong GDP growth in 2022, supported by the favourable performances of private consumption and exports, and the removal of Covid-19 constraints. Private consumption is also seen to benefit from household income support, the use of savings accumulated during the pandemic, and a subdued unemployment rate. Exports benefit from the strong contribution of tourism services, with demand picking up after the confinement periods. For 2023, the baseline scenario assumes that the economy suffers a strong deceleration, especially with the falling contributions of private consumption and exports. These developments result from the effects of rising inflation (loss of purchasing power), tighter monetary and financial conditions, with rising interest rates, and unfavourable base effects. In the 2024-2025 period GDP growth is assumed to trend around 2%. After hitting peaks in 2022 and 2023, inflation gradually declines until 2025. This picture translates into rising long-term market interest rates, but with the Portuguese OT spread against the German benchmark remaining contained. Real estate prices reflect rising interest rates and cooling demand and decelerate sharply in 2023, then recover to moderate growth.

The alternative adverse macroeconomic scenario (with a relative weight of 20%) is a scenario of stagflation in the European and Portuguese economies. In Portugal, inflation is higher and more persistent than in the baseline scenario, mainly due to a negative energy shock and also a more visible transmission of the increase in energy and food prices to wages and the prices of other goods and services. Inflation reaches 8.7% in 2022 and 6.6% in 2023, remaining above the 2% target in 2024. Activity falls back significantly in 2023, and the contraction extends into 2024, not only due to the energy shock but also to a more aggressive rise in reference interest rates by the ECB, creating restrictive monetary and financial conditions. A high and persistent increase in interest rates is assumed (3-month Euribor rises to close to 4.3% in 2024 and trending around 3.6% in 2025, in annual average terms). In this context, private consumption and investment contract in 2023-24. In the adverse conditions associated with this scenario, the execution of RRP funds is postponed. In any case, their effect on investment becomes visible towards the end of the projection horizon. The recession and rising interest rates contribute to a sharp contraction in activity and property prices. With the Portuguese economy being perceived as especially vulnerable to interest rate increases, a more pronounced widening of the spread between Treasury bond and German benchmark yields is assumed.

The alternative favourable macroeconomic scenario (with a relative weight of 15%) assumes that the increase in inflation in 2022 is transitory. After reaching more than 5%, price growth converges towards 2% or less over the remaining projection horizon. The normalisation of inflation around the target allows for a rise in benchmark and short-term market interest rates, which should nevertheless remain contained, at up to 2.5%. In this context, economic activity is assumed to expand at an above-trend pace over the entire projection horizon. GDP growth benefits from the positive performance of investment (with the implementation of RRP funds) and exports. Strong external demand and favourable financing conditions support house price growth, albeit at single-digit records. The unemployment rate is seen receding to near 5% of the labour force.

5.1.2 Impairment loss definitions and estimation methods for other assets

Note 7 - Main Accounting Policies to the consolidated financial statements included in novobanco's 2022 annual report provides information on the valuation of assets other than those carried at amortised cost or fair value through other comprehensive income, namely: tangible and intangible assets, assets received through loan recoveries and non-current assets held for sale, investments in associated companies and contingent liabilities.

5.1.3 Provisions/impairments

In 2022, novobanco's balance sheet, and in particular the loan portfolio, maintained adequate levels of coverage by impairments. The revision of the macroeconomic scenarios supporting the calculation of impairment, which worsened the stage 2 risk parameters, as well as the level of risk in the sectors of economic activity most exposed to the energy crisis, contributed significantly to this.

The movement in impairment for the loan portfolio in 2022 was significantly lower than in 2021, reflecting the very controlled levels of new non-performing loans and also an improvement in the distribution by stage of the loan portfolio.

The table below shows the exposures and corresponding provisions/impairments carried by novobanco Group at 31 December 2022.

Table 35 – Provisions / impairments balances

million euros

	Gross book value		Impairment balances / Provisions	
	2021-12	2022-12	2021-12	2022-12
Customer loans and deposits from other banks	24 996	25 676	1 263	1 081
Securities	11 671	11 973	251	292
Non-current assets held for sale	17	65	8	9
Other assets (1)	3 393	2 055	411	259
Liabilities provisions	-	n.a.	485	435
Total	**40 077**	**39 769**	**2 418**	**2 076**

(1) Includes provisions for investments in associates, tangible assets, intangibles and other assets.

The following provision increases/charges and reversals resulting from the recognition of impairments were made in 2021 and 2022, with an impact on the Group's consolidated income statement:

Table 36 – Provisions / Impairments increases / charges

million euros

	Net reversal reinforcements	
	2021-12	2022-12
Customer loans and deposits from other banks	151	34
Securities	48	67
Non-current assets held for sale	9	-1
Other assets (1)	3	-26
Liabilities provisions	111	16
Total	**322**	**90**

(1) Includes provisions for investments in associates, tangible assets, intangibles and other assets.

The following table shows the breakdown of the loan portfolio and corresponding impairment by stage and macrosegment at 31 December 2021 and 2022.

Table 37 – Breakdown of customer loans portfolio and impairments by stage

million euros

	2022-12							
	Total credit	Stage 1	Stage 2	Stage 3	Total impairment	Stage 1	Stage 2	Stage 3
Customer loans	25 632	20 398	3 858	1 376	1 080	75	301	704
Corporate (*)	14 259	10 219	2 900	1 141	890	57	261	572
Mortgage and consumer loans(*)	11 373	10 179	958	236	190	19	39	132

(*) Segmentation according to the respective definition of FINREP regulatory reporting

million euros

	2021-12							
	Total credit	Stage 1	Stage 2	Stage 3	Total impairment	Stage 1	Stage 2	Stage 3
Customer loans	24 945	18 749	4 432	1 764	1 262	64	322	876
Corporate (*)	13 726	8 912	3 413	1 402	1 027	48	287	691
Mortgage and consumer loans(*)	11 218	9 837	1 019	362	235	15	35	185

(*) Segmentation according to the respective definition of FINREP regulatory reporting

5.2 Concentration Risk

5.2.1 General overview

In the context of novobanco Group' global risk management, concentration risk is understood as the risk that arises from the possibility of an exposure or group of exposures producing sufficiently large losses to undermine an institution's solvency. In particular, there is credit concentration risk when different counterparties share common or interrelated risk factors the deterioration of which may cause a simultaneous adverse effect on the credit quality of each of those counterparties.

At novobanco Group, the control of credit concentration risk is organised into three macro categories, according to the source of risk:

- Counterparty concentration: possibility of significant losses arising from risk assumed before a counterparty or group of related counterparties;
- Concentration by class of risk: possibility of significant losses arising from an exposure or series of exposures assumed before high-risk classes;
- Sectoral concentration: possibility of significant losses arising from an exposure or series of exposures assumed before a given sector of economic activity.

5.2.2. Description of concentration risk assessment process

The novobanco Group has implemented a set of processes aimed at capturing the specific characteristics of the various streams of concentration risk referred to above, as well as processes to assess and monitor each type of concentration risk.

These processes, which are described below, differ not only in the type of concentration risk that they aim to control, but also in the frequency of analysis, the scope of the Group entities covered, the type of exposures and the established limits, among others. The novobanco Group thus implements specific control mechanisms that are proportional and appropriate to the risks they are intended to monitor.

The following table maps the various control processes implemented and their correspondence with the concentration risk macro categories.

Table 38 – Type of concentration

Type of concentration	Process
Counterparty	Large Risks
	Major exposures
	Market activity
Risk Class	Portfolio limits
By sector	Sectoral distribution of credit

- **Counterparty Concentration: Large Risks**

Within the scope of control of counterparty concentration risk, the Large Risks process aims to assess, among others, compliance with the requirements defined in the CRR - and other subsequent amending documentation published by the regulators - relating to prudential concentration limits by economic group. These limits correspond to a percentage of the Bank's Tier 1 capital.

As the process in question is essentially regulatory and prudential in nature, all exposures assumed with counterparties are assessed, both in terms of assets and off-balance sheet items, considering not only their consolidated position in the Group, but also in any reporting entities included in it. This process also involves making quarterly reports to the Regulatory Entities (for compliance with the aforementioned Regulation) and monthly reports for novobanco Group internal monitoring purposes.

- **Counterparty Concentration: Major Exposures**

The objective underlying the Major Exposures process is to determine and assess novobanco Group's exposure to a small group of counterparties, more specifically its 20 largest exposures. The process permits to determine on a monthly basis the degree of risk concentration to which the Group is exposed, considering all the exposures taken on (assets and off-balance sheet items).

- **Counterparty Concentration: Market Activity**

The process of monitoring, controlling and reporting counterparty and issuer risk in the trading room aims to control the exposures assumed with third parties, either financial institutions or companies. This risk is controlled on a daily real time basis, covering all the financial instruments traded in the trading room and taking as a reference the approved limits. The results of the monitoring of counterparty and issuer risk limits are reported internally on a daily basis, and monthly in the Risk Committee.

- **Risk Class Concentration: Portfolio Limits**

Within the scope of concentration control by risk class, the Portfolio Limits process aims to define maximum limits for concentration in the worst risk classes (based on scoring or rating, depending on the type of portfolio). These limits are defined and monitored for loans to individuals and corporate loans.

Credit limits for Individual and Corporate portfolios are set annually in accordance with novobanco Group's risk appetite.

For Individual portfolios, the limits are set for the following products: Mortgage Loans, Personal Loans and Credit Cards. In this portfolio, limits are monitored based on the concept of originated loans, for which the definition of limits takes into consideration the Bank of Portugal's Recommendations on consumer loans.

Corporate portfolios include all credit products available for companies. Their concentration limits, based on the amount of exposure net of collateral, are monitored by the commercial departments, covering the main commercial areas of novobanco. The GRD monitors compliance with the Portfolio Limits established for Individuals and Companies, monthly reporting on production (in the case of Individuals) and the risk profile of each commercial segment (in the case of Companies) to the Commercial Departments. It is the responsibility of the commercial areas, as first lines of defence, to comply with these limits.

The result of the monitoring of the Individuals and/or Corporate portfolio limits is regularly reported in the Risk Committee.

- **Sectoral Concentration: Sectoral Distribution of Credit**

The sectoral distribution of credit process monitors the level of exposure to the various activity sectors, as defined in the Economic Activity Code (CAE) in force. The process involves the monthly monitoring of the entire customer loans portfolio of novobanco Group.

5.2.3. Concentration risk in the internal capital adequacy assessment process (ICAAP)

In addition to the various internal processes described above, reference should also be made to the ICAAP (see section **3.6 Internal capital adequacy assessment**), which also analyses and assesses credit concentration risk.

In the context of ICAAP, concentration risk is assessed at single-name level. This risk is quantified on a quarterly basis, in line with the methodology suggested by the Bank of Portugal.

5.3. Quantitative information on credit risk

This section contains various information charts on novobanco Group's positions subject to credit risk. The charts provide detailed information on performing and non-performing exposures, impairment and provisions, guarantees and collateral received. The metrics are broken down by type, activity sector, geography and nature of the counterparty.

The following table shows details of performing/ non-performing exposures, including accumulated impairment and provisions, collateral and financial guarantees received, broken down by stage and nature of the counterparty, with reference to 31 December 2022

Table 39 – Template EU CR1: Performing and non-performing exposures and related provisions.

million euros

	2022-12														
	Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions							Collateral and financial guarantees received	
	Performing exposures			Non-performing exposures			Performing exposures – accumulated impairment and provisions			Non-performing exposures – accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions			Accumulated partial write-off	On performing exposures	On non-performing exposures
		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3			
Cash balances at central banks and other demand deposits	6 374	6 374	-	-	-	-	-	-	-	-	-	-		-	-
Loans and advances	24 285	20 426	3 859	1 391	-	1 391	- 364	- 63	- 301	- 716	-	- 716	- 475	14 242	476
Central banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General governments	369	347	22	-	-	-	- 1	-	- 1	-	-	-	-	33	-
Credit institutions	44	44	1	-	-	-	- 1	- 1	-	-	-	-	-	-	-
Other financial corporations	591	455	136	89	-	89	- 23	- 4	- 19	- 42	-	- 42	- 188	165	38
Non-financial corporations	12 144	9 431	2 713	1 067	-	1 067	- 280	- 39	- 241	- 543	-	- 543	- 229	3 909	353
Of which SMEs	7 334	5 837	1 497	737	-	737	- 124	- 29	- 95	- 390	-	- 390	- 149	2 880	246
Households	11 137	10 149	988	236	-	236	- 58	- 19	- 40	- 132	-	- 132	- 58	10 135	86
Debt securities	10 295	10 254	41	438	2	435	- 9	- 6	- 3	- 283	-	- 283	-	-	-
Central banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General governments	6 375	6 375	-	-	-	-	- 2	- 2	-	-	-	-	-	-	-
Credit institutions	962	962	-	-	-	-	-	-	-	-	-	-	-	-	-
Other financial corporations	434	434	-	25	-	25	-	-	-	-	-	-	-	-	-
Non-financial corporations	2 524	2 483	41	413	2	410	- 7	- 3	- 3	- 283	-	- 283	-	-	-
Off-balance-sheet exposures	8 016	6 990	1 026	472	-	472	14	6	7	76	-	76		206	20
Central banks	-	-	-	-	-	-	-	-	-	-	-	-		-	-
General governments	170	169	1	-	-	-	-	-	-	-	-	-		4	-
Credit institutions	251	171	80	-	-	-	1	-	1	-	-	-		25	-
Other financial corporations	82	80	3	8	-	8	-	-	-	-	-	-		10	6
Non-financial corporations	6 280	5 357	923	463	-	463	9	2	6	76	-	76		156	13
Households	1 231	1 213	19	2	-	2	4	4	-	-	-	-		11	-
Total	48 970	44 044	4 926	2 301	2	2 299	- 360	- 63	- 297	- 923	-	- 923	- 475	14 448	496

The following table provides a maturity breakdown of debt instruments held by the institution other than securities (loans) and advances, excluding loans and advances classified as held for sale, cash balances at central banks and other demand deposits, as well as debt instruments held by the institution and issued as non-loan securities (debt securities), as at 31 December 2022.

Table 40 – Template EU CR1-A: Maturity of exposures

million euros

	2022-12					
	Net exposure value					
	On demand	<= 1 year	> 1 year <= 5 years	> 5 years	No stated maturity	Total
Loans and advances	807	4 092	9 640	8 712	1	18 353
Debt securities	376	131	-	-	9 867	9 867
Total	**-**	**-**	**9 640**	**8 712**	**9 868**	**28 220**

The following two tables show the change during 2022 in non-performing loans and advances and accumulated net recoveries.

Table 41 – Template EU CR2: Changes in the stock of non-performing loans and advances

million euros

	2022-12
	Gross carrying amount
Initial stock of non-performing loans and advances	**1 764**
Inflows to non-performing portfolios	313
Outflows from non-performing portfolios	-686
Outflows due to write-offs	-200
Outflow due to other situations	-485
Final stock of non-performing loans and advances	**1 391**

Table 42 – Template EU CR2a: Changes in the stock of non-performing loans and advances and related net accumulated recoveries

million euros

	2022-12	
	Gross carrying amount	Related net accumulated recoveries
Initial stock of non-performing loans and advances	**1 764**	
Inflows to non-performing portfolios	313	
Outflows from non-performing portfolios	-686	
Outflow to performing portfolio	-160	
Outflow due to loan repayment, partial or total	-210	
Outflow due to collateral liquidations	0	-
Outflow due to taking possession of collateral	-13	-
Outflow due to sale of instruments	-56	-
Outflow due to risk transfers	0	-
Outflows due to write-offs	-200	
Outflow due to other situations	-45	
Outflow due to reclassification as held for sale	0	
Final stock of non-performing loans and advances	**1 391**	

The movement in provisions for the different categories of assets was the following in 2021 and 2022:

Table 43 – Movement in Impairments / Provisions (1) at 31 December 2021 and 2022

million euros

	2022-12				
	Customer loans and money market exposures	Securities	Non-current assets held for sale	Other assets (1)	TOTAL
	Total				
Balance at the beginning of the exercise	**1 263**	**251**	**8**	**411**	**1 933**
Charges /Reversals	33	68	-1	-27	74
Utilizations	-226	-28	-4	-115	-372
Other adjustments	10	2	5	-11	5
Balance at the end of the exercise	**1 080**	**292**	**9**	**259**	**1 640**

(1) Liabilities provisions not included

million euros

	2021-12				
	Customer loans and money market exposures	Securities	Non-current assets held for sale	Other assets (1)	TOTAL
	Total				
Balance at the beginning of the exercise	**1 865**	**205**	**186**	**476**	**2 731**
Charges /Reversals	151	48	10	3	211
Utilizations	-780	-2	-165	-82	-1 030
Other adjustments	28	0	-22	15	21
Balance at the end of the exercise	**1 263**	**251**	**8**	**411**	**1 933**

(1) Liabilities provisions not included

The following tables show the breakdown of gross exposure and impairment by type of loan and geography, and by individual or collective assessment, in 2021 and 2022.

Table 44 – Gross exposure to and impairment of Customer Loans – Individual and Collective Assessment by type of loan at 31 December 2022

million euros

	2022-12					
	Individual Assessment (1)		Collective Assessment (2)		Total	
	Exposure	Impairment	Exposure	Impairment	Exposure	Impairment
Corporate	1 094	556	13 166	334	14 259	890
Mortgage loans	4	0	9 974	54	9 978	55
Consumer and other loans	80	74	1 315	61	1 395	135
Total	**1 178**	**631**	**24 455**	**449**	**25 632**	**1 080**

(1) Loans and advances for which the final impairment was determined and approved by the Impairment Committee

(2) Loans and advances for which the final impairment was determined according to the calculation rules of the collective impairment model

Table 45 – Gross exposure to and impairment of Customer Loans – Individual and Collective Assessment by type of loan at 31 December 2021

million euros

	2021-12					
	Individual Assessment (1)		Collective Assessment (2)		Total	
	Exposure	Impairment	Exposure	Impairment	Exposure	Impairment
Corporate	1 345	657	12 382	370	13 726	1 027
Mortgage loans	3	0	9 809	56	9 812	56
Consumer and other loans	148	132	1 258	47	1 406	179
Total	**1 496**	**789**	**23 449**	**472**	**24 945**	**1 262**

(1) Loans and advances for which the final impairment was determined and approved by the Impairment Committee

(2) Loans and advances for which the final impairment was determined according to the calculation rules of the collective impairment model

The next two tables show a breakdown of the amounts of exposure and impairment of customer loans, broken down by country, and by type of analysis (individual or collective).

Table 46 – Gross exposure to and impairment of Customer Loans – Individual and Collective Assessment by geography at 31 December 2022

million euros

	2022-12					
	Individual Assessment (1)		Collective Assessment (2)		Total	
	Exposure	Impairment	Exposure	Impairment	Exposure	Impairment
Portugal	1 090	577	21 060	396	22 150	973
France	-	-	367	4	367	4
United Kingdom	-	-	390	14	390	14
Spain	0	0	946	12	946	12
Switzerland	-	-	247	2	247	2
Luxembourg	-	-	283	2	283	2
Other	88	54	1 163	18	1 251	71
Total	**1 178**	**631**	**24 455**	**449**	**25 632**	**1 080**

(1) Loans and advances which the final impairment was determined and approved by the Impairment Committee

(2) Loans and advances for which the final impairment was determined according to the calculation rules of the collective impairment model

Table 47 – Gross exposure to and impairment of Customer Loans – Individual and Collective Assessment by geography at 31 December 2021

million euros

	2021-12					
	Individual Assessment (1)		Collective Assessment (2)		Total	
	Exposure	Impairment	Exposure	Impairment	Exposure	Impairment
Portugal	1 316	698	20 967	426	22 283	1 124
Luxembourg	-	-	269	3	269	3
United Kingdom	-	-	309	12	309	12
Spain	59	8	566	13	625	22
Cayman islands	-	-	240	2	240	2
Irland	-	-	265	3	265	3
Other	121	84	832	14	954	97
Total	**1 496**	**789**	**23 449**	**472**	**24 945**	**1 262**

(1) Loans and advances which the final impairment was determined and approved by the Impairment Committee

(2) Loans and advances for which the final impairment was determined according to the calculation rules of the collective impairment model

The tables below show the detail of novobanco Group's forborne exposures in December 2022

Table 48 – Template EU CQ1: Credit quality of forborne exposures

million euros

	2022-12							
	Gross carrying amount/nominal amount of exposures with forbearance measures				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		Collateral received and financial guarantees received on forborne exposures	
	Performing forborne	Non-performing forborne			On performing forborne exposures	On non-performing forborne exposures		Of which collateral and financial guarantees received on non-performing exposures with forbearance measures
			Of which defaulted	Of which impaired				
Cash balances at central banks and other demand deposits	-	-	-	-	-	-	-	-
Loans and advances	702	759	759	759	-77	-401	702	274
Central banks	-	-	-	-	-	-	-	-
General governments	-	-	-	-	-	-	-	-
Credit institutions	-	-	-	-	-	-	-	-
Other financial corporations	-	82	82	82	-	-39	36	36
Non-financial corporations	532	580	580	580	-74	-290	485	216
Households	170	97	97	97	-3	-72	182	23
Debt Securities	-	-	-	-	-	-	-	-
Loan commitments given	1	1	1	1	-	-	-	-
Total	**703**	**761**	**761**	**761**	**-77**	**-401**	**702**	**274**

Table 49 – Template EU CQ2: Quality of forbearance

million euros

	2021-12
	Gross carrying amount of forborne exposures
Loans and advances that have been forborne more than twice	-
Non-performing forborne loans and advances that failed to meet the non-performing exit criteria	759

The following table shows the breakdown of exposures at the end of 2022, according to the number of days in default.

Table 50 – Template EU CQ3: Credit quality of performing and non-performing exposures by past due days

million euros

	2022-12											
	Gross carrying amount/nominal amount											
	Performing exposures			Non-performing exposures								
		Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days		Unlikely to pay that are not past due or are past due ≤ 90 days	Past due > 90 days ≤ 180 days	Past due > 180 days ≤ 1 year	Past due > 1 year ≤ 2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	Of which defaulted
Cash balances at central banks and other demand deposits	6 374	6 374	0	0	0	0	0	0	0	0	0	0
Loans and advances	24 285	24 208	77	1 391	834	39	133	168	104	30	84	1 391
Central banks	0	0	0	0	0	0	0	0	0	0	0	0
General governments	369	369	0	0	0	0	0	0	0	0	0	0
Credit institutions	44	44	0	0	0	0	0	0	0	0	0	0
Other financial corporations	591	567	24	89	43	0	0	35	0	4	6	89
Non-financial corporations	12 144	12 135	9	1 067	682	25	75	109	87	23	67	1 067
Of which SMEs	7 334	7 326	8	737	434	24	56	96	39	21	66	737
Households	11 137	11 094	44	236	110	14	58	24	17	2	11	236
Debt securities	10 295	10 295	0	438	335	0	0	0	0	16	87	438
Central banks	0	0	0	0	0	0	0	0	0	0	0	0
General governments	6 375	6 375	0	0	0	0	0	0	0	0	0	0
Credit institutions	962	962	0	0	0	0	0	0	0	0	0	0
Other financial corporations	434	434	0	25	5	0	0	0	0	16	5	25
Non-financial corporations	2 524	2 524	0	413	330	0	0	0	0	0	82	413
Off-balance-sheet exposures	8 016			472								472
Central banks	0			0								0
General governments	170			0								0
Credit institutions	251			0								0
Other financial corporations	82			8								8
Non-financial corporations	6 280			463								463
Households	1 231			2								2
Total	48 970	40 877	77	2 301	1 169	39	133	168	104	45	171	2 301

The table below shows the breakdown of on-balance sheet exposures in Portugal and other countries in December 2022.

Table 51 – Template EU CQ4: Quality of non-performing exposures by geography

million euros

	2022-12						
	Gross carrying/Nominal amount				Accumulated impairment	Provisions on off-balance sheet commitments and financial guarantees given	Accumulated negative changes in fair value due to credit risk on non-performing exposures
		of which: non-performing		of which: subject to impairment			
			of which: defaulted				
On balance sheet exposures	**36 410**	**1 829**	**1 829**	**36 396**	**- 1 373**		**-**
Portugal	24 713	1 725	1 725	24 700	- 1 262		-
Other countries	11 696	105	105	11 696	- 111		-
Off balance sheet exposures	**8 488**	**472**	**472**			**90**	
Portugal	8 055	470	470			88	
Other countries	432	2	2			2	
Total	**44 897**	**2 301**	**2 301**	**36 396**	**- 1 373**	**90**	**-**

The table below shows the detail of non-performing exposures broken down by industry sector, at 31 December 2022.

Table 52 – Template EU CQ5: Credit quality of loans and advances to non-financial corporations, by industry

million euros

	2022-12					
	Gross carrying amount				Accumulated impairment	Accumulated negative changes in fair value due to credit risk on non-performing exposures
		Of which non-performing		Of which loans and advances subject to impairment		
			Of which defaulted			
Agriculture, forestry and fishing	335	8	8	335	- 9	-
Mining and quarrying	65	6	6	65	- 7	-
Manufacturing	2 784	134	134	2 784	- 120	-
Electricity, gas, steam and air conditioning supply	248	9	9	248	- 5	-
Water supply	118	-	-	118	- 1	-
Construction	1 380	137	137	1 380	- 103	-
Wholesale and retail trade	1 582	96	96	1 582	- 66	-
Transport and storage	815	57	57	815	- 39	-
Accommodation and food service activities	1 118	174	174	1 118	- 117	-
Information and communication	160	6	6	160	- 7	-
Financial and insurance actvities	504	31	31	504	- 54	-
Real estate activities	1 519	184	184	1 519	- 124	-
Professional, scientific and technical activities	1 242	78	78	1 242	- 59	-
Administrative and support service activities	348	8	8	348	- 15	-
Public administration and defense, compulsory social security	2	-	-	2	-	-
Education	49	5	5	49	- 3	-
Human health services and social work activities	303	38	38	303	- 22	-
Arts, entertainment and recreation	173	78	78	173	- 49	-
Other services	463	18	18	463	- 23	-
Total	**13 211**	**1 067**	**1 067**	**13 211**	**- 823**	**-**

The table below shows the detail of the amount secured by property or other collaterals broken down by type of exposure (performing / non-performing).

Table 53 – Template EU CQ6: Collateral valuation - loans and advances

million euros

	2022-12											
	Loans and advances											
		Performing		Non-performing								
					Unlikely to pay that are not past due or are past due ≤ 90 days	Past due > 90 days						
			Of which past due > 30 days ≤ 90 days				Of which past due > 90 days ≤ 180 days	Of which: past due > 180 days ≤ 1 year	Of which: past due > 1 years ≤ 2 years	Of which: past due > 2 years ≤ 5 years	Of which: past due > 5 years ≤ 7 years	Of which: past due > 7 years
Gross carrying amount	25677	24285	77	1391	834	557	39	133	168	104	30	84
Of which secured	16841	15866	66	974	571	403	22	96	123	87	10	66
Of which secured with immovable property	13623	12963	41	659	319	340	19	56	117	77	6	65
Of which instruments with LTV higher than 60% and lower or equal to 80%	2494	2452		42	21	21						
Of which instruments with LTV higher than 80% and lower or equal to 100%	735	554		181	77	104						
Of which instruments with LTV higher than 100%	801	535		266	144	122						
Accumulated impairment for secured assets	-689	-238	-5	-450	-224	-226	-11	-60	-77	-41	-6	-31
Collateral												
Of which value capped at the value of exposure	14658	14195	50	462	299	164	9	34	45	46	3	27
Of which immovable property	12896	12559	38	337	185	151	9	33	44	38	2	26
Of which value above the cap	27884	26639	54	1246	716	530	24	79	83	166	120	57
Of which immovable property	19763	19205	53	559	270	289	21	63	63	87	7	48
Financial guarantees received	60	46	0	14	11	2	1	1	0	0	0	0
Accumulated partial write-off	-475	0	0	-475	-7	-468	0	-57	-1	-24	-312	-75

The following tables show the detail of collateral received by taking possession and execution processes, at 31 December 2022.

Table 54 – Template EU CQ7: Collateral obtained by taking possession and execution processes

million euros

	2022-12	
	Collateral obtained by taking possession	
	Value at initial recognition	Accumulated negative changes
Property, plant and equipment (PP&E)	0	0
Other than PP&E	281	-133
Residential immovable property	73	-23
Commercial Immovable property	137	-84
Movable property (auto, shipping, etc.)	3	-2
Equity and debt instruments	41	-7
Other collateral	27	-16
Total	**281**	**-133**

Table 55 – Template EU CQ8: Collateral obtained by taking possession and execution processes – vintage breakdown

million euros

	2022-12											
	Debt balance reduction		Total collateral obtained by taking possession									
					Foreclosed ≤ 2 years		Foreclosed > 2 years ≤ 5 years		Foreclosed > 5 years		Of which non-current assets held-for-sale	
	Gross carrying amount	Accumulated negative changes	Value at initial recognition	Accumulated negative changes	Value at initial recognition	Accumulated negative changes	Value at initial recognition	Accumulated negative changes	Value at initial recognition	Accumulated negative changes	Value at initial recognition	Accumulated negative changes
Collateral obtained by taking possession classified as PP&E	0	0	0	0								
Collateral obtained by taking possession other than that classified as PP&E	280	0	281	-133	11	-1	53	-29	217	-102	0	0
Residential immovable property	73	0	73	-23	4	0	15	-4	54	-19	0	0
Commercial immovable property	137	0	137	-84	7	-1	9	-2	121	-82	0	0
Movable property (auto, shipping, etc.)	3	0	3	-2	1	0	0	0	2	-2	0	0
Equity and debt instruments	41	0	41	-7	0	0	2	-7	39	0	0	0
Other collateral	27	0	27	-16	0	0	27	-16	0	0	0	0
Total	280	0	281	-133	11	-1	53	-29	217	-102	0	0

5.4. Calculation of credit risk weighted assets

5.4.1 General overview

Novobanco is authorised by the Bank of Portugal to apply the Internal Ratings-Based Approach (IRB) to calculate the minimum own funds requirements for the coverage of credit risk.

Specifically, the IRB approach for the calculation of credit risk-weighted assets can be applied to the exposure classes of institutions, corporate and retail of novobanco in Portugal. The risk classes equities, securitisations and assets other than credit obligations are always treated under the IRB approach regardless of the novobanco Group entities in which the respective exposures are booked. Positions taken in the form of participation units in investment funds held by any entity of novobanco Group are in general also subject to the IRB approach.

The rules on the use of the standardised or IRB approaches and on the monitoring of coverage levels of relevant exposures and credit risk-weighted assets by the IRB approach or the level of portfolios that have authorisation to use the standardised approach on a permanent basis, are defined in the Bank's internal documentation on the governance of the IRB approach.

5.4.2. Standardised approach

In the standardised approach, credit risk exposures are previously classified within regulatory risk classes according to their characteristics (e.g., type of counterparty, type of product). After making all the adjustments specified in the CRR to the value of these exposures, such as provisions, risk mitigation tools, or CCFs, they are given the proper regulatory risk weights. The risk weights applicable to credit exposures depend on the external ratings at any given time attributed to them. Once the value of the exposures to be weighted and the respective weights have been determined, the credit risk-weighted assets that permit to calculate novobanco Group's solvency are finally estimated.

novobanco Group uses the external ratings assigned by Standard & Poor's and Moody's rating agencies to determine the risk weights applicable to exposures to central governments and central banks, institutions and corporates, in accordance with the rules set out Chapter 2, Title II of the CRR.

The external ratings assigned by external rating agencies to risk exposures are initially allocated through an automated process specifically developed for the purpose (Data Feeds application). This process is monitored by experts from the RtD and the relations established are subject to validation and stored in a dedicated database.

For risk weighting purposes, exposures to debt securities are allocated the ratings specifically assigned to the respective issues. If no specific rating exists for the issues, the ratings assigned to the respective issuers, when such exist, are used. Credit exposures other than represented by debt securities are only assigned the issuers' ratings, when such exist.

Where two external ratings have been assigned by the credit rating agencies mentioned above to the same exposure, the external rating corresponding to the worst applicable risk weight is used.

5.4.3. Internal ratings-based approach

In the IRB approach, the stages leading to the estimation of risk-weighted assets are the same as described for the standardised approach. However, the risk weights applicable to credit exposures result from the PDs associated with the internal risk ratings assigned to the counterparties or directly to the exposures, by the rating and scoring models authorised by the Bank of Portugal. Loss Given Default is another relevant parameter to determine the risk weight, regulatory in the case of non-retail portfolios, or determined internally in the case of retail portfolios. Another feature of this approach is that for off-balance sheet exposures in retail portfolios, the CCFs are estimated internally.

As referred further up, the use of the IRB approach for the calculation of credit risk-weighted assets is authorised for the risk classes of institutions, corporate and retail of novobanco in Portugal. Assets in the classes of equities, securitisation exposures, positions taken in the form of participation units in investment funds (except when the funds were authorised by the NCA to remain subject to the standardised approach) and assets other than credit obligations are always treated under the IRB approach across the entire novobanco Group.

The internal models authorised for each of the risk classes referred to above are detailed in the following points.

- **Internal rating models for corporate and institutionals portfolios and equities**

Regarding the rating models for corporate portfolios, different approaches are adopted depending on the Client's size and industry sector. Specific models adapted for project finance, acquisition finance, object finance, commodity finance and real estate development finance are also used.

Below is a summary table on the types of risk models adopted for the internal assignment of credit ratings:

Table 56 – Types of risk models

	Segmentation Criteria	Model type	Description
Expert Judgement	Sector, Size, Product • Large Enterprises [Turnover> €50m] • Financial Institutions • Municipalities • Institutionals • Local and Regional Adm. • Real Estate (Investment / Development) • Acquisition Finance • Project Finance • Object Finance • Commodity Finance	Template	Ratings assigned by analyst teams, using sector-specific templates and financial and qualitative information.
	Medium-sized Enterprises [Turnover between €1.25m - €50m]	Semi-automatic	Rating template based on financial, qualitative and behavioural information, validated by analysts.
	Small companies [Turnover up to 1,25 M€]	Automatic	Rating template based on financial, qualitative and behavioural information.
Statistical	Start-Up's and Individual Entrepreneurs		Rating template based on qualitative and behavioural information.

The loan portfolios of large enterprises (turnover above 50 million euros), Financial Institutions, Institutionals, Local and Regional Administrations, and Specialised Finance (namely Project Finance, Object Finance, Commodity Finance and Acquisition Finance) are rated by NB Group's Rating Desk. This structure is made up of 7 multisectoral teams comprising a team leader and several specialised technical analysts. This team's assignment of internal ratings to these risk segments, classified as low default portfolios, is based on expert-based rating templates that use qualitative and quantitative variables strongly correlated with the sector or sectors of activity in which the clients under analysis operate. The methodology used by the Rating Desk also involves a risk analysis of the maximum consolidation perimeter of each company and the identification of its position in the economic group to which it belongs, save when the rating is assigned to specialised loans. Internal ratings are validated daily in a Rating Committee composed of senior elements from the RtD and the various specialised teams.

For the medium-sized companies' segment (companies with turnover comprised between a maximum of 1.25 million euros and a minimum of 50 million euros, excluding companies in specific risk sectors, such as real estate development), statistical rating models are used, which combine financial data with qualitative and behavioural information. Prior to publication, ratings are validated by a technical team of risk analysts, who also consider behavioural variables. In addition to the assignment of ratings, these teams also monitor and issue risk analysis reports on the loan portfolios of novobanco Group's clients, as provided for in internal regulations, in accordance with the customer current liabilities / rating binomial. Such reports may include specific recommendations on the credit relationship with clients, as well as technical opinions on investment support, forbearance, or other operations subject to credit risk.

Statistical scoring models are also used for the small businesses segment (companies with turnover below 1.25 million euros). In addition to financial and qualitative information, these models also use behavioural variables relating to the companies and their owners in the calculation of credit ratings.

Specific scoring models are also used to quantify the risk of start-ups (companies established for less than 2 years and with turnover below 25 million euros in their first year of activity) and individual entrepreneurs (ENI). These customers together with the small companies, depending on the exposure value, are included in the regulatory retail portfolios.

For companies in the Real Estate sector (property developers and investors in property, in particular small and medium-sized firms), given their specific characteristics, ratings are assigned centrally by a specialised team, using specific models that combine quantitative and technical variables (property valuations conducted by specialised units) with qualitative and behavioural variables.

Equity-like exposures held by the novobanco Group, directly or indirectly through investment funds, as well as shareholder loans and supplementary capital contributions (all included in the equities risk class for credit risk weighted assets calculation purposes) are classified in the various risk segments according to the characteristics of their issuers or borrowers, according to the segmentation criteria presented above. These segmentation criteria determine the type of rating model to be applied to the issuers of the shares (or borrowers of shareholder loans / supplementary capital contributions) and, therefore, to the exposures.

- **Relationship between internal and external ratings**

A markets template, included in the Rating Calculation application, is used to assign internal ratings to entities with an external rating. The Markets Template gathers the external ratings assigned to a specific entity by Standard & Poor’s (S&P), Moody’s and Fitch rating agencies.

More specifically, S&P’s data feed management solution, XpressFeed, delivers data to the external ratings application on a daily basis, feeding this agency's external ratings into the markets template. Moody’s and Fitch's external ratings are not obtained automatically, but have to be extracted from these agencies’ websites (www.moodys.com and www.fitchratings.com) and fed manually to the template.

Internal ratings are typically derived from the equivalent external rating assigned by S&P. In exceptional cases that must be justified by the analyst, the S&P rating is adjusted internally.

It should be noted that the S&P equivalent external rating is obtained by matching the available external ratings with the rating scale of the said rating agencies. The internal ratings produced by the markets template and subject to adjustments must be mandatorily approved and validated by the Rating Committee.

The table below shows the correspondence between the external ratings from S&P, Moody's and Fitch and the S&P equivalent external rating:

S&P	Moody's	Fitch	S&P equivalent external rating:
AAA	Aaa	AAA	AAA
AA+	Aa1	AA+	AA+
AA	Aa2	AA	AA
AA-	Aa3	AA-	AA-
A+	A1	A+	A+
A	A2	A	A
A-	A3	A-	A-
BBB+	Baa1	BBB+	BBB+
BBB	Baa2	BBB	BBB
BBB-	Baa3	BBB-	BBB-
BB+	Ba1	BB+	BB+
BB	Ba2	BB	BB
BB-	Ba3	BB-	BB-
B+	B1	B+	B+
B	B2	B	B
B-	B3	B-	B-
CCC+	Caa1	CCC+	CCC+
CCC	Caa2	CCC	CCC
CCC-	Caa3	CCC-	Lower than CCC
CC	Ca	CC	
SD	C	C	
D		RD/D	

- **Internal scoring models for individual portfolios**

novobanco Group is authorised by the Bank of Portugal to use internal models in the calculation of regulatory capital requirements for the main portfolios of individuals: mortgage loans and personal loans. The table below shows the breakdown of the models applied to these portfolios.

Portfolios	Model	
	Origination Scoring	**Behavioural Scoring**
Mortgage loans	Model for Clients and New Clients (less than 6 months)	Model applied to operations older than 6 months
Individual Loans	Model for Clients and New Clients (less than 6 months)	Model applied to operations older than 6 months

In addition, the Group uses origination and behavioural scorings to outline and monitor the credit quality of credit card, overdraft and loan account products. However, these are not IRB portfolios.

- **LGD (loss given default) models**

This parameter is developed based on a template built with historical information on losses, i.e., events of default, for which all the recoveries and costs are analysed and discounted at the time default takes place. LGDs are obtained for specific and differentiated classes of operations according to drivers with statistical and business relevance, such as the operations' Loan to Value, collaterals and maturity.

In the event that a client fails to meet its financial obligations or exhibits signs of potential default, without recourse to extraordinary measures such as the execution of collateral, the Bank will not necessarily lose the entire debt, even if the credit risk is not mitigated through collateral. LGD measures the total economic loss of the institution when a loan goes into default. LGD is calculated based on all cash-flows after the date of default, including cash-inflows from full or partial payments by the client or from execution of collateral, as well as recovery and administrative costs. Finally, the financial effect is applied to all the components of the calculation, through discounting from the date when the inflows occur to the date of default.

novobanco Group uses internally calculated LGD parameters in the process of calculation of credit risk weighted assets, using the IRB approach, as approved by the Supervisor, for retail products: mortgage and personal loans, and small businesses, startups and individual entrepreneurs included in the retail portfolios. In the IRB approach, the Downturn LGD is used for performing operations, i.e., the estimated loss resulting from an economic downturn. For operations in default, the loss is estimated based on LGD-in default and the expected loss best estimate (ELBE), which take into account the recovery curve over the time that has elapsed since the default occurred. For internal risk management and calculation of impairment purposes, novobanco Group also calculates LGD parameters, based on internal data, for the other retail products (such as credit cards) and for corporate portfolios (medium and large companies and real estate developers).

- **EAD and CCF models**

EAD (exposure at default) represents the amount of exposure at the time of default. While exposure typically refers to the balance due at any given moment, credit products like cards and credit facilities that include unused limits create additional uncertainty around the total exposure to the client in the event of a future default. This uncertainty arises from the possibility of the customer increasing the exposure under the line before defaulting. In credit products with unused limits, EAD is calculated as the sum of the current exposure and a percentage of the unused portion of the credit line, known as the Credit Conversion Factor (CCF). This represents the percentage of the unused balance that is expected to have been drawn down at the time of default and is recorded off the Bank's balance sheet.

This parameter is estimated based on the analysis of data on the use of limits in credit products over a time horizon of one year, for events that are not in default at the time of observation.

- **Summary of models used internally to calculate risk-weighted assets (IRB approach)**

The following tables summarise the Bank's internal models approved by the NCA for the calculation credit risk-weighted assets under the IRB Approach, indicating, among other specific aspects, the exposure classes in which they are predominantly used.

Table 57 – Models used internally to calculate risk-weighted assets and IRB risk classes

<table>
<tr><th>Parameters</th><th>Portfolios</th><th>Models</th><th>IRB risk classes</th></tr>
<tr><td rowspan="14">PD</td><td rowspan="10">Corporate</td><td>Core Corporate</td><td rowspan="7">Corporate / Institutions</td></tr>
<tr><td>Acquisition Finance</td></tr>
<tr><td>Project Finance</td></tr>
<tr><td>Municipalities</td></tr>
<tr><td>Financial Institutions</td></tr>
<tr><td>Real Estate</td></tr>
<tr><td>Medium-sized Enterprises</td></tr>
<tr><td>Small companies</td><td rowspan="3">Retail – SME</td></tr>
<tr><td>Startups</td></tr>
<tr><td>Individual Entrepreneurs</td></tr>
<tr><td rowspan="2">Personal loans</td><td>Origination</td><td rowspan="2">Retail - other retail exposures</td></tr>
<tr><td>Behavioural</td></tr>
<tr><td rowspan="2">Mortgage loans</td><td>Clients Origination</td><td rowspan="2">Retail – Exposures guaranteed by real estate</td></tr>
<tr><td>Behavioural</td></tr>
<tr><td>LGD
ELBE
LGDDA</td><td colspan="2">Mortgage loans</td><td>Retail – Exposures guaranteed by real estate</td></tr>
</table>

LGD	Personal loans	Retail - other retail exposures
	Retail – SME	Retail – SME
CCF	Retail – SME (only for applicable products, such as credit lines in Current Account)	Retail – SME

Table 58 – Description of internal IRB models and regulatory limits considered at the level of risk parameters obtained

Parameters	Portfolios	Models	Description of model and methodology	Regulatory limits
PD	Corporate	Core Corporate	Ratings assigned by analyst teams, using templates developed by Risk Solutions (Standard & Poors)	PD ≥ 0.03%
		Acquisition Finance		
		Project Finance		
		Municipalities		
		Financial Institutions		
		Real Estate	Ratings assigned by analyst teams, using templates developed by Risk Solutions (Standard & Poors), or an internally developed rating template that considers business and financial risk components and penalties for incidents.	
		Medium-sized Enterprises	Ratings validated by analysts based on an internally developed rating template that considers financial, qualitative and behavioural components. It also contains an incidents module where ratings are penalised according to the severity of the incident.	
		Small companies	Automatic scorings based on internally-developed templates that consider financial, qualitative and behavioural components and an incidents module.	
		Startups		
		Individual Entrepreneurs		
	Personal loans	Origination	Automatic scorings based on internally-developed templates that consider social, demographic and behavioural data, characteristics of the loan and automated penalties (in case of warning signs). Behavioural templates also consider information on the remaining loans..	
		Behavioural		PD ≥ 0.03%
	Crédito Habitação	Clients Origination		
		Behavioural		
LGD ELBE LGDDA	Mortgage loans		Template based on historical and internal information on recovery of defaulted loans.	LGD médio ≥ 10% (4)
LGD	Personal loans			-
	Retail - SME			LGD médio ≥ 15% (5)

[4] Positions secured by residential real estate that do not benefit from central government guarantees
[5] Positions secured by commercial real estate that do not benefit from central government guarantees

CCF	Retail - SME	Template based on historical and internal information on exposure at default date, for clients with available credit lines..	-

- **Definition of default used by NB Group**

The definition of default used to estimate internal parameters is based on Article 178 of the CRR, which stipulates that a client or contract is considered to be in default if at least one of the following applies:

- The institution considers that there is high probability that the debtor will not fully comply with its credit obligations, without recourse to exceptional measures, such as the enforcement of collateral; or
- The customer or the contract is materially overdue by more than 90 days on a credit obligation to the institution.

In accordance with the regulatory requirements in force, namely EBA/GL/20167/07 and EBA/RTS/2016/06, novobanco implemented in May 2020 a new definition of default (NDoD), aligned not only with these regulatory requirements but also with best market practices. In addition, novobanco has carried out an exhaustive work of reproducing 10 historical years (2009-2019) under the definition now adapted. This historical recovery under the new definition of default is the cornerstone of the ongoing works on the recalibration of the IRB models, which will be completed in the first quarter of 2023.

- **Process of management and recognition of credit risk mitigation**

This point is addressed in chapter **6. Credit Risk Mitigation Techniques.**

- **Internal risk parameters validation process**

The independent validation of internal credit risk models and their parameters is the responsibility of the Models Validation Office (MVO), whose mission and competences are described in point **2.3.4 Risk management organisation and functions**. The MVO operates independently from the teams responsible for designing and developing the models it validates, and reports directly to the Chief Risk Officer (CRO). The mission of the MVO is to issue opinions on the quality and performance of the internal rating systems used in the bank. This includes recommending corrective measures and opportunities for improvement that may contribute value to the decision-making process on novobanco Group’s risk models, as well as monitoring their implementation. The MVO operates in the framework of NB Group’s Model Risk Policy and in accordance with the applicable guidelines and legislation, and is responsible for representing the Bank before the Supervisory Entities in matters related to the models and rating systems validation function.

Model validation works follows the general validation principles defined in the ECB Guide to Internal Models and are defined in specific internal documentation (validation framework). There are two types of validation: a) **initial validation or validation of relevant changes**, which applies to the approval of new models or relevant changes to existing models, including recalibration. Initial validation applies to, among others: the completeness and quality of data and processing algorithms used in the development; the analysis of the representativeness and the relevance of risk factors and the ability to differentiate risk along the parameters scale; the adequateness of the calibration approach and time horizon; the assessment, challenge and benchmarking of the methodological options and human judgements used; the robustness and completeness of the documentation; and the overall legal compliance of the model; and b) **recurrent validation**, performed at least once a year and involving the comparison of the parameters used in the models with the results actually observed in the Bank's regular activity. the main objectives of recurrent validation are to assess the evolution of the following indicators: discriminatory capability, both general and in terms of the different risk differentiation factors; the model's predictive capacity, at both portfolio and calibration curve levels; the stability of the population, including the analysis of migration matrices between ratings; concentration and granularity along the parameter scale; the ratings' coverage level and derogations to the model; representativeness and correct application by the rating system; and comparison with similar indicators published by the banking authorities and the Bank's main peers. The validation procedures involve both quantitative and qualitative tests. The quantitative tests are statistics-based and have defined acceptance thresholds and levels of relevance and severity approved by the Models Committee. The results of the qualitative tests may influence the conclusions of the quantitative tests, provided they are substantiated by the validation function.

The validation work is performed on the documents provided by the GRD's model development area using internal data sources that are independent from the validation function, as well as other relevant available sources. The overall opinion on the quality of the data used in the validation process is an integral part of the process and is further complemented by data quality reports that are produced by the CDO Office, in line with the Data Quality and Governance Policy under implementation at novobanco.

The validation conclusions and recommendations are submitted by the MVO to the Models Committee or Extended Models Committee, for a final decision. These committees have delegated authority from the Risk Committee to deliberate on all matters related to the governance of models that are of major material relevance within the Bank, including the IRB, IFRS9, and ICCAP support models (which are described below). These Committees are responsible for deciding on corrective measures to address the deficiencies identified by the validation function and the respective recommendations. They also decide on who is responsible for implementing these measures and set target dates for their implementation. If deficiencies identified in the validation reveal a risk of model underestimation, the Extended Models Committee determines the necessary temporary reinforcement of capital requirements and other risk mitigation measures until the deficiencies are definitively corrected. The MVO is responsible for submitting a bi-monthly progress report on corrective measures to the models, as per the Extended Models Committee's terms of reference, in order to facilitate deliberation on complementary actions for situations that are at risk of not meeting approved deadlines.

The Extended Models Committee is chaired by the CRO and regularly attended by the CCO. The Global Risk Department and the MVO also have a mandatory seat on the Committee. While not having voting rights, departments closely associated with model usage or relevant source information, such as the RtD, Credit Recovery and Management Information, and Data Governance departments, are invited to participate in the Models /Extended Models Committee as deemed necessary, providing clarifications and taking note of the resolutions. Internal Audit is also regularly present in these committees as an observer. All the conclusions and decisions taken by the Models Committee are recorded in minutes which are signed by the participants in the meetings.

Currently, the validation work is concentrated on 11 rating systems, encompassing models developed based on (a) **internal data on default history** (applicable to the retail and small- and medium-sized enterprise segments), or (b) **third-party data** in cases where internal historical information is not sufficiently representative or statistically relevant to allow developing robust models (applicable to the large companies, real estate, and institutional segments, also known as Low Default Portfolios and Real Estate).

All independent validation reports are submitted to the ECB and to the audit bodies (internal and external). It should be noted that in 2019 novobanco was included in the list of banks required to report a set of statistical tests and additional information standardised in the European space, in addition to the internal validation reports, in order to allow the regulator direct comparability of the bank's results with the results of the other reporting banks.

The annual validation work is supported by an Annual Validation Plan proposed at the beginning of the year by the MVO. Once approved by the CRO, this Plan is sent to the ECB (JST) and the Auditors, for acknowledgement. A.

In order to ensure the independence of the Bank's validation function, the conclusions and recommendations expressed in the validation reports are the sole responsibility of the MVO. However, the MVO may issue preliminary reports to allow model owners to challenge the report before its final version is released. The completeness, robustness and independence of the MVO's annual activity are subject to permanent audit by the IAD, which is responsible for ensuring the 3rd line of defence in matters of Model Risk Policy.

As mentioned above, the independent validation reports are subject to discussion and decision on the corrective measures to be applied by the Models Committee or Extended Models Committee or, in the case of IRB models, in a higher Committee, in accordance with the following power delegation rules, according to their relative impact in terms of RWA:

- The Risk Committee of the Executive Board of Directors and the Risk Committee of the General and Supervisory Board approve all changes or actions on IRB models with an estimated impact above 100 million euros, or when the change in RWA in the loan portfolio in which the model is applied is greater than 15%, or greater than 1.5% of the Bank's total RWA. The Risk Committee of the Executive Board of Directors is also responsible for approving and submitting to the regulator both the implementation of new models and changes to models in use, the materiality of which requires the approval of the Board of Directors, as per the regulations in force.
- Extended Models Committee (EMC): The EMC approves changes to models with an estimated impact on the Bank's RWAs above 100 million euros, being mandatorily attended by the CRO and CCO when the

topic under discussion has a relevant commercial impact. The EMC is also responsible for approving the methodology to be used in the process of validation and calibration of models, and any changes thereto.

- Models Committee (MC): Only the GRD and the MVO have mandatory presence in the Models Committee. The MC has the authority to approve non-material changes to IRB models, including those requiring prior authorisation from the supervisor.

This ensures the permanent reliability of the models used to calculate the aforementioned credit risk parameters, in line with regulatory requirements.

Throughout 2022, the Bank carried on with the task initiated in 2021 of reviewing and adjusting all its models to conform to the new definition of default (NDoD) and the regulatory guidance issued by the EBA. These revisions covered the mortgage and consumer loans origination models, medium-sized enterprises PD model, consumer loans LGD models, as well as small businesses and similar PD and LGD models. These models underwent, or will undergo, inspection, assessment, and approval by the ECB before they are considered suitable for capital determination purposes. Work has also been done to validate the IFRS9 and Value at Risk models used to determine Market risk. In all, the MVO produced 46 documents and participated in 17 EMC meetings in 2022.

At the request of the regulator, towards the end of the year, the MVO actively participated in the preparation of a Strategic Plan for the Review and Renewal of novobanco's IRB Rating Systems, to be implemented by 2027, including the corresponding Operational Plan containing all the relevant supporting initiatives. This IRB Operational Plan is already reflected in the annual Validation Plan for 2023 and is already being deployed.

5.4.4. Quantitative information on credit risk weighted assets

Table 59 shows the breakdown of novobanco Group's exposures subject to credit risk weighting (excluding CCR) under the standardised approach

Table 59 – Template EU CR5 – Standardised approach

million euros

Classes de exposição	2022-12																
	Risk weight															Total	Of which unrated
	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Others		
Central governments or central banks	13 192	-	-	-	69	-	-	-	-	-	-	-	-	-	-	13 261	-
Regional government or local authorities	-	-	-	-	17	-	-	-	-	-	-	-	-	-	-	17	17
Public sector entities	388	-	-	-	-	-	-	-	-	107	-	-	-	-	-	495	107
Multilateral development banks	614	-	-	-	-	-	-	-	-	-	-	-	-	-	-	614	
International organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	-	-	699	-	37	-	-	-	-	-	-	-	-	-	-	736	737
Corporates	-	-	-	-	-	-	43	-	-	2 574	504	-	-	-	-	3 121	2 319
Retail	-	-	-	-	-	-	-	-	376	-	-	-	-	-	-	376	376
Secured by mortgages on immovable property	-	-	-	-	-	216	178	-	4	46	-	-	-	-	-	444	444
Exposures in default	-	-	-	-	-	-	-	-	-	76	7	-	-	-	-	83	83
Exposures associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	76	-	-	-	-	76	86
Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unit or shares in collective investment undertakings	3	-	-	-	-	-	-	-	-	22	-	-	-	4	5	34	4
Equity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**14 197**	**-**	**699**	**-**	**124**	**216**	**222**	**-**	**380**	**2 824**	**587**	**-**	**-**	**4**	**5**	**19 258**	**4 173**

Os Tables 60 and 61 show the detail of exposures subject to credit risk weighting (excluding CCR) under the IRB foundation and advanced [6] approaches for the respective exposure classes.

[6] Exposure-weighted average maturity value considers a maturity limit of 2.5 years in accordance with the information provided in COREP Own Funds..

Table 60 – Template EU CR6 – IRB Foundation approach – Credit risk exposures by exposure class and PD range

million euros

		2022-12											
F-IRB	PD range	On-balance sheet exposures	Off-balance-sheet exposures pre-CCF	Exposure weighted average CCF (%)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors	Exposure weighted average LGD (%)	Exposure weighted average maturity (years)	Risk weighted exposure amount after supporting factor	Density of risk weighted exposure amount	Expected loss amount	Value adjust-ments and provisions
Institutions													
	0,00 a < 0,15	494	43	44%	506	0,04%	87	42%	3	110	22%	0	0
	0,00 a < 0,10	0	0	0%	0	0,00%	0	0%	0	0	0%	0	0
	0,10 a <0,15	494	43	44%	506	0,04%	87	42%	3	110	22%	0	0
	0,15 a < 0,25	301	165	49%	373	0,16%	126	44%	3	189	51%	0	0
	0,25 a <0,50	589	35	55%	296	0,39%	25	44%	3	210	71%	0	0
	0,50 a <0,75	0	7	49%	32	0,63%	5	45%	3	14	44%	0	0
	0,75 a <2,50	7	5	39%	58	1,01%	10	41%	3	27	47%	0	0
	0,75 a <1,75	7	5	39%	53	1,10%	10	45%	3	25	47%	0	0
	1,75 a <2,5	0	0	0%	5	0,00%	0	0%	3	2	40%	0	0
	2,50 a <10,00	6	14	60%	127	5,46%	26	45%	3	64	50%	0	-1
	2,5 a <5	0	5	20%	71	3,14%	9	45%	3	29	41%	0	0
	5 a <10	6	9	85%	56	8,36%	17	45%	3	35	63%	0	-1
	10,00 a <100,00	222	244	26%	249	39,28%	72	31%	3	112	45%	7	-1
	10 a <20	0	1	20%	10	12,13%	2	45%	3	4	40%	0	0
	20 a <30	1	6	47%	9	25,60%	45	45%	3	11	122%	0	0
	30,00 a <100,00	221	237	25%	231	40,96%	25	30%	3	97	42%	7	-1
	100,00 (por defeito)	0	0	20%	37	100,00%	2	45%	3	15	41%	2	0
Subtotal (Institutions)		**1 619**	**513**	**45%**	**1 678**	**8,80%**	**353**	**41%**	**3**	**741**	**44%**	**9**	**-2**
Corporate - PME													
	0,00 a < 0,15	303	393	80%	351	0,08%	701	44%	2	65	19%	0	0
	0,00 a < 0,10	0	0	0%	0	0,00%	0	0%	0	0	0%	0	0
	0,10 a <0,15	303	393	80%	351	0,08%	701	44%	2	65	19%	0	0
	0,15 a < 0,25	0	4	20%	1	0,15%	4	45%	3	0	0%	0	0
	0,25 a <0,50	316	367	79%	316	0,34%	726	44%	2	128	41%	0	0
	0,50 a <0,75	162	157	73%	116	0,74%	344	43%	3	65	56%	0	0
	0,75 a <2,50	263	198	62%	177	1,41%	696	42%	2	114	64%	1	-1
	0,75 a <1,75	256	172	63%	172	1,38%	671	42%	2	109	63%	1	-1
	1,75 a <2,5	7	26	51%	6	2,21%	25	45%	3	5	83%	0	0
	2,50 a <10,00	1 080	586	78%	867	5,65%	1 446	40%	2	834	96%	21	-34
	2,5 a <5	508	432	79%	390	3,43%	864	40%	2	321	82%	5	-6
	5 a <10	571	154	75%	477	7,47%	582	41%	2	513	108%	15	-28
	10,00 a <100,00	323	51	65%	306	20,08%	620	41%	3	492	161%	25	-31
	10 a <20	291	30	67%	273	19,14%	275	40%	3	429	157%	21	-29
	20 a <30	25	10	64%	25	24,81%	231	44%	3	52	208%	3	-2
	30,00 a <100,00	7	10	62%	8	37,07%	114	32%	3	10	125%	1	-1
	100,00 (por defeito)	380	181	60%	424	100,00%	751	43%	3	0	0%	182	-213
Subtotal (Corporate SME)		**2 827**	**1 937**	**73%**	**2 558**	**15,57%**	**5 288**	**42%**	**2**	**1 698**	**66%**	**229**	**-279**
Corporates - Specialised Lending													
	0,00 a < 0,15	0	0	0%	0	0,00%	0	0%	0	0	0%	0	0
	0,00 a < 0,10	0	0	0%	0	0,00%	0	0%	0	0	0%	0	0
	0,10 a <0,15	0	0	0%	0	0,00%	0	0%	0	0	0%	0	0
	0,15 a < 0,25	174	0	0%	174	0,17%	0	45%	3	65	37%	0	0
	0,25 a <0,50	503	0	0%	503	0,30%	0	45%	2	287	57%	1	0
	0,50 a <0,75	105	0	0%	105	0,63%	0	45%	2	66	63%	0	0
	0,75 a <2,50	572	0	0%	569	1,32%	1	44%	2	505	89%	3	-2
	0,75 a <1,75	478	0	0%	477	1,19%	0	44%	2	409	86%	2	-1
	1,75 a <2,5	93	0	0%	92	1,99%	0	45%	3	96	104%	1	-1
	2,50 a <10,00	922	0	0%	906	4,40%	1	43%	3	1 098	121%	17	-17
	2,5 a <5	466	0	0%	463	3,42%	0	44%	2	534	115%	7	-3
	5 a <10	456	0	0%	444	5,42%	0	42%	3	564	127%	10	-13
	10,00 a <100,00	70	0	0%	68	14,14%	1	43%	2	117	172%	4	-5
	10 a <20	55	0	0%	55	11,04%	0	43%	3	92	167%	3	-4
	20 a <30	13	0	0%	12	25,60%	0	43%	2	22	183%	1	-1
	30,00 a <100,00	2	0	0%	2	36,27%	0	40%	3	3	150%	0	0
	100,00 (por defeito)	361	0	0%	361	100,00%	0	45%	3	0	0%	162	-207
Subtotal (Corporates - Specialised Lending)		**2 707**	**0**	**0%**	**2 686**	**15,57%**	**5**	**44%**	**3**	**2 138**	**80%**	**187**	**-231**
Corporate — Other													
	0,00 a < 0,15	343	28	76%	349	0,06%	48	45%	3	78	22%	0	0
	0,00 a < 0,10	0	0	0%	0	0,00%	0	0%	0	0	0%	0	0
	0,10 a <0,15	343	28	76%	349	0,06%	48	45%	3	78	22%	0	0
	0,15 a < 0,25	782	468	69%	982	0,17%	169	45%	3	423	43%	1	0
	0,25 a <0,50	991	654	68%	1 236	0,31%	250	45%	3	725	59%	2	-1
	0,50 a <0,75	370	293	73%	399	0,63%	152	44%	3	321	80%	1	-1
	0,75 a <2,50	1 103	434	70%	1 140	1,14%	279	44%	3	1 132	99%	6	-3
	0,75 a <1,75	1 042	421	70%	1 082	1,10%	263	44%	3	1 064	98%	5	-3
	1,75 a <2,5	61	13	96%	58	1,96%	16	44%	3	68	117%	0	0
	2,50 a <10,00	816	380	60%	832	6,02%	302	43%	2	1 335	160%	21	-46
	2,5 a <5	389	151	61%	364	3,14%	156	44%	2	489	134%	5	-5
	5 a <10	428	229	59%	468	8,26%	146	43%	3	845	181%	16	-40
	10,00 a <100,00	348	134	71%	365	26,71%	364	43%	2	837	229%	42	-58
	10 a <20	149	40	78%	146	12,16%	72	42%	3	297	203%	7	-13
	20 a <30	54	19	73%	56	23,12%	94	45%	2	144	257%	6	-10
	30,00 a <100,00	145	76	68%	163	40,96%	198	43%	3	395	242%	29	-35
	100,00 (por defeito)	712	189	61%	745	100,00%	127	44%	3	0	0%	332	-448
Subtotal (Corporate - Other)		**5 465**	**2 580**	**68%**	**6 048**	**14,06%**	**1 691**	**44%**	**3**	**4 851**	**80%**	**405**	**-557**
Total		**12 620**	**5 033**	**68%**	**12 971**		**7 337**		**2**	**9 428**	**73%**	**832**	**-1 070**

Table 61 – Template EU CR6 – IRB Advanced approach – Credit risk exposures by exposure class and PD range

million euros

2022-12

A-IRB	PD range	On-balance sheet exposures	Off-balance-sheet exposures pre-CCF	Exposure weighted average CCF (%)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors	Exposure weighted average LGD (%)	Exposure weighted average maturity (years)	Risk weighted exposure amount after supporting factor	Density of risk weighted exposure amount	Expected loss amount	Value adjust-ments and provisions
Retail - Secured by immovable property - SME													
	0,00 a < 0,15	101	0	0%	101	0,09%	1 684	18%		3	3%	0	0
	0,00 a < 0,10	0	0	0%	0	0,00%	0	0%		0	0%	0	0
	0,10 a <0,15	101	0	0%	101	0,09%	1 684	18%		3	3%	0	0
	0,15 a < 0,25	35	0	0%	35	0,18%	640	18%		2	6%	0	0
	0,25 a <0,50	40	0	0%	39	0,37%	571	20%		4	10%	0	0
	0,50 a <0,75	4	0	0%	4	0,70%	30	22%		1	25%	0	0
	0,75 a <2,50	90	0	0%	89	1,23%	619	22%		22	25%	0	0
	0,75 a <1,75	88	0	0%	87	1,20%	599	22%		21	24%	0	0
	1,75 a <2,5	3	0	0%	3	2,34%	20	22%		1	33%	0	0
	2,50 a <10,00	47	0	0%	47	4,74%	224	22%		26	55%	0	-1
	2,5 a <5	37	0	0%	36	3,85%	197	22%		18	50%	0	-1
	5 a <10	11	0	0%	11	7,74%	27	22%		8	73%	0	0
	10,00 a <100,00	15	0	0%	15	19,91%	140	21%		14	93%	1	-1
	10 a <20	7	0	0%	7	14,98%	79	21%		6	86%	0	0
	20 a <30	8	0	0%	8	23,96%	60	22%		8	100%	0	-1
	30,00 a <100,00	0	0	0%	0	37,69%	1	22%		0	0%	0	0
	100,00 (por defeito)	10	0	0%	10	100,00%	107	29%		3	30%	3	-4
Subtotal (Retail - Secured by immovable property - SME)		**342**	**0**	**0%**	**340**	**4,87%**	**4 015**	**20%**		**75**	**22%**	**4**	**-6**
Retail - Secured by immovable property - non-SME													
	0,00 a < 0,15	4 126	0	0%	4 126	0,10%	62 858	18%		182	4%	1	-1
	0,00 a < 0,10	0	0	0%	0	0,00%	0	0%		0	0%	0	0
	0,10 a <0,15	4 126	0	0%	4 126	0,10%	62 858	18%		182	4%	1	-1
	0,15 a < 0,25	1 868	0	0%	1 868	0,18%	30 584	19%		137	7%	1	-1
	0,25 a <0,50	1 550	0	0%	1 550	0,37%	25 262	19%		197	13%	1	-1
	0,50 a <0,75	88	0	0%	88	0,63%	605	22%		19	22%	0	0
	0,75 a <2,50	1 273	0	0%	1 273	1,13%	17 513	21%		382	30%	3	-4
	0,75 a <1,75	1 224	0	0%	1 224	1,09%	17 116	21%		353	29%	3	-4
	1,75 a <2,5	49	0	0%	49	2,25%	397	26%		29	59%	0	0
	2,50 a <10,00	331	0	0%	331	3,97%	4 818	21%		217	66%	3	-6
	2,5 a <5	328	0	0%	328	3,96%	4 799	21%		215	66%	3	-6
	5 a <10	2	0	0%	2	5,98%	19	28%		2	100%	0	0
	10,00 a <100,00	173	0	0%	173	15,07%	2 534	20%		180	104%	5	-10
	10 a <20	124	0	0%	124	11,19%	1 940	19%		121	98%	3	-7
	20 a <30	49	0	0%	49	24,94%	592	20%		59	120%	2	-3
	30,00 a <100,00	0	0	0%	0	35,00%	2	22%		0	0%	0	0
	100,00 (por defeito)	104	0	0%	104	100,00%	1 625	32%		57	55%	29	-28
Subtotal (Retail - Secured by immovable property - non-SME)		**9 513**	**0**	**0%**	**9 513**	**1,80%**	**145 799**	**19%**		**1 371**	**14%**	**43**	**-51**
Retail - Other SME													
	0,00 a < 0,15	31	33	49%	31	0,10%	901	29%		2	6%	0	0
	0,00 a < 0,10	0	0	0%	0	0,00%	0	0%		0	0%	0	0
	0,10 a <0,15	31	33	49%	31	0,10%	901	29%		2	6%	0	0
	0,15 a < 0,25	4	2	10%	4	0,16%	218	36%		0	0%	0	0
	0,25 a <0,50	148	107	45%	140	0,37%	2 555	30%		23	16%	0	0
	0,50 a <0,75	30	27	37%	28	0,74%	413	31%		7	25%	0	0
	0,75 a <2,50	469	170	42%	407	1,23%	8 521	31%		119	29%	2	-2
	0,75 a <1,75	465	165	42%	403	1,22%	8 227	31%		117	29%	2	-2
	1,75 a <2,5	4	5	22%	4	2,33%	294	28%		2	50%	0	0
	2,50 a <10,00	251	87	46%	234	4,44%	3 922	31%		92	39%	4	-4
	2,5 a <5	194	71	44%	179	3,44%	3 216	31%		68	38%	2	-2
	5 a <10	57	16	56%	56	7,63%	706	31%		24	43%	1	-1
	10,00 a <100,00	81	30	59%	60	22,70%	4 875	28%		34	57%	4	-6
	10 a <20	27	10	68%	20	18,32%	1 600	30%		11	55%	1	-1
	20 a <30	50	18	57%	37	23,90%	3 211	27%		21	57%	3	-4
	30,00 a <100,00	5	2	33%	3	36,52%	64	30%		2	67%	0	0
	100,00 (por defeito)	38	25	56%	40	100,00%	3 989	25%		16	40%	26	-25
Subtotal (Retail - Other SME)		**1 052**	**481**	**45%**	**944**	**7,34%**	**25 394**	**30%**		**293**	**31%**	**36**	**-37**
Retail - Other non-SME													
	0,00 a < 0,15	264	142	52%	264	0,08%	28 002	25%		21	8%	0	0
	0,00 a < 0,10	0	0	0%	0	0,00%	0	0%		0	0%	0	0
	0,10 a <0,15	264	142	52%	264	0,08%	28 002	25%		21	8%	0	0
	0,15 a < 0,25	84	20	0%	84	0,15%	9 352	29%		14	17%	0	0
	0,25 a <0,50	126	27	0%	126	0,29%	12 906	32%		37	29%	0	0
	0,50 a <0,75	95	18	0%	95	0,53%	8 564	36%		45	47%	0	-1
	0,75 a <2,50	266	50	0%	266	1,18%	24 290	36%		173	65%	2	-5
	0,75 a <1,75	218	43	0%	218	1,01%	19 566	35%		132	61%	1	-4
	1,75 a <2,5	48	7	0%	48	1,95%	4 724	41%		41	85%	1	-2
	2,50 a <10,00	124	10	0%	124	4,43%	11 977	46%		119	96%	3	-12
	2,5 a <5	83	9	0%	83	3,27%	7 871	43%		74	89%	1	-5
	5 a <10	41	0	0%	41	6,78%	4 106	52%		45	110%	1	-7
	10,00 a <100,00	83	45	51%	83	25,03%	6 236	41%		116	140%	11	-11
	10 a <20	22	1	0%	22	12,03%	1 675	43%		22	100%	1	-3
	20 a <30	54	45	52%	54	26,26%	3 966	38%		81	150%	7	-7
	30,00 a <100,00	7	0	0%	7	55,10%	595	57%		14	200%	2	-1
	100,00 (por defeito)	36	0	0%	36	98,81%	4 118	37%		20	56%	25	-21
Subtotal (Retail - Other non-SME)		**1 078**	**312**	**20%**	**1 078**	**5,67%**	**105 445**	**33%**		**545**	**51%**	**41**	**-50**
Total		**11 986**	**792**	**41%**	**11 876**		**280 653**			**2 286**	**19%**	**123**	**-145**

The following table shows the breakdown of exposures in equity securities by exposure, risk weight and amount of expected losses.

Table 62 – Template EU CR10 — Specialised lending and equity exposures under the simple risk weighted approach

million euros

	2022-12					
	On-balancesheet exposure	Off-balancesheet exposure	Risk weight	Exposure value	Risk weighted exposure amount	Expected loss amount
Categories						
Private equity exposures	273	-	190%	273	519	2
Exchange-traded equity exposures	4	-	290%	4	13	0
Other equity exposures	0	-	370%	0	0	0
Total	**278**	**-**	**-**	**278**	**532**	**2**

Table 63 – Template EU CR8 – RWEA flow statements of credit risk exposures under the IRB approach

million euros

	2022-12	
	Risk weighted exposure amount[(1)]	Total own funds requirements
Risk weighted exposure amount as at the end of the previous reporting period (30.09.2022)	**13 120**	**1 050**
Asset size (+/-)	-739	-59
Asset quality (+/-)	0	0
Model updates (+/-)	0	0
Methodology and policy (+/-)	0	0
Acquisitions and disposals (+/-)	0	0
Foreign exchange movements (+/-)	0	0
Other (+/-)	-599	-48
Risk weighted exposure amount as at the end of the reporting period (31.12.2022)	**11 782**	**943**

[(1)] Only includes risk-weighted positions subject to the IRB foundation and advanced methods, with the exception of positions subject to counterparty credit risk.

Table 64 – Geographical distribution of retail portfolio exposures and PD and LGD internal parameters (Internal Ratings Based Approach**)**

million euros

Exposure classes	Portugal	France	United Kingdom	Spain	Switzerland	Luxembourg	Other	Total
Retail - Total								
Exposure value	10 382	142	243	21	242	37	620	11 686
Exposure weighted average PD (%)	1%	0%	1%	2%	1%	1%	1%	1%
Exposure weighted average LGD (%)	21%	20%	21%	53%	22%	20%	20%	0%
Retail - Secured by mortgages on immovable property - SME								
Exposure value	331	0	0	0	0	0	0	331
Exposure weighted average PD (%)	0%	0%	0%	0%	0%	0%	0%	0%
Exposure weighted average LGD (%)	16%	0%	0%	0%	16%	0%	0%	16%
Retail - Secured by mortgages on immovable property - Other								
Exposure value	8 183	131	234	20	218	34	588	9 409
Exposure weighted average PD (%)	1%	1%	1%	0%	1%	1%	1%	1%
Exposure weighted average LGD (%)	19%	19%	21%	19%	19%	19%	20%	19%
Retail - Oher SME exposures								
Exposure value	903	0	0	0	0	0	1	904
Exposure weighted average PD (%)	4%	0%	23%	0%	0%	0%	26%	4%
Exposure weighted average LGD (%)	33%	0%	29%	36%	49%	0%	36%	33%
Retail - Other retail exposures								
Exposure value	964	11	9	1	23	2	31	1 042
Exposure weighted average PD (%)	3%	2%	7%	2%	3%	4%	3%	3%
Exposure weighted average LGD (%)	41%	35%	47%	39%	36%	36%	30%	40%

Default exposures not included

Table 65 – Geographical distribution of corporate and institutionals portfolio exposures and PD internal parameter (Internal Ratings-Based Approach**)**

million euros

Exposure classes	Portugal	France	United Kingdom	Spain	Switzerland	Luxembourg	Other	Total
Total								
Exposure value	9 017	597	412	304	69	132	3 418	13 949
Exposure weighted average PD (%)	1%	1%	0%	0%	5%	0%	1%	1%
Institutions								
Exposure value	1 100	375	159	103	1	16	1 823	3 577
Exposure weighted average PD (%)	8%	0%	0%	0%	9%	3%	0%	3%
Corporate								
Exposure value	7 917	222	253	201	68	116	1 595	10 372
Exposure weighted average PD (%)	4%	0%	1%	1%	0%	1%	1%	3%

Default exposures not included

5.5. Backtesting of internal PD parameter used in IRB approach

The main objective of this analysis is to compare the internal PD parameters used to calculate credit risk-weighted assets with actual default rates observed. The analysis is based on the guidelines issued by the Basel Committee on Banking Supervision (BCBS)[7] and by the EBA[8] concerning PD backtesting by portfolio (Template CR9).

The following IRB risk classes were selected for this analysis:

- Corporate;
- Retail – SME;

[7] Revised Pillar 3 disclosure requirements, Basel Committee Banking Supervision, January 2015.
[8] Final report on the guidelines on disclosure requirements under part eight of Regulation (EU) N.º575/2013, European Banking Authority, December 2016.

- Retail - Exposures guaranteed by real estate;
- Retail - other retail exposures.

PD buckets were established for each of these portfolios, and for each of these buckets the regulatory average PD (used to calculate credit risk-weighted assets) and the observed average default rate were calculated.

The default rate observed corresponds to the percentage of clients or contracts (depending on whether the clients are companies or individuals) with no default at the outset, belonging to a given population, at a given reference date, that defaulted in the following one-year period.

The PD used by NB Group to calculate regulatory capital requirements for credit risk follows a calibration close to a through-the-cycle (TTC) approach, since the anchor point is defined, by imposition of the supervisor, as the average value of the historical series of defaults observed in NB Group.

For the exercise, the average default rate of the last 5 years was calculated, which allows obtaining a more stable rate to compare with the PD implemented and follows the regulatory guidelines referred to further up in this section.

From the backtesting point of view, the information on the average default rate observed over the last 5 years (historical default rate) per PD bucket is relevant, as it allows assessing the adherence of the regulatory PD to the default observed over this 5-year period.

The following tables detail the results obtained in the 2022 backtesting exercise on novobanco Group's portfolios identified above.

Table 66 – *Backtesting of PD parameter for Large Corporate risk class*

PD Bucket	External Rating Correspondence	Average PD by exposure	Average PD	No. of Clients at start of year	No. of Clients at end of year	No. Defaults	Historical default rate (*)
PD 0 < 0,15%	AAA to A-	0,08%	0,08%	531	604		
PD 0,15% < 0,25%	A- to BBB+	0,17%	0,17%	74	98		0,11%
PD 0,25% < 0,50%	BBB+ to BBB-	0,33%	0,35%	807	816	1	0,15%
PD 0,50% < 0,75%	BBB- to BB+	0,67%	0,70%	398	404	1	0,42%
PD 0,75% < 2,50%	BB+ to BB-	1,20%	1,28%	809	857	2	0,75%
PD 2,50% < 10,00%	BB- to B-	5,91%	5,29%	1 699	1 600	44	2,61%
PD 10,00% < 100,00%	B- to C	23,79%	30,21%	1 006	918	54	6,22%
100% (Default)	D	100,00%	100,00%	825	859		
				6 149	**6 156**		

Table 67 – Backtesting of PD parameter for Retail - SME risk

PD Bucket	External Rating Correspondence	Average PD by exposure	Average PD	No. of Clients at start of year	No. of Clients at end of year	No. Defaults	Historical default rate (*)
PD 0 < 0,15%	AAA to A-	0,09%	0,09%	1 255	1 552		0,12%
PD 0,15% < 0,25%	A- to BBB+	0,18%	0,18%	676	436		0,17%
PD 0,25% < 0,50%	BBB+ to BBB-	0,37%	0,37%	2 647	2 748	6	0,18%
PD 0,50% < 0,75%	BBB- to BB+	0,73%	0,73%	495	384	2	0,60%
PD 0,75% < 2,50%	BB+ to BB-	1,25%	1,25%	8 116	8 709	40	0,69%
PD 2,50% < 10,00%	BB- to B-	4,52%	4,30%	3 954	4 053	116	3,69%
PD 10,00% < 100,00%	B- to C	21,28%	21,60%	5 480	4 939	639	13,45%
100% (Default)	D	100,00%	100,00%	3 737	3 962		
				26 360	**26 783**		

Table 68 – *Backtesting of PD parameter for Retail risk class – Exposures guaranteed by real estate*

PD Bucket	External Rating Correspondence	Average PD by exposure	Average PD	No. of Clients at start of year	No. of Clients at end of year	No. Defaults	Historical default rate (*)
PD 0 < 0,15%	AAA to A-	0,10%	0,10%	40 454	71 821	13	0,06%
PD 0,15% < 0,25%	A- to BBB+	0,18%	0,18%	51 930	29 526	45	0,13%
PD 0,25% < 0,50%	BBB+ to BBB-	0,37%	0,37%	29 084	26 042	78	0,27%
PD 0,50% < 0,75%	BBB- to BB+	0,63%	0,63%	12 019	663	52	0,53%
PD 0,75% < 2,50%	BB+ to BB-	1,14%	1,11%	15 349	19 138	189	1,94%
PD 2,50% < 10,00%	BB- to B-	3,97%	4,01%	5 934	5 394	367	5,73%
PD 10,00% < 100,00%	B- to C	15,25%	14,30%	3 180	2 871	387	11,89%
100% (Default)	D	100,00%	100,00%	3 126	2 284		0,00%
				161 076	**157 739**		

Table 69 – *Backtesting of PD parameter for retail risk class – Other retail*

PD Bucket	External Rating Correspondence	Average PD by exposure	Average PD	No. of Clients at start of year	No. of Clients at end of year	No. Defaults	Historical default rate (*)
PD 0 < 0,15%	AAA to A-	0,09%	0,07%	25 668	23 171	26	0,08%
PD 0,15% < 0,25%	A- to BBB+	0,18%	0,18%	7 116	6 017	18	0,34%
PD 0,25% < 0,50%	BBB+ to BBB-	0,35%	0,34%	10 075	10 399	44	0,36%
PD 0,50% < 0,75%	BBB- to BB+	0,63%	0,63%	8 762	8 674	60	0,63%
PD 0,75% < 2,50%	BB+ to BB-	1,40%	1,43%	22 384	23 454	359	1,55%
PD 2,50% < 10,00%	BB- to B-	4,70%	4,73%	10 968	11 910	669	5,93%
PD 10,00% < 100,00%	B- to C	23,92%	24,56%	4 368	5 875	867	18,49%
100% (Default)	D	100,00%	100,00%	3 224	4 338		
				92 565	**93 838**		

(*) The historical default rate corresponds to the average in the last 5 years.

In the risk classes 'retail - exposures guaranteed by real estate, and ´'retail - other retail exposures', the number of defaults during the year decreased compared to the previous year. The amount in default increased in 2021, largely due to the fact that clients with moratoria under the COVID-19 protection programme were classified as unlikely to pay. The Bank made this decision based on qualitative impairment criteria as part of the prudential measures adopted to prevent defaults, which were in line with external auditors' and regulatory guidelines.

The backtesting exercise permits to conclude that there is a general alignment between average PDs and historical default rates.

Notes on the columns of the backtesting tables:

- PD PD bucket: PD ranges as defined in EBA's template CR9 (Final report on the guidelines on disclosure requirements under part eight of Regulation, referred to in this section);
- External Rating Correspondence: S&P rating;
- Average PD by exposure: average PD by client / contract (depending on whether the rating is assigned to the client or the contract) weighted by exposure;
- Average PD: simple arithmetic average of PDs per client/ contract;
- Number of defaults: number of customers or contracts that defaulted in the last 12 months;

Historical default rate: average annual default rate observed over the last 5 years.

5.6. Backtesting of internal LGD parameter used in IRB approach

In order to assess the reasonableness of the LGD estimates, the exposure-weighted average LGDs in December 2022 were compared to the "most recent" LGDs prior to the Covid-19 period for each of the portfolios for which credit risk-weighted assets are calculated using the IRB advanced approach. The "most recent" LGDs were calculated based on the most recent recoveries observations, giving a weight of 100% to the last year observed in the exercise.

This analysis focuses on the following IRB advanced risk classes:

- Retail – SME
- Retail – Exposures guaranteed by real estate
- Retail – other retail exposures

Only novobanco operations subject to the IRB advanced approach were considered.

Table 70 – Backtesting of LGD internal parameter

LGD	Average LGD per exposure 2022	“Most recent” LGD
Retail – SME	33,25%	30,6%
Retail – Exposures guaranteed by real estate	19,17%	10,0%
Retail – other retail exposures	40,10%	48,1%

The observations of the most recent pre-Covid recoveries for the retail portfolios (SME and retail) exposures secured by real estate show that LGDs are lower (i.e., are less conservative). This is due to the improvements introduced in the credit recovery process and to the pre-COVID macroeconomic factors. However, in 2021, the recovery process was strongly constrained by the COVID-19 exceptional protection measures, namely with regard to execution processes, which still affect the 2022 processes.

It is worth noting that novobanco has made significant changes to its recovery strategy over the past few years. These changes include the establishment of organic internal units that are specialised by portfolio, as well as the implementation of competition criteria among the external credit recovery companies. Additionally, the Bank adopted an intensive NPL loan sales policy.

5.7. Backtesting of internal CCF parameter used in IRB approach

As previously mentioned, EAD is defined as the exposure expected to be observed at the time of default. The uncertainty results from credit commitments not used by the client and that could potentially increase the Bank's exposure to the client at default.

To test the CCFs used, we selected clients that were in default at the end of 2022 but were not in default at the end of 2021, i.e., we selected clients that defaulted during 2022. In short, the exposure (already in actual default) at the end of 2022 was compared with the EAD at the end of 2021, in order to conclude on the reasonableness of the CCFs estimate. This approach was based on the analysis of data relative to credit lines and limits of clients that were not in default on the date of analysis but went into default within one year.

This exercise focuses exclusively on the retail risk class - SME (IRB advanced), for current account and overdraft products.

The coverage ratio obtained, calculated as the ratio of estimated EAD in 2021 and actual exposure in 2022, was 78.1%, This ratio is lower than in the previous year due to 3 contracts with no drawings in December 2021 but that used the full amount of the line in 2022 and went into default. Without these 3 outlier contracts the ratio would be 99%.

Table 71 – *Backtesting of CCF internal parameter*

SME Retail	Exposure (actual) Dec/2022	EAD (estimate) Dec/2021	Coverage ratio
2022	€ 2.017.342	€ 1.575.253	78.1%
2022 excluding 3 outliers	€ 1.564.068€	1.548.253	99.0%

The EAD calculation for December 2021 includes the CCF estimates used in the IRB approach. A comparison with the exposure one year later to clients actually in default at the end of 2022 permits to conclude that the internal CCF estimates predicted quite accurately the evolution of the exposure to these clients.

5.8. COVID-19

In response to the COVID-19 pandemic's impact on the economy, the European Union and its Member States implemented a range of support measures for economic agents in 2020. These measures included legal or private moratorium schemes that focused on modifying loan repayment terms, as well as credit facilities with mutual/state guarantees and favourable pricing conditions to address companies' operational and liquidity needs.

In Portugal, the Government, through Decree-Law no. 10-J/2020 and related regulations, determined the implementation of a moratorium on loans granted to individuals (initially only covering mortgage loans) and companies by financial institutions operating in the Portuguese territory. In addition to the legal moratorium, financial institutions signed private moratorium agreements with the Portuguese Banking Association and the Portuguese Leasing, Factoring, and Renting Association. Based on specific criteria, these agreements covered loans to individuals and companies that were not included in the legal scheme.

The moratorium schemes were gradually phased out beginning on 31 March 2021 and by December 2022 there were no active moratorium schemes remaining.

In addition, the Portuguese Government established financing lines to the economy, with favourable conditions, to support companies' treasury needs. These financing lines were implemented and granted by the Financial Institutions in a phased manner. They are backed by an autonomous guarantee provided by the Mutual Guarantee Society, covering between 80% and 90% of the financed amount, and have maximum repayment terms and grace periods that are longer than those offered commercially.

In 2020, the EBA published guidelines EBA\GL\2020\02 on the requirements to grant moratoria and EBAGL202007 on the disclosure requirements for banks regarding public information on exposures subject to moratorium or in the form of financing lines made available under COVID-19. The following tables show the position of novobanco at the end of December 2021, after which reporting on these schemes was discontinued.

Table 72 – Template 2 - Breakdown of loans and advances subject to legislative and non-legislative moratoria by residual maturity of moratoria

million euros

	2022-12											
		Gross carrying amount										
			Of which: granted									
							Residual maturity of moratoria					
	Number of obligors	Of which: granted			Of which: legislative moratoria	Of which: subject to extended moratoria	Of which: expired	<= 3 months	> 3 months <= 6 months	> 6 months <= 9 months	> 9 months <= 12 months	> 12 months <= 18 months	> 18 months
EBA-compliant moratoria loans and advances	36 485	36 485	5 106	5 106	4 082	0	5 106	-	-	-	-	-	-
of which: Households				1 868	1 314	-	1 868	-	-	-	-	-	-
of which: Collateralised by residential immovable property				1 729	1 281	-	1 729	-	-	-	-	-	-
of which: Non-financial corporations				3 223	2 752	0	3 223	-	-	-	-	-	-
of which: Small and Medium-sized Enterprises				2 115	1 722	0	2 115	-	-	-	-	-	-
of which: Collateralised by commercial immovable property				870	870	-	870	-	-	-	-	-	-

Table 73 – Template 3 - Information on newly originated loans and advances provided under newly applicable public guarantee schemes introduced in response to COVID-19 crisis

million euros

	2022-12																
	Gross carrying amount							Accumulated impairment, accumulated negative changes in fair value due to credit risk							Maximum amount of the guarantee that can be considered	Gross carriyng amount	
		Performing			Non-performing				Performing			Non-performing					
			Of which: exposures with forbearance measures	Of which: instruments with significant increase in credit risk since initial recognition but not credit-impaired (Stage 2)		Of which: exposures with forbearance measures	Of which: unlikely to pay that are not past-due or past-due <= 90 days			Of which: exposures with forbearance measures	Of which: instruments with significant increase in credit risk since initial recognition but not credit-impaired (Stage 2)		Of which: exposures with forbearance measures	Of which: unlikely to pay that are not past-due or past-due <= 90 days	Public guarantee received in the context of the COVID-19 crisis	Inflows to non-performing exposures	Inflows linked to new lending
Newly originated loans and advances subject to public guarantee schemes	902	888	3	223	14	-	9	-9	-4	0	-3	-5	-	-3	750	-	-
of which: Households	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: Collateralised by residential immovable property	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: Non-financial corporations	902	888	3	223	14	-	9	-9	-4	0	-3	-5	-	-3	749	-	-
of which: Small and medium-sized enterprises	748	738	-	-	10	-	-	-6	-3	-	-	-3	-	-	-	-	-
of which: Collateralised by commercial immovable property	1	1	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-

With the aim of mitigating the effects of the COVID-19 pandemic on the economy, the Portuguese Government established credit lines for the economy to support companies' treasury under favorable conditions. These credit lines were implemented and granted by the financial institutions in a phased manner. The lines have an autonomous guarantee provided by the Portuguese "Sociedades de Garantia Mutua" (between 80% and 90% of the amount financed) and have extended terms and grace periods associated.

6 Credit risk mitigation techniques

6.1. General overview

The credit risk mitigation techniques most used by novobanco Group are collaterals, mainly real estate and financial, and personal guarantees. Guarantees are an unavoidable component of the risk management and loan granting policies, influencing the acceptance criteria, the decision levels, and the pricing.

The calculation of regulatory capital requirements captures the effects of the instruments provided for in Chapter 4 of Title II of Part III of the CRR, namely real estate collateral, eligible financial instruments in the Financial Collateral Comprehensive Method, and personal guarantees provided by sovereigns, regional and local authorities, financial institutions and other corporate entities, providing they allow an effective reduction of the credit risk of the operations they are intended to cover. The novobanco Group has implemented over the last few years a collateral management process that ensures compliance with the various operational requirements set out in the regulations in force.

Other types of guarantees are also used by the novobanco Group, which, while not eligible as risk mitigators for purposes of calculating regulatory capital requirements under the standardised approach and IRB (foundation) approach, effectively reduce the credit risk to which the novobanco Group is subject. On account of their broad use, we stress the personal guarantees provided by partners in small and medium enterprises to financing operations, and by relatives to mortgage loans.

In the markets area, novobanco Group uses several credit risk mitigation techniques, namely netting, collateral swaps (through ISDA-CSA agreements), central counterparties and credit derivatives (the latter at zero at the end of 2022). Of these risk mitigation techniques only the credit derivatives that consist in protection purchases are not yet considered in the calculation of regulatory capital requirements for credit risk.

6.2. Valuation of collaterals received and haircuts

The valuation / revaluation of collaterals is conducted according to specific novobanco rules and in compliance with the requirements outlined in the CRR.

Property received as collateral is valued according to the market value, or comparative method, the income method or the cost method, depending on the nature of the property and the purpose for which it is intended. Valuations are performed by independent, qualified, authorised and certified valuation experts, and analysed by a specialised technical department.

novobanco Group verifies the value of the real estate assets on which mortgages have been set up in its favour on an annual basis. This verification process uses real estate price indexes. The frequency of property revaluations, defined in internal policies, is aligned with the EBA guidelines on this matter. Financial collateral is revalued daily at market prices, through an IT link between the collateral management application and market information (Bloomberg, Reuters).

To calculate credit risk-weighted assets under the standardised and IRB (foundation) approaches, the novobanco Group uses the regulatory volatility adjustments provided for in article 224 of the CRR. The application of haircuts is facilitated by an IT system that calculates credit risk-weighted assets. The system segments guarantees and collateral into various types, also distinguishing between those eligible and non-eligible for credit risk mitigation from a prudential perspective. If there is only partial coverage, haircuts are applied to the covered portion, while the uncovered portion is treated as unsecured.

6.3. Concentration of hedging amounts per instrument

The quantitative information presented in this chapter reflects the concentration of hedging amounts by type of eligible instrument used in the calculation of credit risk weighted assets.

6.4. Treatment of associated risks

The use of credit risk mitigation techniques effectively reduces (or transfers to third parties) this risk. However, these techniques may simultaneously lead to an increase in other risks, including market risk, operational risk, legal risk, liquidity risk and correlation risk. To the extent that it recognises the existence of these risks, the novobanco Group monitors each of them.

To mitigate market risk, exposure coverage levels greater than 100% are required whenever possible. The levels of collateralisation may be differentiated according to the risk associated with the respective assets and/or the price volatility of the asset underlying the guarantee received.

In terms of operational risk, the treatment, safekeeping and accounting processes for guarantees received are centralised in the operations area, thus ensuring segregation of functions vis-à-vis the commercial areas and a high level of specialisation in the treatment of the processes. The operations area logs the guarantee into an IT application that tracks the guarantee's status and links it to the corresponding credit contract. This application also provides information on guarantees received, namely for the process of calculation of credit risk weighted assets. In addition to procedural aspects, operational risk mitigation includes insurance on collateral. For example, insurance against damage and fire is mandatory for property collateral.

Legal risk is mitigated through base agreements and other specific agreements drafted by novobanco's Legal Department (LD) and notarisation of signatures (when applicable). Legal experts from the operations area validate the correct formalisation of the contract before and after signature by all parties. Additionally, the validity of the guarantee/collateral as a credit risk mitigation technique is confirmed by ensuring that there are no other encumbrances on it.

To mitigate liquidity risk, each credit decision includes an assessment of the ease of selling the asset in case it becomes necessary to execute the collateral, with a view to weighting the risk accordingly. The rules on the acceptance of collateral are defined in the Risk Appetite and Credit Granting Policies.

Correlation risk may arise from two sources: firstly, the value of the collateral may depend on the credit quality of the borrower, meaning that a deterioration in the borrower's creditworthiness may result in a decrease in the collateral's value; secondly, the borrower's ability to meet its credit obligations may depend on the performance of the collateral that has been pledged as security for the loan. novobanco has implemented a systematic analysis process that ensures the marking of the risk mitigation instruments as correlated. Collateral marked as correlated is not eligible for the calculation of credit risk-weighted assets under the standardised and IRB (foundation) approaches.

The following point provides quantitative information on the risk mitigation techniques used in the calculation of credit risk-weighted assets.

6.5. Quantitative information on credit risk mitigation techniques

The following tables show the amounts of exposure, in the form of on-balance sheet loans and debt securities, covered by personal guarantees and collaterals and risk-weighted under the standardised and IRB approaches as at the end of 2022. It should be noted, as mentioned above, that the Bank does not currently consider credit derivatives as eligible mitigation instruments in the calculation of RWAs for credit risk.

Table 74 – Template EU CR3 – CRM techniques overview: Disclosure of the use of credit risk mitigation techniques

million euros

	2022-12				
	Unsecured carrying amount	Secured carrying amount			
			Of which secured by collateral	Of which secured by financial guarantees	
					Of which secured by credit derivatives
Loans and advances	17 333	14 718	14 658	60	-
Debt securities	10 733	-	-	-	
Total	**28 066**	**14 718**	**14 658**	**60**	**-**
Of which non-performing exposures	1 353	476	462	14	-
Of which defaulted	*1 353*	*476*			

The table below shows the impact of risk mitigation instruments for risk-weighted exposures under the standardised approach.

Table 75 – Template EU CR4 – Standardised approach – Credit risk exposure and CRM effects

million euros

	2022-12					
	Exposures before CCF and before CRM		Exposures post CCF and post CRM		RWAs and RWAs density	
Exposure classes	On-balance-sheet exposures	Off-balance-sheet exposures	On-balance-sheet exposures	Off-balance-sheet exposures	RWEA	RWEA density (%)
Central governments or central banks	12 929	0	13 261	0	14	0%
Regional government or local authorities	17	1	17	0	3	18%
Public sector entities	107	13	495	0	107	22%
Multilateral development banks	229	0	614	0	0	0%
International organisations	-	-	-	-	-	-
Institutions	37	45	37	0	35	95%
Corporates	3 027	1 135	3 064	32	3 159	102%
Retail	378	996	373	3	257	68%
Secured by mortgages on immovable property	445	10	444	0	188	42%
Exposures in default	83	79	83	1	87	104%
Exposures associated with particularly high risk	73	55	73	4	115	149%
Covered bonds	-	-	-	-	-	-
Institutions and corporates with a short-term credit assessment	0	0	0	0	0	0%
Collective investment undertakings	33	34	33	0	79	239%
Equity	-	-	-	-	-	-
Other items	-	-	-	-	-	-
TOTAL	**17 358**	**2 368**	**18 494**	**39**	**4 043**	**22%**

The table below shows the impact of risk mitigation instruments for risk-weighted exposures under the IRB approach.

Table 76 – Template EU CR7-A — IRB approach – Disclosure of the extent of the use of CRM techniques

million euros

	2022-12												
		Credit risk Mitigation techniques											Credit risk Mitigation methods in the calculation of RWEAs
		Funded credit Protection (FCP)									Unfunded credit Protection (UFCP)		
A-IRB	Total exposures	Part of exposures covered by **Financial Collaterals** (%)	Part of exposures covered by **Other eligible collaterals (%)**	Part of exposures covered by **Immovable property Collaterals** (%)	Part of exposures covered by **Receivables** (%)	Part of exposures covered by **Other physical collateral** (%)	Part of exposures covered by **Other funded credit protection** (%)	Part of exposures covered by **Cash on deposit** (%)	Part of exposures covered by **Life insurance policies** (%)	Part of exposures covered by **Instruments held by a third party** (%)	Part of exposures covered by **Guarantees** (%)	Part of exposures covered by **Credit Derivatives** (%)	**RWEA without substitution effects** (reduction effects only)
Central governments and central banks	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	-	-	-	-	-	-	-	-	-	-	-	-	-
Corporates	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which Corporates – SMEs	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which Corporates – Specialised lending	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which Corporates – Other	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail	11 876	1%		116%	-	-	-	-	-	-	-	-	2 286
Of which Retail – Immovable property SMEs	342	0,3%		133%	-	-	-	-	-	-	-	-	75
Of which Retail – Immovable property non-SMEs	9 512	0,1%		138%	-	-	-	-	-	-	-	-	1 371
Of which Retail – Qualifying revolving	-	-		-	-	-	-	-	-	-	-	-	-
Of which Retail – Other SMEs	944	8%		1%	-	-	-	-	-	-	-	-	295
Of which Retail – Other non-SMEs	1 078	4%		12%	-	-	-	-	-	-	-	-	545
Total	**11 876**	**1%**		**116%**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2 286**

million euros

F-IRB	Total exposures	Credit risk Mitigation techniques											Credit risk Mitigation methods in the calculation of RWEAs
		Funded credit Protection (FCP)									Unfunded credit Protection (UFCP)		
		Part of exposures covered by Financial Collaterals (%)	Part of exposures covered by Other eligible collaterals (%)				Part of exposures covered by Other funded credit protection (%)						
				Part of exposures covered by Immovable property Collaterals (%)	Part of exposures covered by Receivables (%)	Part of exposures covered by Other physical collateral (%)		Part of exposures covered by Cash on deposit (%)	Part of exposures covered by Life insurance policies (%)	Part of exposures covered by Instruments held by a third party (%)	Part of exposures covered by Guarantees (%)	Part of exposures covered by Credit Derivatives (%)	RWEA without substitution effects (reduction effects only)
Central governments and central banks	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	1 678	1,3%		0%	-	-	-	-	-	-	-	-	741
Corporates	11 333	1,1%		12,3%	-	-	-	-	-	-	-	-	8 755
Of which Corporates – SMEs	2 559	2,9%		27%	-	-	-	-	-	-	-	-	1 698
Of which Corporates – Specialised lending	2 686	0,5%		9%	-	-	-	-	-	-	-	-	2 138
Of which Corporates – Other	6 088	0,5%		7%	-	-	-	-	-	-	-	-	4 919
Retail	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which Retail – Immovable property SMEs	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which Retail – Immovable property non-SMEs	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which Retail – Qualifying revolving	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which Retail – Other SMEs	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which Retail – Other non-SMEs	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**13 011**	**1%**		**11%**	-	-	-	-	-	-	-	-	**9 496**

The table below shows the detail of risk mitigation instruments available for exposures under the standardised approach.

Table 77 – Standardised Approach – Exposures and types of CRM

	2022-12							
	Financial collateral			Other collateral		Financial guarantees		
Exposure classes	Pledge deposits	Equity	Debt securities	Performing residential mortgages	Performing commercial mortgages	Guarantees	Without credit protection	Total
Central governments or central banks	-	-	-	-	-	-	13 261	13 264
Regional government or local authorities	-	-	-	-	-	-	17	17
Public sector entities	-	-	-	-	-	388	495	495
Multilateral development banks	-	-	-	-	-	386	229	615
International organisations	-	-	-	-	-	-	-	-
Institutions	-	-	-	-	-	-	737	737
Corporates	11	-	-	-	-	42	3 068	3 121
Retail	6	0	0	-	-	-	369	376
Secured by mortgages on immovable property	0	0	0	216	178	-	50	445
Exposures in default	0	0	-	2	24	-	57	83
Exposures associated with particularly high risk	0	-	0	-	-	1	76	77
Covered bonds	-	-	-	-	-	-	-	-
Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-
Collective investment undertakings	-	-	-	-	-	-	33	33
Equity	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-
Total	**17**	**0**	**0**	**218**	**202**	**817**	**18 392**	**19 263**

The table below shows the detail of risk mitigation instruments available for exposures under the IRB approach.

Table 78 – IRB Approach – Exposures and types of CRM

million euros

Exposure classes	2022-12							
	Financial collateral			Other collateral		Financial guarantees	Without credit protection	Total
	Pledge deposits	Equity	Debt securities	Performing residential mortgages	Performing commercial mortgages	Guarantees		
Institutions	989	-	-	0	0	-712	3 300	3 577
Corporate	442	1	-	291	674	882	9 612	11 903
Corporate - SME	50	0	-	169	301	602	1 497	2 620
Corporate - Specialised Lending	13	-	-	1	179	20	2 472	2 686
Corporate - Other	379	1	-	121	193	260	5 642	6 596
Retail	99	0	-	9 625	99	178	1 875	11 876
Secured by immovable property	6	-	-	9 624	97	3	123	9 854
Of which: SME	1	-	-	273	53	3	12	342
Of which: Non-SME	5	-	-	9 351	44	-	111	9 512
Qualifying revolving	-	-	-	-	-	-	-	-
Retail - Other	93	0	-	1	1	175	1 752	2 022
Of which: SME	52	0	-	1	1	175	715	944
Of which: Non-SME	40	-	-	-	1	0	1 037	1 078
Equity	-	-	-	-	-	-	440	440
Other items	-	-	-	-	-	-	2 362	2 362
Total	**1 530**	**1**	**-**	**9 917**	**773**	**349**	**17 589**	**30 158**

The following table shows the evolution of exposures benefiting from personal protection (financial guarantees) or real protection (collateral) broken down by activity sector.

Table 79 – Exposures with credit risk protection by sector

million euros

	2022-12	
	Exposures covered by unfunded credit protection	Exposures covered by funded credit protection
Exposures with credit risk protection by sector		
Other Transforming Industries	398	148
Construction and Public Works	442	103
Wholesale and Retail Trade	287	269
Transport and Communication	81	92
Financial Activities	3	2 321
Real Estate Activities and Rental	45	319
Services Provided to Companies	160	396
Individuals	0	9 915
Others	418	862
Total	**1 835**	**14 424**

7 Securitisation operations

7.1 Asset securitisation underlying management principles

7.1.1 Asset securitisation objectives in novobanco Group

The novobanco Group intends to achieve the following objectives through the structuring of securitisation operations:

- Diversificar Diversify funding sources: securitisation allows transforming illiquid assets into liquid assets and thus obtain wholesale funding through the sale of those assets or through operations collateralised by the bonds issued under each securitisation operation. In retained securitisations, liquidity can be obtained by using the senior tranches as collateral to secure funding operations with the market and/or the Eurosystem.
- Reduce the cost of funding: securitising assets permits to obtain liquidity at lower costs than in non-collateralised senior debt operations.
- Manage and diversify credit risk: securitisation operations and the subsequent sale of securities in the market help to reduce and manage the credit risk that naturally arises from the Bank's commercial activities. The selective sale of assets helps to reduce concentration of exposure to specific borrowers, business lines, sectors of activity, and other asset classes. Synthetic securitisations transfer credit risk to third parties through credit default swaps. novobanco's annual liquidity and funding plan establishes an annual plan of securitisations, based on the available assets.

7.1.2 novobanco Group's role in securitisation activity

In securitisation activity, novobanco Group acts as originator and as servicer (manager of the loan portfolios transferred).

As servicer of the operations it originates, novobanco Group:

- conducts a monthly analysis of the asset pool, which allows for regular monitoring of the performance of the credits assigned to the transactions, and
- issues quarterly servicer reports, which include detailed information on the transactions and the transactions' performance indicators.

The novobanco Group can also assume the role of investor, acquiring securities resulting from securitisation operations originated by third parties and/or retaining part of the positions originated by the Bank. When necessary, it can also act as counterparty in derivative contracts related to securitisation operations (basis swaps).

7.2. Description of asset securitisation operations and activities

As an investor, at the end of 2022, novobanco Group only held residual investments in securities resulting from loan securitisation operations originated by third parties. The Group therefore had no specific hedging operation or any personal protection contracted to reduce the risk of the securitisation positions held.

As an originator, over the years, the novobanco Group has launched securitisation operations that were backed by various asset portfolios, including mortgage loans, consumer loans, and loans to small and medium-sized companies. These transactions were initiated in accordance with the Group's interests and needs at any given time, allowing it to obtain funding and manage the balance sheet effectively, especially at the level of available capital.

Under Article 449 (f) of the CRR, the novobanco Group has in place a broad risk management and control operation based on risk management and control models that include monitoring the credit and market risks of securitisation exposures.

At 31 December 2022 novobanco Group had five outstanding traditional securitisations of assets originated by Group units. From these five operations, four were:

- On the market:
  - Partially: classes A and B of Lusitano Mortgages no. 6;
  - Fully: all classes of Lusitano Mortgages no. 4 and no. 5
- Retained:
  - Partially: classes A and B of Lusitano Mortgages no. 6;
  - Fully: Lusitano Mortgage no. 6 (classes C, D, E, F) and Lusitano Mortgage no. 7 (Classes A, B, C, D).

It should be noted that the portions retained in Lusitano Mortgage no. 6 and no. 7 are not considered in the securitisation class in the calculation of risk weighted assets, as they do not represent significant transfers of credit risk.

The novobanco Group also has an outstanding synthetic securitisation operation since the end of 2022 backed by a portfolio of medium- and long-term loans to small and medium-sized enterprises and the public administration, in the amount of 1.04 billion euros.

The novobanco Group bought protection through a guarantee provided by an insurance company for part of the portfolio's credit risk.

As this is a synthetic structure, the portfolio risk has been subdivided into three tranches: senior, mezzanine and equity. The novobanco Group retained the risk of the senior tranche and of the equity piece.

This transaction matures on 28 February 2031, and the novobanco Group can exercise a call option in September 2025.

As at 31 December 2022, there were no loan portfolios pending securitisation. Novobanco Group does not provide any support to the securitisation vehicles.

The following tables summarise the main characteristics of each of the asset securitisations originated by the novobanco Group, namely degree of involvement, whether the transfer of credit risk was significant or not, initial and outstanding securitised amounts, start date, legal maturity and revolving status, as at 31 December 2022.

Table 80 – Degree of involvement of novobanco Group in securitisation operations

	Highest hierarchical level (Most senior) & Mezzanine	First Loss positions	Significant transfer of credit risk	Degree of involvement of Novobanco Group units in the respective process
Mortgage Backed Securities				
Lusitano Mortgages No. 4 plc	Public placement	Public placement	Yes	Originator Institution; Depository Bank of the Credit Securitisation Fund; Securitised assets manager; Collection Account Bank
Lusitano Mortgages No. 5 plc	Public placement	Public placement	Yes	Originator Institution; Depository Bank of the Credit Securitisation Fund; Securitised assets manager; Collection Account Bank
Lusitano Mortgages No. 6, DAC	Public placement	Held by Novobanco Group	No	Originator Institution; Depository Bank of the Credit Securitisation Fund; Securitised assets manager; Collection Account Bank
Lusitano Mortgages No. 7, DAC	Held by Novobanco Group	Held by Novobanco Group	No	Originator Institution; Depository Bank of the Credit Securitisation Fund; Securitised assets manager; Collection Account Bank
Synthetic Securities				
Project Seed	Held by Novobanco Group (Senior) Insured (Mezzanine)	Held by Novobanco Group	Yes	Originator Servicer Calculation agent

Table 81 – Description of securitisation operations

million euros

Securitisation		Lusitano Mortgages No 4 Plc	Lusitano Mortgages No 5 Plc	Lusitano Mortgages No 6 DAC	Lusitano Mortgages No 7 DAC
Originator Institution(s)		novobanco, S.A.	novobanco, S.A.	novobanco, S.A.	novobanco, S.A.
Sponsor Institution(s)		n/a	n/a	n/a	n/a
Information on the operations:					
Start date		2005	2006	2007	2008
Legal maturity		2048	2059	2060	2064
Step-up clause (date)		2014	2015	2016	n/a
Revolving (years)		0	0	0	3
Securitised assets (in millions of euros)		1 200	1 400	1 100	1 900
Outstanding amount (in millions of euros)		214	330	326	827
Outstanding amount of securities (in millions of euros)					
	Class A	163	237	152	323
	Class B	11	19	65	295
	Class C	9	16	42	181
	Class D	11	20	18	57
	Class E	5	11	32	n/a
	Class F	n/a	n/a	22	n/a
	Class S	n/a	n/a	n/a	n/a
Information on the involvement of the originator institution(s)					
Existence of "implicit support" situations		n/a	n/a	n/a	n/a
Assets originated (by institution) / Assets securitised (total) (%)		8%	12%	12%	30%
Initial gain/Value of reacquired first loss positions		n/a	n/a	n/a	n/a

(1) Class X Notes
(2) Subordinated Notes

7.3. Accounting policies

Derecognised operations are treated as a sale of credits, and any gains or losses are recognised as income for the year, unless the vehicle is included in the novobanco Group's consolidation perimeter.

Credits selected for securitisation operations remain on novobanco Group's balance sheet and are subject to the same recognition and valuation criteria as other credits. When the transaction becomes effective, credits are derecognised (or not, as per the previous paragraph) and the amounts payable/receivable are calculated in accordance with the conditions and reference dates stipulated in the respective securitisation contract.

novobanco Group fully consolidates certain special purpose entities specifically created to achieve a narrow and well-defined objective, when the nature of the relationship with those entities suggests that the Group has control over them, regardless of the percentage of equity held.

The existence of control is determined in accordance with the criteria set out in IFRS 10 – Consolidated Financial Statements, according to which a Structured Entity is controlled if (i) novobanco Group is exposed or to has rights over its results; and (ii) novobanco Group has the power to affect the Structured Entity's results through the control it exercises over it.

In accordance with the IFRS 10 consolidation rules, Lusitano Mortgages No. 6 DAC and Lusitano Mortgages No. 7 DAC are fully consolidated as from the date of their incorporation. Accordingly, the notes issued and not retained by novobanco Group are recognised as a liability at amortised cost and the interest payable is accrued.

Additionally, Lusitano Mortgages No. 4 plc and Lusitano Mortgages No. 5 plc are not consolidated since they do not meet the rules defined in IFRS 10, namely because the interest retained by the Group is residual.

The remaining securitisation operations were derecognised as the Group has substantially transferred all the risks and benefits associated with their ownership.

As referred, as at 31 December 2022, there were no loan portfolios pending securitisation.

If there are receivables pending securitisation, the Group must follow the rules established in IFRS 9. Specifically, it does not reclassify the portfolio receivables for infrequent operations of significant amount or frequent operations of insignificant amount, as long as the thresholds defined by the Group are met. In all other cases, the loans to be sold must be reclassified to a portfolio measured at fair value through other comprehensive income. The exception to the above rules are sales of loans with credit risk deterioration, which do not fall within the parameters indicated above. In this case there will be no need for any portfolio reclassification at fair value.

Note 41 (Securitisation of assets) to the consolidated financial statements in novobanco Group's 2022 Annual Report contains more information on the securitisation operations originated by the novobanco Group.

In December 2022, the novobanco Group contracted an operation for the transfer of part of the credit risk of a corporate loan portfolio in the amount of around 1.0 billion euros, through a synthetic securitisation maturing in February 2031 (with a call option in September 2025).

Given the nature of this operation, there was no derecognition of credits on the balance sheet. The guarantee received was recorded and will be updated according to triggers defined in the contract.

7.4. Risks inherent in securitisations and quantification

The risks of investing in securitisations are identical to the risks of investing in other debt assets. These risks are linked to global growth and geopolitical events that affect liquidity and may lead to lower trading volumes, as seen during the crisis.

Ongoing regulatory changes and uncertainty regarding the final legislative framework may lead to increased volatility and lower trading volumes.

Other potential risks that may exist in securitised assets are prepayment, default, basis risk and servicer performance.

Where securitisations exist in the trading book, they are marked to market and the risks mentioned above are factored into the position's price.

When there is liquidity in these instruments, novobanco Group values them at best price.

In the remaining cases, the securitisation issues are valued using the discounted cash flow method. Future cash flow projections take into account the coupons specified in the terms of issuance for each tranche, up to the available weighted average life (WAL) listed on Bloomberg, and are continuously validated through the investor reports produced by the management entities of the vehicles. It is important to note that if the vehicle becomes financially incapable of settling an expected coupon, the novobanco Group ceases to project future cash flows related to the coupon, as a measure of prudence.

Future cash flows are discounted at risk-free interest rates using a credit risk matrix that considers the type of instrument, external ratings (S&P, Moody's and Fitch) and the country risk of the vehicle portfolio. This credit risk matrix factors in novobanco Group's credit risk expectations, as well as prepayment rates and default rates, which are based on research studies conducted by external entities with strong credibility in the securitisation market.

In some cases, the novobanco Group may rely on valuations provided by external entities of reputed credibility and impartiality in this market, or use such valuations to calibrate the credit risk matrices described in the preceding paragraphs.

Securitisation activities have an impact on the novobanco Group's liquidity activity. This liquidity risk is monitored by the GRD and is included in the liquidity plan and regular stress tests.

The process covers securitisations and re-securitisations.

7.5. Management of investments in securitisations

novobanco Group's investments in debt instruments resulting from securitisation or re-securitisation operations align with its risk appetite and are carried out in accordance with the prevailing investment policies, as well as the broader risk management framework of the Group. Investments in securitisations are supported by credit and rating analyses, and require prior approval from the Bank's competent bodies, regardless of the amount of the investment or the ratings assigned. The risks of investments already made in securitisations or re-securitisations are monitored as described below.

7.5.1 Management of banking book positions

Securitisation risk is essentially linked to the profile of the underlying assets. This risk is typically mitigated through credit enhancement mechanisms such as subordination of the debt issued, over-collateralisation, reserve funds, and other measures that are incorporated in the operation's structure.

The legal documentation also includes provisions for performance triggers or default events that can accelerate the reimbursement of the notes, execution rights, and other indemnities.

Transactions' performance, changes in the securitisation rating and performance reports ("investor report") are monitored on a regular basis. The latter enable monitoring the protection ratios, which, if not complied with, trigger mechanisms that increase the initial protection, namely by diverting funds intended for repayment of more subordinate classes towards the repayment of more senior classes.

As shown in the quantitative information provided later in this chapter, as of the end of 2022, the Bank's investments in securitisation positions originated by third parties were only residual (<100 thousand euros).

7.5.2 Management of trading book positions

Securitisation positions held for trading are exposed to market risk, and are managed according to the same policies and procedures as those applying to the remaining assets, as described in chapter **8. Market risk of this report.**

All securitised positions held for trading are grouped with the remaining trading instruments, and their overall value is monitored for the VAR and stop loss limits defined and approved by the Bank's competent bodies in the context of its risk appetite.

Any overstepping of these limits is signalled by the limits monitoring system, which triggers the communication / decision procedures instituted internally in the context of limits control.

At the end of 2022 the Bank had no investment in securitisation positions for trading purposes.

The tables below summarise the outstanding value of securitised exposures and the gains and losses recognised by the institution on sales.

Table 82 – Securitisation operations – Activity overview

million euros

	Amount of securitised exposures		Gains / Losses recognised on sales	
	2021-12	2022-12	2021-12	2022-12
Synthetic Securitisations	**0**	**0**	**0**	**0**
Asset items				
Highest hierarchical level (Most senior)	0	0	0	0
Mezzanine	0	0	0	0
First Loss positions	0	0	0	0
Off-balance sheet items and derivative instruments				
Traditional Securitisations	**1 066**	**871**	**0**	**0**
Asset items				
Highest hierarchical level (Most senior)	562	450	0	0
Mezzanine	504	420	0	0
First Loss positions	0	0	0	0
Off-balance sheet items and derivative instruments				

Table 83 – Securitisation operations – Analysis of losses

million euros

	Outstanding value of securitised exposures		Losses recognised by the Institution	
		Of which: related to impaired or overdue positions	2021-12	2022-12
Synthetic Securitisations			**0**	**0**
Asset items				
Highest hierarchical level (Most senior)			0	0
Mezzanine			0	0
First Loss positions			0	0
Off-balance sheet items and derivative instruments				
Traditional Securitisations			**-1**	**-105**
Asset items				
Highest hierarchical level (Most senior)			0	0
Mezzanine			-1	-105
First Loss positions			0	0
Off-balance sheet items and derivative instruments				

7.6. Calculation methods of own funds requirements for securitisation exposures

At the beginning of 2019 the CRR rules for weighting securitisation exposures were changed by Regulation (EU) 2017/2401 of the European Parliament and of the Council for new positions acquired as from that date and for positions already held at the beginning of 2019, only as from the beginning of 2020. Therefore, as from that date, the **novobanco** Group calculates the credit risk-weighted assets and corresponding capital requirements for securities investments resulting from traditional securitisations, including both third-party and Group-originated securities (retentions), using the external ratings-based approach (SEC-ERBA) in accordance with Article 263 of the CRR as amended by the aforementioned regulation. The Group determines the risk weights applicable to securitisation exposures under this approach solely based on the external ratings assigned by Standard & Poor's and Moody's.

For the risk weighting of exposures under synthetic securitisations, the Bank uses the internal ratings-based approach (SEC-IRBA) in accordance with article 259 of the CRR.

As referred further up, at the end of 2022 there were no securitisation exposures on novobanco Group's trading book (see Chapter **8. Market risk**).

At the end of 2022, novobanco Group had no re-securitisation exposures.

The following tables show the amount of exposure and risk-weighted assets and respective capital requirements resulting from investments in securitisations originated by third parties, at the end of 2022.

Table 84 – Template EU-SEC1 — Securitisation exposures in the non-trading book

million euros

	2022-12														
	Institution acts as originator							Institution acts as sponsor				Institution acts as investor			
	Traditional				Synthetic		Subtotal	Traditional		Synthetic	Subtotal	Traditional		Synthetic	Subtotal
	STS		Non-STS			of which SRT		STS	Non-STS			STS	Non-STS		
		of which SRT		of which SRT											
Total exposures	-	-	-	-	1 012	-	1 012	-	-	-	-	-	0	-	0
Retail (total)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
residential mortgage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
credit card	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
other retail exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wholesale (total)	-	-	-	-	1 012	-	1 012	-	-	-	-	-	0	-	0
loans to corporates	-	-	-	-	1 012	-	1 012	-	-	-	-	-	-	-	-
commercial mortgage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
lease and receivables	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
other wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

As referred, at the end of 2022, the securitisations class contained only low value exposures (<€100 thousand) resulting from securitisations originated by third parties, largely corresponding to the synthetic securitisation exposure originated by the Bank at the end of 2022.

Table 85 – Template EU-SEC3 — Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as originator or as sponsor

million euros

	2022-12															
	Exposure values (by RW bands/deductions)					Exposure values (by regulatory approach)				RWEA (by regulatory approach)				Capital charge after cap		
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250% RW/ deductions
Total exposures	**1 012**	-	-	-	**-17**	**994**	-	-	**-17**	**149**	-	-	-	**12**	-	-	-
Traditional transactions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which STS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which STS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Synthetic transactions	**1 012**	-	-	-	**-17**	**994**	-	-	**-17**	**149**	-	-	-	**12**	-	-	-
Securitisation	1 012	-	-	-	-17	994	-	-	-17	149	-	-	-	12	-	-	-
Retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wholesale	1 012	-	-	-	-17	994	-	-	-17	149	-	-	-	12	-	-	-
Re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 86 – Template EU-SEC4 — Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as investor

million euros

	2022-12															
	Exposure values (by RW bands/deductions)					Exposure values (by regulatory approach)				RWEA (by regulatory approach)				Capital charge after cap		
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250% RW / deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250% RW	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250% RW
Total exposures	-	-	-	-	**0**	-	-	-	**0**	-	-	-	**1**	-	-	-	**0**
Traditional) securitisation	-	-	-	-	**0**	-	-	-	**0**	-	-	-	**1**	-	-	-	**0**
securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Of which STS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wholesale	-	-	-	-	0	-	-	-	0	-	-	-	1	-	-	-	0
Of which STS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Synthetic securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 87 – Template EU-SEC5 — Exposures securitised by the institution - Exposures in default and specific credit risk adjustments - institution acting as investor Institution acts as originator or as sponsor

million euros

	2022-12		
	Exposures securitised by the institution - Institution acts as originator or as sponsor		
	Total outstanding nominal amount		Total amount of specific credit risk adjustments made during the period
		Of which exposures in default	
Total exposures	**3 007**	**43**	**11**
Retail (total)	**1 660**	**43**	**8**
residential mortgage	1 660	43	8
credit card	-	-	-
other retail exposures	-	-	-
re-securitisation	-	-	-
Wholesale (total)	**1 347**	**0**	**4**
loans to corporates	1 347	0	4
commercial mortgage	-	-	-
lease and receivables	-	-	-
other wholesale	-	-	-
re-securitisation	-	-	-

For more detail on securitisation exposures and transactions involving derivative instruments, see notes 23 - Financial assets and liabilities held for trading, 25 - Derivatives - Hedge accounting and fair value changes of hedged captions, and 42 - Fair value of financial assets and liabilities -, to the consolidated financial statements included in novobanco's 2022 Annual Report.

8 Market Risk

8.1. Management of Market Risk

Market risk derives from the adverse impact on the value of asset and off-balance sheet own portfolios carried at fair value due to changes in market risk factors, namely interest rates, credit spreads, exchange rates, equity/index prices and volatilities.

novobanco Group's monitoring, control, and internal reporting of market risk is based on the market risk appetite established by the Executive Board of Directors, as well as a stress-testing framework that is reflected in internal regulations and implemented through the use of internal models and market risk metrics. Market risk is managed in accordance with the investment policy guidelines approved annually and monitored on a monthly basis in the Risk Committee and the Risk Committee of the General and Supervisory Board.

The governance and the definition of functions and responsibilities in the management, control and reporting of market risk in the novobanco Group follow the three lines of defence model. The Treasury and Financial Department is responsible for managing the market risk of the securities and derivatives portfolios accounted at fair value, while the GRD is responsible for monitoring, controlling and reporting this risk. The IAD is responsible for the independent assessment of the whole process.

Market risk monitoring and reporting is carried out on a daily basis for novobanco Group’s trading and investment portfolios at fair value, for which Value-at-Risk (VaR) is used. novobanco Group’s VaR model uses the Monte Carlo simulation, based on a statistical confidence interval of 99% and a holding period of 10 days. The adequacy of the VaR model is validated daily through backtesting (theoretical and real). Market risk monitoring also includes the monthly reporting of additional metrics within the scope of the stress testing framework, namely Stressed VaR (SVaR), historical stress scenarios, and sensitivity analyses of the main risk factors.

Regarding regulatory reporting, market risk is calculated and reported on a quarterly basis to determine economic capital requirements (Pillar 2) in ICAAP reporting, and also for various stress-testing exercises and sensitivity analyses. These include the Short-Term Exercise (STE), the EBA Stress Testing Exercise, and reporting under the Fundamental Review Trading Book (FRTB).

8.1.1 Quantitative information on market risk

Table 88 – Market Risk Values (novobanco Group)

million euros

	Trading Book	
Value-at-Risk (VaR 99% 10d)	**2022-12**	**2021-12**
Exchange risk	340	2 494
Interest rate risk	586	31 454
Shares and commodities	0	3
Volatility	1	0
Credit spread	415	719
Effect of diversification	-444	-4 314
Total	**898**	**30 356**

novobanco Group's trading portfolio VaR (10 days, 99%) significantly decreased in the last year, essentially due to the decline in derivatives and debt securities exposures

8.2. Calculation methods of own funds requirements for market risk

Capital requirements for interest rate and equity securities risks is calculated based on the regulatory trading book, i.e., the entire portfolio recorded in the accounts as for trading. Capital requirements for exchange rate and commodities risks are calculated based on the trading book and banking book.

These risks are calculated under the standardised approach, as stipulated in the CRR, using the maturity-based approach for the general risk of debt instruments and the simplified method for commodities. The non-delta risk of interest rate and commodity options is calculated under the delta-plus approach, and the scenario approach is used for foreign exchange and equity options

8.3. Own funds requirements for market risk

The following tables show a very significant reduction in market risk weighted assets: from 1,207 million euros at the end of 2021 to 78 million euros at the end of 2022.

This reduction essentially reflects the behaviour of interest rate risk during 2022, with interest rate risk weighted assets decreasing from 1,184 million euros at the end of 2021 to 78 million euros at the end of 2022.

The reduction resulted from the restructuring of the Bank's treasury portfolio (investment portfolio and related economic hedges), which involved the reclassification of part of the interest rate swaps that were booked in the trading portfolio as hedge accounting and the transfer of the interest rate risk from the banking book to the trading book. This interest rate risk transferred was then hedged through interest rate swaps held in the trading book. These changes permitted to reduce the total exposure to general interest rate risk (in the trading book) and consequently the corresponding risk-weighted assets.

Table 89 – Template EU MR1 – Market risk under the standardised approach at 31 December 2022

million euros

	2022-12
	RWEA
Outright products	
Interest rate risk (general and specific)	78
Equity risk (general and specific)	-
Foreign exchange risk	-
Commodity risk	-
Options	
Simplified approach	-
Delta-plus approach	0
Scenario approach	-
Securitisation (specific risk)	-
Total	**78**

Tbale 90 – Template EU MR1 – Market risk under the standardised approach at 31 December 2021

	million euros
	2021-12
	RWEA
Outright products	
Interest rate risk (general and specific)	1 184
Equity risk (general and specific)	-
Foreign exchange risk	24
Commodity risk	-
Options	
Simplified approach	-
Delta-plus approach	0
Scenario approach	-
Securitisation (specific risk)	-
Total	**1 207**

9 Equity exposures in the banking book

9.1. General overview

Most of the equity exposures held directly by novobanco Group in the banking book were originated prior to the resolution of BES. The banking book includes equity holdings in several types of entities, namely shares received as payment in kind and loan to equity conversions.

Since 1 January 2018, the novobanco Group's equity exposure is accounted for in two asset portfolios: (i) assets recognised at mandatory fair value through profit or loss, with changes in value taken to the income statement, and (ii) assets recognised at fair value through other comprehensive income, with changes in value recognised in equity under a separate caption - "Fair Value Reserves".

Until 1 January 2018, the novobanco Group classified financial assets into financial assets at amortised cost, at fair value through profit or loss, available for sale, and held to maturity.

These financial assets are initially recognised at fair value plus transaction costs, except for financial assets at fair value through profit or loss, where transaction costs are directly recognised in the income statement.

Financial assets are derecognised from the balance sheet when (i) the novobanco Group's contractual rights to the respective cash flows have expired, (ii) the novobanco Group has substantially transferred all the risks and benefits associated with their ownership, or (iii) despite novobanco Group having withheld part, but not substantially all of the risks and benefits associated with their ownership, control over the assets has been transferred. When an operation measured at fair value through other comprehensive income is derecognised, the accumulated gain or loss previously recognised in other comprehensive income is reclassified to the income statement. In the specific case of equity instruments, the accumulated gain or loss previously recognised in other comprehensive income is not reclassified to profit or loss, being transferred between equity items.

Acquisitions and disposals of securities are recognised on the trade date, i.e., on the date on which the novobanco Group commits to acquiring or disposing of the asset.

Assets recognised at mandatory fair value through profit or loss are measured at fair value, and the respective gains or losses on revaluation are taken to the income statement.

Financial assets at fair value through other comprehensive income are initially recorded at fair value and subsequently measured at fair value with changes in the fair value recognised in reserves (other comprehensive income) until derecognition, when cumulative potential gains and losses recognised in reserves are reclassified to the caption Gains and losses on financial assets and liabilities designated at fair value through profit or loss. In the specific case of equity instruments, the cumulative gains/(losses) previously recognised in other comprehensive income are not reclassified to profit or loss, but transferred between equity accounts. However, dividends received from these equity instruments are recognised in profit or loss for the year.

More detail on equity exposures in the banking book is provided in points 7.10.1, 7.10.3, 7.10.4 and 7.10.5 of note 7 no the consolidated financial statements, included in novobanco's 2022 Annual Report.

9.2. Quantitative information

Table 91 – Equity exposures in the banking book

million euros

	Listed shares		Unlisted shares				Total	
			Private Equity		Others			
	2021-12	2022-12	2021-12	2022-12	2021-12	2022-12	2021-12	2022-12
Acquisition Cost / Notional Value	**350**	**270**	**250**	**154**	**200**	**94**	**801**	**519**
Fair Value [(1)]	87	6	250	154	151	68	488	228
Market Price	-	-	-	-	-	-	-	-
Income / (Loss) arising from sales, settlements and revaluations	14	(9)	-	-	11	23	25	14
Total unrealised gains or losses [(1)]	-263	-264	-	-	-108	-82	-371	-347
Total latent revaluation gains or losses	-	-	-	-	-	-	-	-

[(1)] Corresponds to the value of revaluation reserves

10 Operational risk

10.1. General overview

Operational risk may be defined as the probability of occurrence of events with negative impacts on results or equity, resulting from inadequacies or weaknesses in procedures or information systems, staff behaviour, or external events, including legal risk. Operational risk is therefore considered as the sum of the operations, information systems, compliance and reputational risks.

Consequently, Operational Risk is inherent to all the activities of novobanco Group, with no exception, i.e., to all businesses, processes, and systems. Therefore, all the employees are responsible for the management and control of operational risk within their sphere of responsibility.

The operational risk appetite defined reflects the unfeasibility of eliminating this risk from a cost-benefit perspective. Hence the occurrence of events with immaterial net individual losses is tolerable. Given this impossibility, operational risk appetite management and control intrinsically require diligent, ethical and client-centric conduct by the entire organisation. In the case of material losses, which tend to be infrequent, the novobanco Group conducts a root-cause analysis to identify and implement measures that eliminate, transfer, or mitigate the underlying risk, thereby reducing it to an acceptable level and the likelihood of its repetition.

10.1.1. Management practices

Operational risk is managed through the implementation in novobanco Group of processes ensuring uniformity, systematisation and recurrence in the identification, assessment, monitoring, control and mitigation of this risk. The management methodologies in place are supported by principles and approaches to operational risk management, namely those issued by the Basel Committee and the EBA, recognised as translating the best practices in this area.

The operational risk management model implemented follows the 3 Lines of Defence principle, with clearly defined roles and responsibilities, and is supported by a specific structure within the GRD exclusively dedicated to designing, monitoring and maintaining the model. This structure guarantees the dissemination, adequate implementation and standardisation of the Operational Risk Management Model within novobanco Group's various materially relevant financial institutions of NBG, in compliance with the methodologies approved by the EBD. For the model to be effective, permanent coordination between the GRD and the Representatives of Operational Risk Management appointed for each organisational unit of novobanco and the branches and subsidiaries of novobanco Group is crucial. These representatives are responsible for the implementation of the established procedures within the sphere of responsibility of the organisational unit or entity they represent.

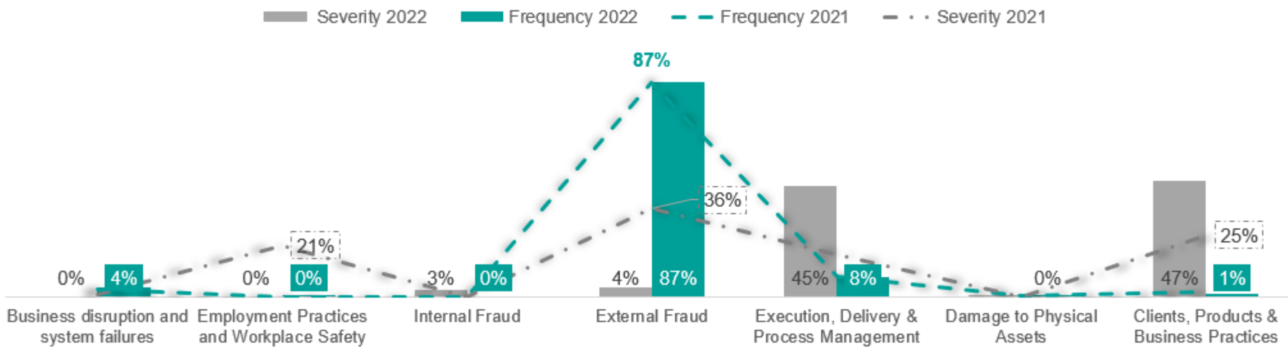
The Operational Risk management and control model in place involves the following:

- Definition and maintenance of the Operational Risk Management and Control Framework, and definition of specific Risk Policies and Methodologies for novobanco Group;
- Proposal and monitoring of novobanco Group's operational risk appetite through key risk indicators (KRIs) for all risk categories, as well as limits to monitor the expected risk appetite. Monitoring necessarily implies a root-cause analysis of the instances of breach of limits observed, viewing remediation or correction.
- Regulatory classification and root-cause analysis of all incidents reported on the corporate operational risk IT platform (AGIRO) by the various units of the novobanco Group. This database considers all incidents, with no restrictions in terms of financial limits or the nature of the impacts. Effective risk management requires identifying the root-causes of a risk in order to develop the most appropriate mitigation strategy. To accomplish this, a thorough analysis is conducted to ensure that response plans are in place to minimise any negative impact.
- Implementation of procedures to monitor the registration of events in order to verify the effectiveness of the risk identification processes implemented in novobanco Group's entities while ensuring that the information on operational risk events is captured and is consistent. Control is based on several sources of information, and in particular the core process of verification of financial movements recorded in certain headings versus the incidents logged in the corporate database (AGIRO);
- Collaboration with and support to the 1st line of defence in assessing the risks inherent in innovation initiatives or process improvements, as well as in defining appropriate actions to mitigate any risks or misalignments identified in the risk profile and tolerance levels;
- Analysis of risk sources reported by novobanco Group's organisational units in order to determine appropriate control and correction actions, thereby preventing them from materialising into operational risk incidents. This serves as a risk prevention tool;
- Analysis of external public events, which involves an internal assessment of whether similar events can occur within the Group, and identification of possible improvements to the processes in place;
- Promoting awareness, training and alerts as a means of intensifying a risk culture, particularly in the 1st line of defence, with consequent benefits to the process of risk prevention, identification and control. Sharing of experiences, lessons learned and best practices across the various units of the novobanco Group;
- Holistic risk assessments or specific assessments of certain risk categories, viewing an adequate control of exposure to operational risk;
- Implementation of actions / alerts to detect and prevent fraud risk, based on assessments and information obtained through various operational risk management tools;
- Monitoring of the implementation of actions to eliminate or mitigate the causes of the risks identified, through the analysis of incidents, risk sources, risk assessments, monitoring of the risk appetite or information obtained in workshops with heads of organisational units;

- Preparation of novobanco Group's consolidated information on Operational Risk, and reporting it to the Risk Committee of the Board of Directors and the Operational Risk Committee;
- Drafting of regulatory reports on Operational Risk, including stress tests, ICAAP, ICT Risk Assessment and other exercises;
- Active participation, though the issuance of risk assessment opinions, in change management processes (products, services and processes), and monitoring of (i) two types of exclusions to the sign-off process for new products and services that potentially generate Operational Risk, and (ii) the effective implementation of the measures implemented to address the alerts included in opinions issued;
- Responsibilities assumed under the Outsourcing Risk Policy: (i) validation of risk assessments carried out in connection to outsourcing agreements, (ii) monitoring of the implementation of remediation measures identified in the annual assessment of this Policy's effectiveness, (iii) validation of Exit Plans for activities considered as critical, (iv) issuing of outsourcing sign-offs as a means of verifying effective compliance with the Policy, and (v) supervision of outsourcing sign-offs issued by the risk units of the Group's subsidiaries;
- As Model Owner: development, revision, disclosure and monitoring of IT related Risk Models adopted by several financial institutions of the novobanco Group that support the monitoring of IT Continuity Risk and Internal Fraud Risk limits. Development of other models to support risk classifications for decision-making processes in the Group;
- Responsibilities assumed under the Model Risk Policy: maintenance of novobanco Group's Inventory of Models, which includes not only the regulatory models, but all the decision support models;
- Responsibilities assumed under the Reputation Risk Policy: issuance of opinions on reputational risk;
- Responsibilities assumed under the Related-Party Transactions Policy: issuance of a holistic risk opinion.

Indicators

Operational risk incidents detected are classified according to business segments and type of regulatory risk. In the expected operational risk profile, there is a concentration of more than 50% of incidents and respective severity in the categories of "External Fraud" and "Process Execution, Distribution and Management". In 2022, the concentration risk profile was as expected, except in terms of severity, as there were some one-off situations of some materiality. These were duly remedied in order to prevent their recurrence in the future.



10.1.2. Calculation of own funds requirements under the standardised approach

The CRR defines 3 methods to calculate own funds requirements for operational risk coverage: basic indicator approach, standardised approach and advanced measurement approach.

For prudential reporting purposes, own funds requirements at 31 December 2022 were calculated under the standardised approach.

Under the standardised approach, own funds requirements for operational risk, K_{TSA}, correspond to the average of the last three years of the sum of the risk-weighted relevant indicators, which are determined on a yearly basis, for the eight regulatory business lines - corporate finance, trading and sales, payment and settlement, commercial banking, agency services, retail banking, retail brokerage and asset management.

$$K_{TSA} = \frac{\sum_{i=1}^{3} \max\left[\sum_{j=1}^{8}(IRj \times \beta j), 0\right]}{3}$$

Where:

IRj corresponds to the relevant indicator of a given year for each of the eight (j) business lines;

βj is the risk factor (fixed percentage) for each of the eight (j) business lines:

BUSINESS LINES	RISK FACTOR (β)
Corporate finance	18%
Trading and sales	18%
Payment and settlement	18%
Commercial banking	15%
Agency services	15%
Retail banking	12%
Retail brokerage	12%
Asset management	12%

10.1.3. Calculation of relevant indicator

novobanco Group prepares its financial statements in accordance with the International Financial Reporting Standards (IFRS), as adopted in the European Union under Regulation (EC) No. 1606/2002 of the European Parliament and of the Council of 19 July 2002.

The relevant indicator (RI) is calculated based on the accounting concepts defined in Article 216 of the CRR, maintaining some changes indicated by the Bank of Portugal on 2 March 2009. The following accounting headings were therefore considered:

Table 92 – Accounting headings contributing to determine the Relevant Indicator

P&L	Accounting
(+) Net interest and similar income	79
(-) interest payments and similar expenses	66
(+) Shares income and other variable income securities	82-821
(+) Commissions received	80+[81-(8148001+8148000)]
(-) Commissions paid	67+68-711883
(+) Results for financial operations	[83-(831+833+834)]-[69-(691+693+694)]
(+) Other operating income	[84-(841+842+843+84400+844180+844320+ +8444+8445+8448+84881+84880+84820)]

The above headings must reflect the following adjustments, when necessary:

- The relevant indicator must be stated gross of provisions and operating costs, i.e., it must be calculated before the deduction of any provisions and operating costs, the latter including fees paid for services rendered by third parties other than subsidiaries;
- Fees paid for services rendered by third parties other than subsidiaries contribute to reduce the relevant indicator;
- Fees received for the provision of outsourcing services contribute to increase the relevant indicator;
- To the extent that they do not result from the current activity of institutions, income from the sale of non-trading book items, extraordinary results, income from insurance (excluding the part of insurance brokerage considered as ancillary to the institutions' current activity) and insurance indemnities received are not considered in the calculation of the relevant indicator.

Relevant indicators are calculated for the novobanco Group scope.

The business line is allocated based on the careful analysis of the core business. Except for novobanco in Portugal, NBA and BEST, all other entities of the novobanco Group were considered as monoline given that their activity is essentially concentrated in one business line, as per the terms of the CRR.

10.2. Quantitative information on operational risk

In 2022, the capital requirements for operational risk remained the same as in 2021, but the composition of the IR underwent some changes, with the weight of the Retail Banking and Commercial Banking segments being considerably higher than in 2021. Conversely, the Trading and Sales segment registered a sharp reduction in 2022.

Table 93 - Template EU OR1 - Operational risk own funds requirements and risk-weighted exposure amounts

million euros

	2022-12				
	Relevant indicator			Own funds requirements	Risk exposure amount
Banking activities	Year-3	Year-2	Last year		
Banking activities subject to basic indicator approach (BIA)	-	-	-	-	-
Banking activities subject to standardised (TSA) / alternative standardised (ASA) approaches	842	1 023	1 059	134	1 670
Subject to TSA:	842	1 023	1 059		
Subject to ASA:	41	35	30		
Banking activities subject to advanced measurement approaches AMA	-	-	-	-	-

11 Interest rate risk on the banking book

11.1. Qualitative information

- **Description of interest rate risk**

Interest rate risk is defined as the impact of current or future risk arising from adverse interest rate movements affecting interest rate sensitive instruments on the banking book, either on the economic value or the net interest income and results of a financial institution. The trading portfolio is excluded from the scope of interest rate risk calculation.

The impact on economic value consists of variations in the net present value of all the cash flows from assets, liabilities and off-balance sheet items in the banking book due to changes in interest rates, assuming that all the positions in the banking book are held to maturity. The impact is measured as the difference between the baseline scenario and the different shock scenarios.

The impact on net interest income (interest received minus interest paid) consists of the change in expected future profitability over a given time horizon, resulting from interest rate movements. The same as for economic value, the impact is measured as the difference between the baseline scenario and the different shock scenarios.

Additionally, the impact on results takes into consideration not only the effects on net interest income but also those arising from changes in the market value of instruments on the banking book that are recognised in the income statement (at fair value) or directly in equity (through other comprehensive income).

Interest rate risk can be divided into the following types of risk: gap risk, basis risk and option risk.

- **Governance of interest rate risk**

The governance and the definition of functions and responsibilities in the management, control and reporting of interest rate risk in the novobanco Group follow the three lines of defence model. Interest rate risk management is the responsibility of the Treasury and Financial Department. The GRD monitors, controls and reports this risk. The IAD is responsible for the independent assessment of the whole process.

In addition to the management and monitoring exercised by the Executive Board of Directors, the following committees have been established: Risk Executive Committee and Capital, Assets and Liabilities Committee (CALCO).

The CALCO approves the interest rate risk management and strategy, while the Risk Executive Committee monitors the evolution of this risk. Both committees meet on a monthly basis.

The interest rate risk on the banking book is managed and controlled in the framework of the risk appetite and limits established. The risk appetite and risk limits are revised and established on an annual basis, as proposed by the Executive Board of Directors and subsequently approved by the General and Supervisory Board. The interest rate risk appetite is defined in accordance with regulatory requirements, and taking into account the current context of the novobanco Group. This calculation uses metrics to determine the impact on the economic value of capital and on net interest income. The risk appetite is monitored on a monthly basis by the Risk Executive Committee.

In accordance with the European Banking Authority recommendations (EBA/GL/2018/02), novobanco Group calculates its exposure to interest rate risk on the balance sheet based on the prescribed shocks, classifying all notional amounts of interest rate sensitive assets, liabilities and off-balance sheet items (excluding those on the trading book) by repricing intervals.

Exposure to interest rate risk is calculated for novobanco Group as a whole and for each of its institutions. For internal control purposes, exposure to interest rate risk is calculated on a monthly basis. Regulatory calculation and reporting take place quarterly, within the scope of the STE.

- **Interest rate risk management and mitigation**

The interest rate risk on the banking book management strategy takes into account the risk appetite, and measures to mitigate the impact of interest rates on economic value and net interest income.

The interest rate risk management strategy is defined and approved in the CALCO Committee, according to management principles and taking into account the current interest rate risk profile and interest rate projections. This strategy establishes a set of measures/principles intended to ensure that management principles are followed in adverse interest rate scenarios. These measures are reviewed annually or whenever there are significant changes in the banking book risk profile or in market interest rates, and subsequently incorporated in the medium-term plan.

The interest rate risk hedging strategy is defined and approved by the CALCO Committee, based on the interest rate risk management principles. The strategy is implemented essentially through natural balance sheet hedging. Derivatives are used to correct balance sheet imbalances.

- **Interest rate risk measurement**

The impact on economic value is calculated through regulatory shocks prescribed in the EBA guidelines, and through VaR metrics.

With regard to the impact on net interest income, in addition to the regulatory shock scenarios (+/- 200 bps), other internal interest rate shock scenarios are used as net interest income sensitivity metrics, such as +/- 50 bps, +/- 1 bps, or constant rate scenarios.

The methodology for calculating the interest rate risk on the banking book covers all the exposures in interest rate sensitive instruments, capital, interest and commercial margins, and excludes all own funds instruments. Financial products lacking associated interest remuneration, such as shares, funds, other assets (including fixed assets), and other liabilities, are regarded as non-sensitive to interest rates.

The method to calculate the impact on economic value assumes a run-off balance sheet. The impact on net interest income is calculated based on a constant balance sheet, using forward rates, and maintaining the characteristics of the operations in terms of volume, price and maturity whenever they mature or are amortised. Net interest income sensitivities are calculated for up to 3 years.

novobanco Group uses an interest rate risk stress testing approach based on three pillars: interest rate shock scenarios, sensitivity analyses, and reverse stress testing.

- **Behavioural modellisation**

Interest rate risk measurement employs behavioural models to assess balance sheet items that lack a defined maturity, such as demand deposits, or that have the potential for early repayment, such as loans and term deposits. Overdue loans distribution models, as well as models to measure the impairment of non-performing exposures (NPE) are also used.

Considering the distribution of demand deposits based on the behavioural model, these deposits have a maximum repricing term of 35 years, while the average repricing period is 0.8 years. This includes both total core deposits (stable deposits) and non-core deposits (non-stable deposits with the shortest allocation timeframe - sight deposits). The average time to repricing of core deposits is 2.86 years.

- **On-balance sheet interest rate profile**

From an economic value perspective, at the end of 2022, risk exposure essentially derived from the fixed-rate investment portfolio (partially offset by hedging derivatives), long-term fixed-rate issues (partially hedged by long term securities) and hedging of variable rate mortgage loans by derivatives (cash flow hedging), resulting in a global profile of exposure to rising interest rates.

From the standpoint of net interest income, the risk profile of the novobanco Group primarily stems from the portfolios of variable-rate mortgage loans, as well as medium/long-term corporate loans and from a liability structure mainly consisting of fixed-rate instruments tied to the ECB key rate, encompassing term deposits, long-term issuances, and funding obtained from the ECB.

11.2. Quantitative information on the interest rate risk on the banking book

Table 94 – Interest rate risk

million euros

Regulatory shock scenarios	Variation in Economic Value Equity (EVE)		Variation in Net Interest Income (NII)	
	2022-12	2021-12	2022-12	2021-12
1 Parallel up	-361	63	155	173
2 Parallel down	196	-71	-168	-45
3 Steepener	40	93		
4 Flattener	-145	-157		
5 Short rates up	-242	-82		
6 Short rates down	131	51		

The shocks shown in Table 92 correspond to the regulatory shocks defined in the EBA guidelines (EBA/GL/2018/02), applied in accordance with the defined regulatory floors. The shock on net interest income is calculated with a time horizon of one year. It does not include fees and commissions or the effects of changes in the market value of instruments classified at fair value through reserves.

The worst regulatory shock to which the NB Group is exposed is the parallel up +200 bps scenario, representing a loss of 361 million euros, corresponding to 12.3% of Tier 1 capital.

The sensitivity of net interest income at 1 year to a shock of -200 bps (with regulatory floor) is -168 million euros, representing 5.7% of Tier 1 capital.

The bank also calculates the sensitivity of net interest income at 1 year to a shock of -50 bps (without floor) on the projected net interest income at 1 year in the baseline scenario.

At the end of 2022 the impact of this shock was -38 million euros, representing approximately 3.7% of the total net interest income projected at 1 year.

12 Liquidity risk

Commission Implementing Regulation (EU) 2021/637 of 15 March 2021, published in the Official Journal of the European Union, lays down implementing technical standards with regard to public disclosures by institutions and provides a harmonised structure for the disclosure of liquidity risk management, the Liquidity Coverage Ratio (LCR) and the template for the base indicators LCR and NSFR (Net Stable Funding Ratio) that must be disclosed.

12.1. Management of liquidity risk

Liquidity risk management at novobanco Group is based on the liquidity risk appetite established by the Executive Board of Directors, following the principle of the three lines of defence.

Liquidity risk is managed in accordance with the relevant regulatory rules, ensuring that obligations are met, even in situations of stress.

The liquidity risk management framework includes:

- **Risk appetite and governance model**

The Executive Board of Directors is responsible for approving the risk appetite and making sure that the information, resources, and procedures necessary to develop the Bank's strategy are available.

The interaction between the treasury area and the and the financial area is designed to clearly separate the tasks involved in managing liquidity risk from those involved in monitoring, controlling, and reporting that risk. The audit area, acting as the third line of defence, is responsible for reviewing the processes implemented against existing legal standards and guidelines, producing recommendations to ensure their integrity, quality and compliance.

Liquidity risk is managed in accordance with the guidelines of the Capital, Assets and Liabilities Committee (CALCO), which meets on a monthly basis, and is monitored, also on a monthly basis, by the Risk Committee of the Executive Board of Directors, and the Risk Committee of the General and Supervisory Board.

- **Centralised management of liquidity risk and interaction among the Group's units**

Liquidity risk management, covering the treasury departments of the Group's entities, is centralised at novobanco Group’s head office in Lisbon, and it serves as a last resort for branches and subsidiaries.

- **Management of collaterals**

The objective of the management of collaterals process is to maximise funding potential through on-balance sheet assets.

- **Funding adequacy and diversification**

In line with its prudent liquidity management policy, the novobanco Group strives for an adequate diversification of its funding sources, stressing in particular the increase in deposits and funding - either secured or not by collaterals - with market counterparties.

- **Definition of a transfer pricing policy**

The defined transfer pricing structure supports a relationship between customer loans and customer deposits according to the principles defined in the annual budget. This permits to allocate the Bank's funding costs to each transaction or business unit, thereby ensuring accurate determination of the pricing for each individual transaction.

- **Implementation of internal liquidity stress tests**

The Bank has in place a process to identify and regularly review the liquidity risk drivers to which it is or may be exposed, which are part of the liquidity stress scenarios. These scenarios also take into account novobanco's historical perspective and combine simultaneous idiosyncratic, regional and market stress events that are considered plausible and sufficiently severe in terms of their impact on the Bank's liquidity position.

- **Development of a liquidity contingency plans - hedging and mitigation policies, strategies and processes**

The liquidity contingency plan (LCP) makes the link between the liquidity needs of novobanco Group and the maximum level of liquidity required in a stress scenario. The LCP has two main components: the early detection of liquidity crises; and the strategy of response to such crises, which includes the definition of mitigation measures.

- **Adequacy of liquidity risk management measures to liquidity risk profile and strategy**

The Bank has defined a series of liquidity risk appetite metrics which ensure compliance with the defined strategy, maintaining a robust liquidity position. Such metrics include the regulatory liquidity ratios, the survival horizon in a stress situation and minimum liquidity buffers.

Additional information on liquidity risk management can be found in point 4.2 Liquidity and Funding, of the Management Report, and in note 44 - Risk Management, both in novobanco's 2022 annual report.

12.2. LCR disclosure

The Liquidity Coverage Ratio aims to ensure that credit institutions have a sufficient liquidity buffer to cover net outflows in a 30-day severe stress period.

The LCR is calculated by dividing the high-quality liquid assets (HQLA) by the estimated net outflows in a 30-day stress period:

$$\text{LCR (\%)} = \frac{HQLA}{Estimated\ Net\ Outflows\ in\ the\ 30\ days\ stress\ period}$$

where net outflows are determined through the application of weightings prescribed by the regulator and/or calculated internally by the Bank according to its periodic assessment of the probability and potential volume of liquidity outflows over 30 days under a combined idiosyncratic and generalised market stress scenario for specific categories of liabilities such as uncollateralised deposits / transactions, collateralised wholesale transactions, undrawn loan commitments and collateral for derivative exposures. The outflows are partially offset by expected 30-day cash inflows generated by its assets.

The disclosure model presented below includes the simple averages of month-end observations in the twelve months prior to the end of each quarter for HQLA, 30-day cash outflows and inflows, and the resulting LCR for the period indicated, as required by the regulator. The unweighted amount represents the average balances of various categories of outflows and inflows, while the weighted amount represents the balances after application of the prescribed weights.

The amounts shown are calculated for the prudential scope.

Table 95 – Template EU LIQ1 — Quantitative information of LCR

million euros

	2022-12	2022-09	2022-06	2022-03	2022-12	2022-09	2022-06	2022-03
	Total unweighted value (average)				Total weighted value (average)			
Quarter ending on (31 December 2021)								
Number of data points used in the calculation of averages	12	12	12	12	12	12	12	12
HIGH-QUALITY LIQUID ASSETS								
Total high-quality liquid assets (HQLA), after application of haircuts in line with Article 9 of regulation (EU) 2015/61					**11 930**	**11 389**	**10 932**	**10 641**
CASH - OUTFLOWS								
retail deposits and deposits from small business customers, of which:	19 202	19 001	18 889	18 804	1 103	1 097	1 086	1 077
Stable deposits	8 819	8 628	8 507	8 374	441	431	425	419
Less stable deposits	4 938	4 971	4 937	4 928	662	666	660	658
Unsecured wholesale funding	10 172	10 067	10 210	10 514	5 387	5 402	5 526	5 732
Operational deposits (all counterparties) and deposits in networks of cooperative banks	1 855	1 795	1 701	1 592	464	449	425	398
Non-operational deposits (all counterparties)	8 315	8 270	8 508	8 922	4 921	4 952	5 100	5 333
Unsecured debt	3	2	1	0	3	2	1	0
Secured wholesale funding					0	33	33	46
Additional requirements	983	908	883	918	348	319	304	330
Outflows related to derivative exposures and other collateral requirements	154	137	123	140	154	137	123	140
Outflows related to loss of funding on debt products	0	0	0	0	0	0	0	0
Credit and liquidity facilities	829	771	760	778	194	182	181	190
Other contractual funding obligations	37	46	67	65	37	46	67	65
Other contingent funding obligations	8 395	8 508	8 785	8 992	276	288	298	301
TOTAL CASH OUTFLOWS					**7 151**	**7 185**	**7 315**	**7 551**
CASH - INFLOWS								
Secured lending (e.g. reverse repos)	20	18	18	4	1	0	0	0
Inflows from fully performing exposures	929	880	868	901	636	602	599	647
Other cash inflows	235	254	244	239	235	254	244	239
(Difference between total weighted inflows and total weighted outflows arising from transactions in third countries where there are transfer restrictions or which are denominated in non-convertible currencies)					0	0	0	0
(Excess inflows from a related specialised credit institution)					0	0	0	0
TOTAL CASH INFLOWS	**1 184**	**1 152**	**1 130**	**1 143**	**872**	**856**	**843**	**886**
Fully exempt inflows	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Inflows subject to 90% cap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Inflows subject to 75% cap	**1 184**	**1 152**	**1 130**	**1 143**	**872**	**856**	**843**	**886**
					VALOR TOTAL AJUSTADO			
LIQUIDITY BUFFER					**11 930**	**11 389**	**10 932**	**10 641**
TOTAL NET CASH OUTFLOWS					**6 279**	**6 329**	**6 472**	**6 664**
LIQUIDITY COVERAGE RATIO					**190,12%**	**179,98%**	**169,84%**	**160,54%**

novobanco Group's average LCR has been rising consistently over time and remains at comfortable levels in relation to the regulatory limits, having increased by 40 p.p. compared to December 2021.

- **Concentration of funding and liquidity sources**

novobanco Group's funding strategy is focused on maintaining a diversified funding profile, prioritising the growth of deposits. The Bank prudently monitors and manages product types, counterparties, and the maturity of funding sources in order to ensure the funding required to meet liquidity needs under both normal and stress conditions.

- **Composition of the liquidity buffer**

At the end of 2022, novobanco Group's liquidity buffer consisted mainly of Level 1 assets (€6,076 million), Level 2 assets (€1,093 million) and cash in Central Banks (€5,654 million, deducting the amount of minimum reserves requirements). Level 1 assets mainly correspond to public debt (88%).

- **Derivative exposures and potential collateral calls**

The novobanco Group engages in derivative market activities, either through bilateral over the counter (OTC) transactions, or through transactions on the stock exchange or with central counterparties. During the regular course of a derivative transaction, the Bank may be required to record initial and/or variation margin. The Bank maintains sufficient liquidity reserves to withstand possible liquidity outflows resulting from derivative transactions.

- **Currency mismatch in the LCR**

Given the nature of novobanco Group's business, both the available net assets (HQLA) and the net outflows are essentially in euros. To a lesser extent, there are net assets and net outflows in currencies other than the Euro, the most significant currency being the US Dollar. The Bank maintains and monitors foreign exchange concentrations and accesses foreign currency markets in order to meet liquidity needs in those currencies.

- **Other items in the LCR calculation that are not captured in the LCR disclosure template but that the institution considers relevant for its liquidity profile**

All relevant elements for the calculation of novobanco Group’s LCR are included in the reporting template.

12.3. Net stable funding ratio (NSFR)

At the end of 2022 the net stable funding ratio (NSFR) was 113%, a decrease of 4 p.p. from the end of the previous year, essentially due to the shortening of funding operations with the ECB, above the regulatory limits.

If we consider the last two years, we see an increase of 12 p.p.in the NSFR, which highlights the group's funding structure, based essentially on retail deposits (mostly stable) and on wholesale funding over one year.

Table 96 – Modelo EU LIQ2 — Net Stable Funding Ratio

million euros

	Unweighted value by residual maturity				Weighted value
	No maturity	< 6 months	6 months to < 1yr	≥ 1yr	
Available stable funding (ASF) Items					
Capital items and instruments	3 272	93	-	399	3 671
Own funds	3 272	93	-	399	3 671
Other capital instruments		-	-	-	-
Retail deposits		18 000	1 512	153	18 348
Stable deposits		11 813	869	88	12 136
Less stable deposits		6 188	643	65	6 212
Wholesale funding:		14 901	1 177	4 763	9 117
Operational deposits		1 701	-	-	-
Other wholesale funding		13 200	1 177	4 763	9 117
Interdependent liabilities		-	-	-	-
Other liabilities:	-	1 100	-	-	-
NSFR derivative liabilities	-				
All other liabilities and capital instruments not included in the above categories		1 100	-	-	-
Total available stable funding (ASF)					31 135
Required stable funding (RSF) Items					
Total high-quality liquid assets (HQLA)					1 592
Assets encumbered for a residual maturity of one year or more in a cover pool		142	133	5 780	5 146
Deposits held at other financial institutions for operational purposes		-	-	-	-
Performing loans and securities:		3 974	1 381	15 408	16 045
Performing securities financing transactions with financial customerscollateralised by Level 1 HQLA subject to 0% haircut		-	-	-	-
Performing securities financing transactions with financial customer collateralised by other assets and loans and advances to financial institutions		552	5	515	573
Performing loans to non- financial corporate clients, loans to retail and small business customers, and loans to sovereigns, and PSEs, of which:		2 945	1 211	9 885	13 858
With a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk		492	251	1 521	3 716
Performing residential mortgages, of which:		65	65	3 454	-
With a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk		51	52	2 585	-
Other loans and securities that are not in default and do not qualify as HQLA, including exchange-traded equities and trade finance on-balance sheet products		412	99	1 555	1 614
Interdependent assets		-	-	-	-
Other assets:		1 011	55	3 499	3 995
Physical traded commodities				6	5
Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs		77	-	-	65
NSFR derivative assets		2			2
NSFR derivative liabilities before deduction of variation margin posted		29			1
All other assets not included in the above categories		903	55	3 493	3 921
Off-balance sheet items		1 250	6	7 919	713
Total RSF					27 491
Net Stable Funding Ratio (%)					113,26%

12.4. Encumbered assets disclosure

12.4.1. Methodologies

Under the terms of Article 443 of the CRR, in 2017 the European Union published Commission Delegated Regulation 2017/2295 supplementing the CRR with regard to regulatory technical standards for disclosure of encumbered and unencumbered assets.

Encumbered assets are assets explicitly or implicitly pledged as guarantee or collateral, such as in loan agreements involving collateral, collateral swaps or collateral provided within the scope of clearing system.

12.4.2. Quantitative information

Banks are required to disclose information based on median values of at least quarterly data on a rolling basis over the previous twelve months. The values presented are therefore the median for the four quarters of 2022.

The figures presented are prepared for novobanco Group's prudential perimeter and show that the median unencumbered assets total 32,721 million euros, of which 8,487 million euros are HQLAs.

Table 97 – Template EU AE1 - Encumbered and unencumbered assets

million euros

	2022-12							
	Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
		of which notionally eligible EHQLA and HQLA		of which notionally eligible EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA
Assets of the disclosing institution	**13 384**	**1 918**			**32 721**	**6 516**		
Equity instruments	-	-			1 561	11		
Debt securities	1 895	1 918	1 895	1 918	8 285	6 275	8 285	6 275
of which:								
covered bonds	-	-	-	-	69	65	69	65
securitisations	-	-	-	-	-	-	-	-
issued by general governments	1 853	1 910	1 853	1 910	4 320	4 215	4 320	4 215
issued by financial corporations	70	45	70	45	1 290	849	1 290	849
issued by non-financial corporations	144	144	202	202	2 769	1 177	2 769	1 301
Other assets	11 704	-			17 011	-		
of which:								
Loans collateralized by immovable property	-	-			-	-		

The table below shows that as at 31 December the novobanco Group carried no amounts relating to Collateral received. The total in the table therefore reflects the total of encumbered assets.

Table 98 – Template EU AE2 - Collateral received and own debt securities issued

million euros

	2022-12			
	Fair value of encumbered collateral received or own debt securities issued		Fair value of collateral received or own debt securities issued available for encumbrance	
		of which notionally eligible EHQLA and HQLA		of which EHQLA and HQLA
Collateral received by institution	-	-		
Collateral received by the disclosing institution	-	-	-	-
Loans on demand	-	-	-	-
Equity instruments	-	-	-	-
Debt securities	-	-	-	-
of which: covered bonds	-	-	-	-
of which: securitisations	-	-	-	-
of which: issued by general governments	-	-	-	-
of which: issued by financial corporations	-	-	-	-
of which: issued by non-financial corporations	-	-	-	-
Loans and advances other than loans on demand	-	-	-	-
Other collateral received	-	-	-	-
Own debt securities issued other than own covered bonds or securitisations	-	-	-	-
Own covered bonds and securitisations issued and not yet pledged			-	-
TOTAL COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED	13 384	1 918		

Table 99 – Template EU AE3 - Sources of encumbrance

milhões de euros

	2022-12	
	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and securitisations encumbered
Carrying amount of selected financial liabilities	9 980	13 384

On-balance sheet encumbered assets, concentrated in the novobanco Group, amounted to 13,035 million, of which 76.5% related to loans, for a total amount of loans of 9,980 million euros. The total for the two categories, i.e., mortgage loans and corporate loans, was 11,493 million euros at the end of 2022.

Of the total encumbered assets, 95% corresponds to collateral used in medium and long-term operations (with residual maturity of more than one year) intended to finance the on-balance sheet commercial activity. The remaining 5% refers to collateral for short-term repo operations (with residual maturity of less than one year) used for short-term liquidity management, or encumbered assets used to collateralise derivative operations.

In December 2020 the percentage of novobanco Group's encumbered assets, calculated in accordance with Annex XVII (10)(1.6) of Regulation (EU) no. 680/2014, was 30%.

novobanco Group also holds a portfolio of securities that can be quickly pledged.

The Bank's encumbered assets are essentially credits and securities used in collateralised funding operations with the central bank, repo operations, covered bond issues and securitisations. There are also assets pledged as collateral to hedge the Bank's counterparty risk in derivative transactions.

Note 44 - Risk Management of novobanco's 2022 Annual Report provides additional information on encumbered assets.

13 Management of ESG risks

13.1. Qualitative information on environmental risks

13.1.1. Business strategy and processes

Aware of its role in the fight against climate change, novobanco has been developing and adopting a structured, ambitious and effective approach to the environmental, social and governance challenges of the transition to a sustainable and low carbon economy and the development of an inclusive and fair society.

The overall strategy for climate and environmental risks, as well as risks related to social and governance issues is supported by formal planning, established for the first time in 2021. From that date, the Bank's strategic plan includes a "Pillar" dedicated to ESG issues within the business strategy, the governance and organisational model, internal activities, risk management and reporting.

The activities and results already achieved are the result of this planning. novobanco also participates in the supervision exercises promoted by the European Central Bank, under which the execution of these plans is also reported and monitored.

In this context, we embedded in our strategy the important goal of becoming a reference entity in ESG in Portugal, contributing to promote sustainable investment practices that accelerate the transition to a carbon-neutral economy and further the social and governance criteria that this transition demands.

We therefore joined the "Business Ambition for 1.5ºC" initiative, committing to establish science-based targets for reducing the Bank's GHG emissions. We also signed the "Letter of Commitment to Sustainable Finance in Portugal", which aims to promote sustainable investment practices in the country, with the objective of accelerating the process of transition to a carbon-neutral economy by 2050.

Our approach

Giving a positive contribution, through its activity, to the entire ecosystem within which it operates is an essential goal for the novobanco Group. In our Sustainability Policy we assume a clear commitment to developing a sustainable business and contributing to the transition to a low-carbon economy. To meet this objective, our approach is based on 4 pillars of action:

- Reducing the carbon footprint of our own operations, acting through an operating model that minimises the direct impact on the environment by reducing consumptions and CO_2 emissions. To this end, several measures and targets have been defined, which are monitored on a monthly basis;
- Reducing the carbon footprint of our loan and investment portfolios. The first step was to consider the exclusion from our loan and risk appetite policy of financing to certain environmentally-sensitive activities and sectors, and to ensure that, as a prior condition to lending, clients guaranteed minimum safeguards in their activity. We are concentrating efforts on the development of methodologies to analyse and assess the ESG maturity and risks, transition challenges, main physical risks and social

challenges of our corporate clients and their value chains. To this end, we have launched pilot processes to collect information from these clients, which will be gradually extended to all portfolios;

- Financing climate transition by positioning ourselves and acting as our clients' partners in the execution of their ESG strategy. As a reference bank in supporting Portuguese businesses, we are working on an approach to support companies' ESG transition. We support our customers by providing loans whose purpose is aligned with the environmental objectives of the European Taxonomy, and through financial products and services that also include promoting their financial and environmental literacy. We also have external partners with experience and expertise in various areas, which reinforces the competitiveness of our offer and helps us give our clients access to services that support them in their ESG strategy and the transformation of their business models.
- Integrating climate and environmental risks into the Bank's risk management models. We are assessing and quantifying the impact of environmental and climate risks on the Bank's activity and portfolios, based on these risks' management framework. This assessment will also allow, in the short and medium term, to define portfolio alignment targets permitting to reduce our indirect environmental impact and to contribute to the European carbon-neutrality objectives.
- Improving information and market discipline. Through this report, we fulfil the legal obligation to disclose information to the market. This information was prepared using the information methodologies and routines currently used by the Bank's management to monitor these risks. Our ambition also leads us to publish for the first time, in the first half of 2023, a report on our analysis and management of climate risks, in compliance with the principles of the Task Force on Climate-Related Financial Disclosures (TCFD).

Our commitments and performance

Environmental Objectives (non exhaustive)	2021	2022	2023	**Objective 2024** vs. 2021	...	**Objective 2030** vs. 2021
Own oper. GHG emissions *(scopes 1 & 2) Tonne CO_2e*	7 634	4 969		- 28% GHG emissions		- 50% GHG emissions
Paper consumption *Tonnes*	155	149		- 30% consumption		
% hybrid/electric vehicles	2,8%	2,8%		20% incorporation		100% incorporation
Green investment *Million €*	€129M	€343M		€600M since 2022		
Investment products with ESG features	7%	10,2%		30% incorporation		

To achieve the objectives we have set out to reach, our priorities are grouped in 3 axes:

Reduction of indirect impact on the environment:

- Financing to Companies
- Financing to Individuals

- Supply Chain
- Investment Products
- Other

Reduction of direct impact on the environment:

- CO_2 emissions
- Electricity (consumption levels and choice of energy sources)
- Paper consumption
- Water consumption
- Waste management
- Other resources

Employee awareness-raising and training:

- Raising awareness for a rational consumption of resources at work
- ESG training for all the Bank employees, in particular those with responsibilities for dialogue with the clients, so that we can provide informed support to our customers and the community on their journey towards sustainability.

Lines of action of our sustainable finance approach to clients

Our customer transition strategy focuses on the companies and sectors facing the biggest transition challenges, which we support through financing and services solutions. This allows us not only to be an active part of this transition but also to mitigate the climate risks to which the Bank is exposed.

To implement this strategy, these are our priority lines of action:

- Identificar To identify sectors and clients facing the biggest challenges and opportunities in the transition to a low-carbon economy, through commercial approaches that assist corporate clients in mapping out their initial position and business transformation and evolution requirements. The approach we are developing provides us with comprehensive insights into our clients' transition challenges and strategies. This enables us not only to support the investments they need to make but also to align the bank's portfolio with national and European decarbonisation targets. The execution of this approach will involve not only the commercial teams that ensure customer relationships, but also specialised product, risk and ESG teams.

  In order to ensure an effective approach model, in 2022 we began developing methodologies to assess customers' ESG risk and. These include:

  - Sector-specific scoring of the Bank's entire Corporate loans portfolio. This will allow us to develop customer segmentation models according to their transition challenges; and

  - Customer and transaction ESG rating models, through which we gather comprehensive information about the client (from public sources, ongoing dialogue with the client, or specific questionnaires). These inputs enable us to assess the client's current position and distance to Taxonomy alignment, as well as the effectiveness of their transition plans

  These methodologies are now in the pilot launch phase, with mass usage planned for the coming months. They will allow the Bank to develop its own transition plan, including the definition of metrics and strategies for alignment with the Paris Agreement objectives

- To create a proposition with sector-specific value for companies, leveraged on European funds programmes, that drives more investment, more innovation, more digitalisation and more sustainability, thus boosting productivity and competitiveness in the business community.
- To continue to strengthen a relationship of proximity and partnership with Portuguese companies, providing them investment and working capital support solutions adjusted to their transition needs.

In 2022, we reinforced our offer of products with environmental criteria for companies, namely launching the Sustainability 2022 Line, aimed at supporting businesses in their energy transition to a low-carbon economy and/or businesses whose activity is eligible for the European Taxonomy. We also coordinated several sustainability-linked debt issues.

In order to promote projects that support energy transition and are aligned with the main goals and criteria of the European Taxonomy, the Bank set a Green Investment target of €600 million for financing companies or investing in its own portfolio from 2022 to 2024. In 2022 the Bank committed €342.7 million to this target.

The criteria for classification as "Green Investment" are very strict, since, if on the one hand, they aim to ensure that our financing has a positive impact on the transition of the Portuguese economy, on the other, they aim to prevent novobanco from being associated with any greenwashing event or circumstance. These criteria are based on the European Taxonomy (Regulation (EU) 2020/852) and defined in our internal green investment/finance framework.

Each eligible operation and, in particular, the activity to be financed, is individually screened against the applicable criteria, with a view to confirming its green classification. Only after confirmation is the new business considered in the performance metrics.

Additional detail on novobanco's climate and environmental risk strategy and approach is provided in the Sustainability Report, included in novobanco's 2022 Annual Report, as well as in the Task Force on Climate-related Financial Disclosures (TCFD) Report, to be published in the first half of 2022.

13.1.2. *Governance*

The existence of an effective governance structure is fundamental to ensure the good execution of novobanco's strategy. Climate-related issues are managed by novobanco in line with our Sustainability Governance Model, which establishes clearly defined roles for the identification and analysis of the associated risks and opportunities and guarantees an effective response to climate challenges.

The Executive Board of Directors (EBD) takes direct responsibility for managing climate and environmental (C&E) risks, actively engaging in strategy formulation and action planning. Oversight of these activities is provided by the General and Supervisory Board (GSB).

In 2021, we created the Sustainability Steering Committee, which prepares the background for management and supervisory decisions on sustainability-related issues, thus promoting efficient decision-making. The committed develops the following tasks:

- Definition and monitoring the implementation of the ESG strategy and policies;
- Integration of ESG issues and risks, including climate and environmental risks, into the business and the risk management models;
- Teams' coordination viewing the implementation of the strategy;
- Assessment of the initiatives' impacts;
- Monitoring of the environmental, social and governance KPIs and C&E KRIs; and
- Coordination of all relevant stakeholders' involvement in ESG issues, both internally and externally.

The Sustainability Steering meets once a month (or more frequently, if necessary) and is attended by the four members of the Executive Board of Directors who hold the ESG related portfolios, namely Risk, Credit and Corporate Segment. The CEO and a member of the General Supervisory Board also attend these meetings on a quarterly basis.

The Steering is conducted by the ESG Office with the assistance of the ESG PMO (Project Management Office) team and in close liaison with the Global Risk Department's team responsible for ESG risk management. It is also attended by the officers in charge of the main thematic blocks defined in the ESG transformation programme. In 2022 we created an autonomous unit within the Sustainability area, exclusively dedicated to coordinating the ESG issues within the Bank. Its mission is to promote the integration of sustainability principles in the organisation, strategy and activity of the Group, also assuming responsibility for supporting and driving the activity of the business and commercial units, as well as for assisting the risk and internal control central units in their ESG performance. We have also appointed a Project Management Officer to support the ESG Office and all departments and teams involved, with the aim of increasing the capacity and pace of delivery during the transformation period and broadening organisational commitment to this issue.

The Risk Management Function is responsible for the overall risk processes, which include monitoring and assessing ESG risks (including C&E risks) and offering specific expertise for understanding climate and environmental risk factors.

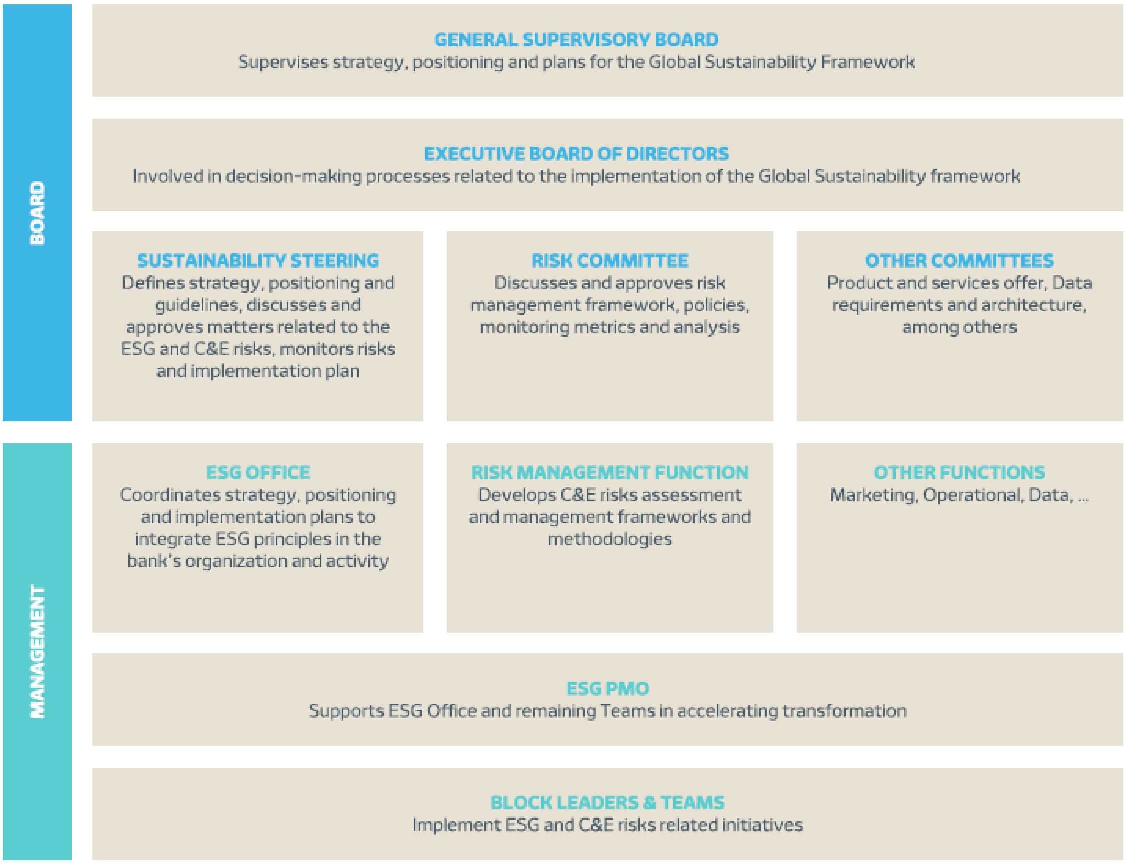
In 2022, we also defined and approved the governance and organisation model for the integration of ESG factors into the business, as well as the management of C&E, social and governance risks across the entire organisation, based on 2 key principles:

- To identify all the activities, already existing or planned, that are affected or changed by the ESG programme; and
- To establish an operational model that builds upon the existing structures (principle of regular integration of ESG into the Bank's everyday operations) and the division and complementation of duties among the various Bank and Group departments with regard to ESG.

At the operational level, novobanco's sustainability strategy is executed by dedicated working groups (the block leaders and their teams), who follow detailed action plans to ensure the timely achievement of the established objectives, in alignment with the defined strategy.

Brief description of climate and environmental risks management responsibilities.

Brief description of the model and responsibilities for managing ESG topics and risks, including climate and environmental risks:



Integration of climate and environmental targets in the remuneration policy

In 2022 the performance assessment of the EBD members already included indicators and objectives regarding the execution of the bank's ESG agenda, as well as the evolution of ESG risks, including C&E risks, management frameworks. In 2023, in addition to the overall objectives for implementing the bank's ESG agenda, business indicators and individual targets were defined for each of the Executive Directors, in line with the environmental, social and governance commitments undertaken.

More detail on novobanco's sustainability governance is provided in the Sustainability Report, an integral part of novobanco's 2022 Annual Report, as well as in the Task Force on Climate-related Financial Disclosures (TCFD) Report, which will be published in the first half of 2023.

13.1.3. Risk management

Identification, Assessment and types of ESG risks

Identifying, assessing and managing climate and environmental risks is part of novobanco's overall risk management framework. novobanco recognises ESG risks as cross-cutting risks with transmission channels to the other risk categories, and in these, identifies various components and factors.

The climate and environmental component is sub-divided into physical risks and transition risks, both of which are assessed by the Bank:

- Physical risks are associated with the physical effects of climate change. These risks may result from factors that arise on an event basis (i.e., an increase in the likelihood and consequences of C&E phenomena) - acute risk - or from medium to long-term C&E factors - chronic risk (i.e., the damage that the continued increase in temperature may do to the particular industries' production cycles). Physical risks may have internal financial impacts (such as damage to one's own assets) or external financial impacts (such as disruption of customers' and counterparties' production cycles); and
- Transition risks are the risks associated with the transition to a low carbon/ GHG economy. These risks emerge from the legislative, regulatory, technologic and market initiatives to address mitigation and adaptation requirements associated to climate change. Based on the response of the overall economy and individual industries to the transition imperative, various scenarios (as well as risk factors' differing severity degrees) can be projected, and, as a result, distinct risks and risk levels can be identified and assessed.

novobanco conducts its risk identification and assessment exercise on an annual basis. ESG risks are integrated in this exercise through the following

- ESG risk factor matrices, designed according to the activity/business area the various scenarios, provide a forward-looking perspective to risk assessment and scenarisation.
- Qualitative methodology to classify these factors; and
- Risk materiality assessment scale, integrated into the (traditional) risk categories, to rank the potential for materialisation (present and long-term) of the risk factors.

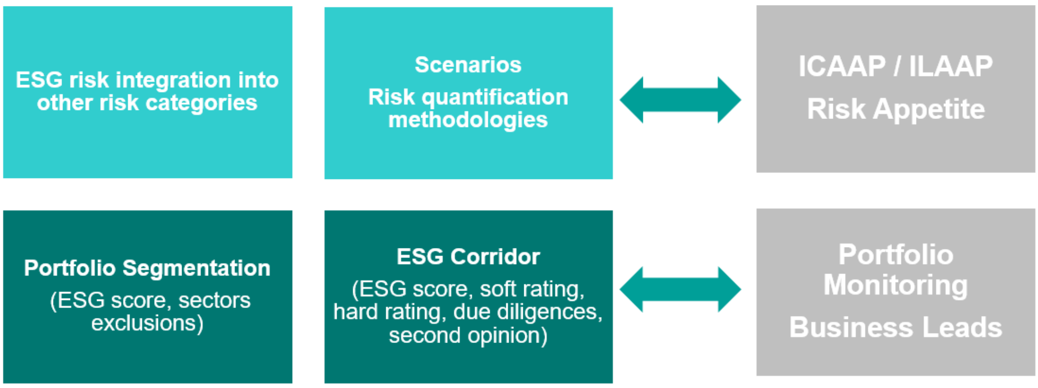
The results of the exercise are used to:

- Determine the relationship/integration rationale between ESG risks and the Bank's other risk categories;
- Justify, in a qualitative manner, the material (or immaterial) impact of ESG risk factors, informing, for example, the ICAAP; and
- Identify which risk categories and factors should be specifically managed and controlled in the framework of risk appetite and strategy.

Climate and environmental risks management framework

novobanco has been progressively incorporating environmental and climate risks into the business model to effectively comply with regulatory requirements and supervisory expectations. Developments in the risk management system address three primary objectives:

- Compliance with regulatory requirements, namely those concerning the disclosure of non-financial information on the management of C&E risks;
- Effective alignment with regulatory and supervisory expectations in this area, and in particular, implementation of the European Central Bank (ECB)'s Guide on climate-related and C&E risks;
- Implementation of enhanced ESG risk management procedures adjusted to novobanco's activity, including:
  - Assessment and quantification of the materiality of ESG risks and implementation of risk assessment practices, using sensitivity analysis or scenarisation methodologies; and
  - Routines for global monitoring of exposure to ESG risks and integration into the business of specific controls for ESG risk factors, steering the origination and monitoring of exposures.



General principles of ESG risks management

The management of ESG risks is integrated with the existing processes for each of the 'traditional' risks, by adjusting or reinforcing the current processes, as follows:

- The global monitoring of exposure to ESG risk is an integral component of the existing monitoring routines for each risk, encompassing the development of specific metrics.
- The execution of the risk management strategy is to a large extent supported by the portfolio screening and convergence mechanism, through which the most important clients and operations for the transition of the Bank's balance sheet are identified; and
- Design of risk methodologies (v.g., rating) to structure financing solutions effectively aligned with clients' risks and transition needs.

Climate and environmental risks management strategy

In line with the principles described above and with the global ESG strategy in place since 2021, monitored monthly by a dedicated steering committee, the Bank has adopted the following strategy for climate risk management:

- Initial phase (2021-2022)

  Organisation, capacity building and establishment of the governance model, as analysed in the previous chapters. Start of development of risk methodologies and information monitoring routines, for a better understanding of these risks and their management dynamics.

- Development phase (2022-2023)

  Focus on credit risk management, with the launch of risk assessment methodologies (e.g., scoring and rating) - pilot and mass application phases -, including the collection of information from customers.

  Definition, formalisation and launch of the resources required, in terms of documentation, procedures and IT systems, to support the structural integration of ESG factors into credit origination, decision-making and monitoring policies and procedures.

  Execution of first formal and comprehensive ESG risk materiality assessment exercise (including biodiversity loss issues).

- Advanced Phase (2024)

  Development or revision of risk models to quantify climate and environmental risks, based on the existing knowledge about the risks and the information collected about customers, operations and collaterals. Based on this quantification, these models are integrated in the decision-making processes (business and pricing).

The link between ESG risks and the other risk categories

The ESG risk materiality assessment steers the approach to the integration of the management of ESG risk impacts into the approaches and policies for the remaining categories of risks faced by the Bank. The results of the risk materiality assessment exercise, now underway for the year 2023, will determine the specific approaches to each of the other risk categories, taking into consideration the following guidelines:

- **Market risk**

The market value of direct or indirect exposures to the corporate segment, including corporate debt and equity, is directly influenced by credit risk variables. In other words, changes in the prices of these instruments are contingent upon fluctuations in the credit fundamentals associated with the exposures. This allows the Bank to incorporate in its investment policies the general principles of risk management and control of investment operations, subjecting their execution to the application of exclusion and special conditionality policies.

Exposures with a historical holding horizon extending over time are subjected to the portfolio screening methodology. The results of the screening support:

a) the development of specific limits to the composition of the own portfolio; and b) the monitoring of the evolution of the own portfolio composition, in order to signal any risk concentration or deterioration.

- **Operational risk**

Operational risks arising from internal factors are mitigated through the controls in place under the business continuity planning (BCP) framework. BCP includes the assessment of physical risk factors and their potential impacts on the Bank's material assets. Additionally, the Bank is developing methodologies to adopt supplementary controls for operational and reputational risks that take into account ESG risk factors, namely differentiating the identification and classification of operational risk events and losses. In other words, the classification and mitigation of events will allow a differentiated assessment of the ESG aspects, in particular events associated with:

- External fraud, where there is a special concern with the monitoring of information reported by customers, as wrong incentives may be given, with an impact on the quality and truthfulness of the information provided. As a result, risk events must include an additional classification, that allows the association between the reason for the fraud and the new business and ESG risk management requirements;
- Events of a legal or regulatory nature with direct or indirect involvement of the Bank (e.g., via direct ownership of a real estate asset or participation in financing to an entity involved in some type of non-compliance or dispute with implications in terms of environmental or social requirements);
- Greenwashing or other type of negative communication or presentation to the market and to the Bank's customers, either as a result of products and offers which, in substance, do not comply with sustainability requirements or by association with third-party products and services with the same limitations.

Additionally, in a rationale of management and control of the Bank's operational and reputational risks, the external contracting policies and practices incorporate selection criteria that are sensitive to the environmental and social practices of external suppliers, measured through an ESG supplier rating, with a view to reducing the Bank's exposure to ESG risks of a reputational nature.

- **Greenwashing risk**

In addition to identifying and monitoring potential greenwashing events, novobanco recognises that this risk is eminently associated with its sustainability strategy, as it arises from the possible misalignment between the objectives of a given product or initiative, as formalised and communicated, and their actual effects. Therefore, the Bank establishes additional controls, namely for the following:

- Products and services distributed or produced by the Bank: the Policy on Design, Approval, Distribution and Monitoring of Products is being updated to strengthen specific controls and analyses with the objective of validating, on an ongoing basis, the suitability of products in terms of labelling and customer expectations and preferences.
- Issuance of green or social bonds: in this area the Bank also recognises potential risks of greenwashing, due to the possibility of issues (own or structured by the Bank) that fail their objectives. In this context, the Bank will develop a Green & Social Bonds Framework (GSBF) to set in place operations and internal controls to ensure the quality of these issues; and
- Communication with the market: the Bank has established specific policies and practices that govern the terms of communication with the market, investors and clients.

- **Liquidity risk**

Liquidity risk approaches are directly linked to market risk results, through the composition of the Bank's liquidity buffer and its counterbalancing capacity. In other words, positions which, from the standpoint of credit or market risk, reveal special exposure to ESG risks, will be subject to additional analysis for the purposes of liquidity management and planning, which may lead to the application of complementary valuation haircuts. Additionally, and within the scope of liquidity and funding concentration risk management, the Bank will assess the ESG risk profile of the main names/counterparties, seeking to ensure that there are no additional concentration risks promoted by ESG risk factors. Finally, off-balance sheet risks (e.g., contingent funding lines), will also be incorporated in this review, to confirm the absence of risk concentration correlated with ESG events.

Data availability, quality and accuracy

One of the main challenges faced by financial institutions in the integration of ESG risks into the business model is the insufficient and/or poor quality and granularity of the available data regarding real estate collateral and the ESG performance of the Company's clients, namely in terms of:

- Availability of energy efficiency certificates;
- Information provided by the clients or otherwise collected on clients' GHG emissions and other ESG maturity indicators, which is essential to assess the risks and calculate and report financed emissions. This challenge is particularly significant for Small and Medium-Sized Companies, which often lack the knowledge and installed capacity to systematise the necessary information;
- Granularity and precision in terms of physical risks.

In order to address the significant challenge of availability of information, novobanco is developing several workflows:

- Engaging with corporate clients and suppliers to assist them in establishing systematic processes for collecting ESG information related to their activities;

- Development of historical recovery processes and reaching out to public entities in the relevant sectors to obtain energy efficiency certificates for existing real estate collaterals;
- Use of proxy templates to estimate unavailable information;
- Investing in raising customer (and community) awareness, by holding public events dedicated to ESG issues.

Additional detail on the management of novobanco's climate and environmental risks is provided in the Sustainability Report, included in novobanco's 2022 Annual Report, as well as in the Task Force on Climate-related Financial Disclosures (TCFD) Report, to be published in the first half of 2022.

13.2. Qualitative information on Social Risks

13.2.1. Business strategy and processes

novobanco recognises that social risks and factors have a potential impact on the financial performance of the Bank and/or its clients and counterparties, at various levels: a) legal and regulatory; b) workforce-related; c) global production and trade chains; d) demographic; and e) economic policy. After climate and environmental risks, social risks are one of novobanco's priorities. The Bank thus addresses social risks from a double materiality rationale:

- The risks, opportunities, and performance in novobanco's operations related to its employees, clients, suppliers, and the communities it serves have been given priority. Strictly speaking, this is the component that only depends on the Bank and, for a long time now, it has featured prominently in the Bank's strategy.
- In terms of social risks' financial implications to the Bank's operations, the Bank has recently started to address this issue, developing customer scoring and rating methodologies that incorporate a dimension dedicated to social risk. In this area, the Bank assesses social risk from the standpoint of impacts on or disruption of the value chain, as it considers that these are the primary and immediate channels through which economic and financial impacts are transmitted. As more information is collected and the management of social risks becomes more mature, this assessment may in the future be extended to other dimensions with potential economic and/or financial impact.

Main novobanco initiatives

novobanco's sustainability strategy, supported by the sustainability materiality assessment of stakeholders, allowed us to define the material Sustainable Development Goals (SDGs) and issues, and to structure the ESG approach in 3 strategic axes, one of which is social and financial well-being. Under our action plan for this axis, we intend to act along the following lines

- To promote Social and Financial Well-Being, Diversity and Inclusion among our employees, customers and the communities we serve;

- To promote the development and fulfilment of our employees' potential and their physical and mental well-being;
- To contribute to increasing the digital skills of the population in the day-to-day management of financial services;
- To offer our customers a range of products that fit each family's budget as well as knowledge on how to manage money in daily life; and
- To promote gender equality.

At the end of 2022 we launched a strategic organisational culture programme which aims to ensure transparency, the highest standards of conduct, diversity and inclusion in novobanco's organisational environment, as strategic levers to:

- Attract, develop and retain talent in a safe environment that fosters a sense of belonging, engagement and identification with a common goal.
- Promote a high-performance culture, allowing employees to fulfil their expectations and potential.
- Provide the best Customer Experience, serving with proximity and transparency, in a fair value exchange with our customers. In 2022, novobanco established the Customer Experience and Satisfaction Office, which has the mission of promoting the improvement of customer service in its various dimensions across the entire organisation.
- Respect ESG principles and demand that suppliers and partners respect them, selecting our suppliers with a responsible attitude and based on ESG criteria.Based on the available information, novobanco calculates the "sustainability scoring," which considers ethical, labour, hygiene and safety at work, and environmental elements, for a more thorough selection of this group of Stakeholders.

Social factors' commitments and objectives

Our activity contributes towards several Sustainable Development Goals (SDGs). Within the scope of novobanco's strategic sustainability plan, we are committed to having an effective and significant impact towards the achievement of each of these goals. From the standpoint of social factors, the bank focuses primarily on the following SDGs:

TO ENSURE ACCESS TO INCLUSIVE, QUALITY AND EQUITABLE EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL

We want to contribute to an inclusive and quality education for all and promote lifelong learning with a special focus on financial and digital literacy

Course of Action – To promote financial, digital and ESG literacy initiatives for customers and the community in general; To promote the continuous empowerment of employees to achieve professional and personal fulfilment.

Commitment - +39,160 hours of ESG training to employees by 2024 (vs. 2021).

TO ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS

We promote gender equality in our activity as a strategic lever to create value for the business. We want our acts to set an example for our stakeholders and the communities we serve.

Course of Action - To promote a balanced gender representation in the employee base at all functional levels; Participation in initiatives and support for social causes that promote gender equality in society.

Commitment - 30% of women in senior leadership positions (Executive BoD and 1st line Managers) by 2024.

TO PROMOTE INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL

We are focused on serving Portugal's economic growth through relationship and proximity banking in a digital world, for individuals, families and companies of all sizes.

Course of Action – Financing for families and businesses; Inclusive banking offer.

Commitment – To promote job creation in the national economy and improve the well-being of families through lending activity with socially and environmentally responsible criteria.

Additionally, the bank has made the following social commitments under its Social Dividend Model:

Social Objectives (non exhaustive)	2021	2022	...	Objective 2024
Women in senior leadership positions *(First line managers and Executive Board of Directors)*	25,5%	27,5%		30%
Gender pay gap *%*	5,9%	5,7%		5%
Employee engagement level *%*	57%	55%		65%
Clients NPS indicator *Pts*	-1,8	3,1		10
Suppliers with sustainability score *%*	52%	61%		90%

Policies and procedures to manage social risks

novobanco conducts its activity in a responsible, ethical and transparent manner.

The ESG strategy and objectives can only be achieved if the business is managed based on behaviours that everyone values and believes in. Therefore, the ESG commitments are underpinned by various policies and principles that define the Group's culture and describe the principles and steps taken to achieve the defined purposes. Compliance with these policies is a process of continuous improvement, involving the ongoing review of the corporate sustainability policies. The following are the most relevant policies that bear on social issues:

- Sustainability Policy: the principles that steer the Group's ESG actions and commitments to integrate sustainability into the business model;

- Statement of positive social impact: Commitments to social sustainability that go beyond legal obligations and embody the positive impact sought by the Group in its relationship with all stakeholders;
- Financing Principles - Excluded and conditional sectors: Principles guiding the integration of environmental, social and governance considerations into the lending business, namely through the identification of sectors excluded or subject to conditionalities;
- Code of Conduct: Principles that steer the Group's activity, promoting ethical conduct and respect for and compliance with all applicable laws and regulations, supported by a transparent system of relations with the outside world;
- Human Rights Policy: Principles of respect for human rights, and procedures to deal with any transgression of these;
- Non-Discrimination and Gender Equality Policy: Principles of non-discrimination and promotion of equality, namely prohibiting discriminatory practices on the grounds of gender, race, colour, creed, socio-economic conditions or sexual orientation;
- Supplier Relationship Principles: Establish the basic standards for business conduct, workplace health and safety, ethics, and environmental management, and apply to both suppliers and the Group;
- Supplier Rating: allows the assessment of the environmental and social practices of the Bank's main suppliers;
- Remuneration policy of novobanco employees; and
- Whistleblowing Policy.

The full list of policies is provided on novobanco's website.

Further detail on novobanco's strategy and approach to social factors is provided in the Sustainability Report, which forms an integral part of novobanco's 2022 Annual Report

13.2.2. *Governance*

novobanco's governance of social risks is integrated in the Global Sustainability Governance Model, described in the section on Environmental and Climate Risk Governance. The EBD is responsible for approving the general policies on social conduct and risks and supervising their application. In order to strengthen an internal culture of ethics and transparency, and an environment where everyone feels comfortable to express their opinion freely and to report inappropriate behaviours, two new reporting channels were created/reformulated at the beginning of 2023 for anonymous or identified reporting:

- External whistleblowing channel, which uses an external Platform to report inappropriate behaviours in full safety;
- The "Your voice counts" form, to give voice to employees' suggestions, ideas or comments.

In order to ensure customer protection and the development of responsible products, the bank has implemented a robust framework. This includes a customer satisfaction monitoring model that facilitates regular feedback and channels for lodging complaints. Moreover, the Product Design, Approval, Distribution, and Monitoring Policy establishes rules for product design and monitoring. The primary objective is to foster a fair, clear and transparent value exchange between the bank and its clients in the provision of solutions that meet the specific needs of each target market.

Alignment of remuneration policy with social objectives and factors

In 2022 the performance assessment of the EBD members already included indicators and objectives regarding the execution of the bank's ESG agenda, as well as the evolution of ESG risk management frameworks, including C&E risks. In 2023, in addition to the overall objectives for implementing the bank's ESG agenda and the Culture and People programme, business indicators and individual targets were defined for each of the Executive Directors, in line with the environmental, social and governance commitments undertaken.

In addition, the remuneration policy for novobanco employees is gender-neutral, which means equal pay for equal work or work of equivalent value. The Policy is also consistent with the objective of mainstreaming sustainability risks. The following are evidence to this consistency:

- The limits set for the allocation and payment of remuneration;
- The multi-year framework that ensures that the assessment process is based on long-term performance and that the actual attribution of the Variable Remuneration tranches is deferred for a defined period (in some cases), taking into account the Bank's business cycle and business risks; and
- The risk adjustment mechanisms adopted (Malus and Clawback) to avoid excessive risk-taking.

This policy takes into consideration the institution's strategy, nature, structure, culture and values. It was developed based on the guiding principles of merit and transparency, ensuring the recognition of high performance, as well as the communication of standards and criteria for the application of remuneration practices.

Additional detail on novobanco's social risk management is provided in the Sustainability Report, which forms an integral part of novobanco's 2022 Annual Report.

13.2.3. Risk Management

Risks and performance of the portfolio of exposures to clients

In its ESG scoring methodology, novobanco integrates social risk factors, using a country-based methodology and endorsing the main International Labour Organisation (ILO) conventions as a starting point for assessing a country's human rights risks and occupational health and safety concerns. The social risk component of the ESG scoring covers a total of 190 countries and 50 activity sectors and identifies 6 subcategories of risk:

- Freedom of association;
- Forced or bonded labour;

- Discrimination;
- Child labour;
- Health and safety in the workplace; and
- Armed conflicts.

The main pillar of each subcategory (except armed conflict) is the ratification of the relevant ILO conventions. Data for each risk metric is sourced from the ILO data platform, except for the armed conflict category, for which data is sourced from the Armed Conflict Location and Event Data Project (ACLED).

Due to the relevance of novobanco's exposure to corporate clients based in Portugal, the Social Risk scoring of these companies goes beyond the previously described risk methodology, as it includes an additional risk component related to the supply chain, which takes into account, among others, national imports by country of origin and type of goods and sectoral imports by type of goods.

Furthermore, exposures are checked against the European Taxonomy, and if they meet the technical screening requirements (TSC), the minimal social safeguards (MSS), and do not substantially undermine the other environmental objectives (DNSH), they are considered aligned. The purpose of the minimum social safeguards (MSS) criterion is to add a social component to the environmental dimension, aligning green loans to customers to the:

- OECD Guidelines for Multinational Enterprises
- ILO Declaration on Fundamental Principles and Rights at Work
- Universal Declaration of Human Rights
- UN Guiding Principles on Business and Human Rights

International standards on which the social risk management framework is based

Our social risk management framework is based on international industry guidelines and principles, including:

- The Universal Declaration of Human Rights
- The Declaration of the International Labour Organisation
- The Convention on the Rights of Children
- The United Nations Sustainable Development Goals
- The goals and agreements reached at the 2015 COP21 climate change summit in Paris
- The 2011 UN Guiding Principles on Business and Human Rights
- The International Bill of Human Rights
- The ten principles of the UN Global Compact
- The OECD Guidelines for Multinational Enterprises

13.3. Qualitative information on governance risks

Governance risks arise from governance and management factors with potential impact on the financial performance of the Bank and/or its clients and counterparties, including the following components:

a) corporate governance; b) conduct and reputation; c) risk management; d) tax strategy; e) public/political relevance. We thus analyse these risks from two different angles: governance risks resulting from novobanco's activity and conduct, and risks having an impact on the performance of the portfolio of exposures to clients and resulting from the governance and behaviour of those customers.

More detail on novobanco's governance is provided in point 5 - Corporate Governance, in novobanco's 2022 Annual Report.

13.3.1. *Governance*

The EBD is the body with overall responsibility for novobanco's risk management system, outlining and supervising the principles that support it. The GSB and its Committees oversee and assist the EBD in the monitoring and accomplishment of strategic goals as well as in the supervision of adherence to the pertinent regulatory requirements with regard to the banking activity.

According to the current governance model, particularly in terms of ESG risks, the Sustainability Steering Committee, a body that is responsible for ensuring the debate and prior appraisal of all elements relevant to the sustainability strategy and ESG risks of novobanco, directly supports the EBD.

ESG risk management follows the principle of the three lines of defence, through the functional separation of the responsibilities for originating (or taking) ESG risks from the responsibilities for their management and control. The first line of defence is responsible for generating business and carrying out the activities that involve ESG risks, as well as for applying the established limits, procedures and controls. The second line of defence consists of the Global Risk Management Function (GRMD) and the Compliance Function (ComplD), working in close collaboration of the ESG Office.

Finally, the third line of defence is the Internal Audit Function (IAD), responsible for confirming the effective application of the ESG risk management policy. More detail on novobanco's Corporate Governance is provided in Chapter 5 - Corporate Governance, of novobanco's Annual Report.

13.3.2. Management of the governance risk of novobanco’s customers

novobanco customers’ governance is assessed through ratings, analyses and opinions issued by the RtD, including specific analyses of the clients’ management bodies. The aim is to determine the risk of their activity, namely in terms of business continuity and sustainability. To measure its customers' ESG risk, novobanco is currently implementing and piloting three levels of assessment, according to the materiality of the exposure and the specific sector the customer belongs to: i) ESG scoring (based on sectoral indicators), ii) soft rating, and iii) hard rating, the last two consisting of sector-specific questionnaires.

The questionnaires aim to identify the customers' positioning vis-à-vis ESG targets, the reasonableness of their transition and convergence strategy towards the defined targets, as well as the level of detail and transparency of the information reported.

To address issues of conflicts of interest, novobanco has in place rules for identifying, managing and monitoring potential conflicts of interest, in compliance with the applicable legal and regulatory provisions. Situations of conflict of interest are logged, assessed, mitigated or, in extreme cases, may result in inaction. The Conflict of Interests Policy is available on novobanco's website.

Likewise, the Anti Bribery and Anti-Corruption policy and the Prevention of Money Laundering and Terrorist Financing policy are available on novobanco's website, and are an integral part of novobanco's customer governance risk management model. In order to address critical concerns, ESG risk analyses are also complemented by due diligence conducted by the ESG Office and by second opinions issued by the GRD, when requested by intervenients in the decision-making chain.

13.4. Quantitative information

Table 100 – Credit quality of exposures by sector, issues and residual maturity

million euros

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
		2022-12															
		Gross carrying amount (Mln EUR)					Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions (Mln EUR)			GHG financed emissions (scope 1, scope 2 and scope 3 emissions of the counterparty) (in tons of CO2 equivalent)		GHG financed emissions (scope 1, scope 2 and scope 3 emissions of the counterparty) (in tons of CO2 equivalent)	<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity
			Of which exposures towards companies excluded from EU Paris-aligned Benchmarks in accordance with points (d) to (g) of Article 12.1 and in accordance with Article 12.2 of Climate Benchmark Standards Regulation	Of which environmentally sustainable (CCM)	Of which stage 2 exposures	Of which non-performing exposures		Of which Stage 2 exposures	Of which non-performing exposures		Of which Scope 3 financed emissions						
1	**Exposures towards sectors that highly contribute to climate change***	12 616	176	-	2 118	1 141	-620	-168	-421	2 252 484	183 300	0	7 571	2 742	1 053	94	5
2	A - Agriculture, forestry and fishing	362	-	-	75	9	-10	-3	-5	214 203	2 660	-	203	94	57	8	6
3	B - Mining and quarrying	97	18	-	20	6	-7	-4	-3	20 371	8 135	-	71	26	-	-	4
4	*B.05 - Mining of coal and lignite*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	*B.06 - Extraction of crude petroleum and natural gas*	18	18	-	-	-	-	-	-	-	-	-	-	18	-	-	6
6	*B.07 - Mining of metal ores*	18	-	-	-	-	-	-	-	4 162	1 919	-	18	-	-	-	2
7	*B.08 - Other mining and quarrying*	61	-	-	20	6	-7	-4	-3	16 208	6 216	-	53	8	-	-	3
8	*B.09 - Mining support service activities*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	C - Manufacturing	3 821	127	-	506	134	-122	-42	-72	1 153 893	81 187	0	2 750	980	86	6	4
10	*C.10 - Manufacture of food products*	427	-	-	68	17	-14	-4	-8	95 925	11 281	0	288	108	30	1	4
11	*C.11 - Manufacture of beverages*	221	-	-	5	4	-3	-	-2	10 871	2 289	0	140	77	4	-	4
12	*C.12 - Manufacture of tobacco products*	37	37	-	-	-	-	-	-	894	515	-	37	-	-	-	3
13	*C.13 - Manufacture of textiles*	329	-	-	96	15	-28	-18	-10	79 749	5 750	0	248	81	-	-	3
14	*C.14 - Manufacture of wearing apparel*	104	-	-	20	2	-2	-	-1	7 233	2 284	-	83	16	5	-	3
15	*C.15 - Manufacture of leather and related products*	83	-	-	14	2	-2	-	-1	5 186	2 099	-	73	8	2	-	3
16	*C.16 - Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials*	171	-	-	17	6	-4	-1	-3	27 757	6 944	-	135	35	1	-	3
17	*C.17 - Manufacture of pulp, paper and paperboard*	117	-	-	12	1	-2	-	-1	50 695	1 843	-	69	47	2	-	4
18	*C.18 - Printing and service activities related to printing*	42	-	-	4	2	-3	-	-2	2 635	427	-	27	13	2	-	4
19	*C.19 - Manufacture of coke oven products*	90	90	-	9	-	-	-	-	56 825	9	-	83	7	-	-	3
20	*C.20 - Production of chemicals*	266	-	-	12	1	-1	-	-1	94 800	13 312	-	219	47	-	-	4
21	*C.21 - Manufacture of pharmaceutical preparations*	124	-	-	26	1	-2	-2	-1	4 272	1 706	-	91	33	-	-	4
22	*C.22 - Manufacture of rubber products*	170	-	-	17	8	-6	-	-6	13 001	3 285	-	139	26	4	-	4
23	*C.23 - Manufacture of other non-metallic mineral products*	262	-	-	25	2	-4	-3	-1	627 861	11 279	1	177	76	9	-	4
24	*C.24 - Manufacture of basic metals*	63	-	-	6	5	-4	-	-3	12 818	3 666	-	54	6	2	-	3
25	*C.25 - Manufacture of fabricated metal products, except machinery and equipment*	412	-	-	85	17	-19	-6	-13	21 771	6 223	-	305	97	9	1	4
26	*C.26 - Manufacture of computer, electronic and optical products*	223	-	-	5	-	-1	-	-	6 561	1 049	-	142	76	5	-	4
27	*C.27 - Manufacture of electrical equipment*	119	-	-	10	36	-13	-1	-12	5 117	1 514	0	101	13	5	-	4
28	*C.28 - Manufacture of machinery and equipment n.e.c.*	129	-	-	12	5	-2	-1	-1	13 115	957	-	62	66	2	-	4
29	*C.29 - Manufacture of motor vehicles, trailers and semi-trailers*	184	-	-	31	1	-3	-2	-1	5 710	1 487	-	100	83	1	-	4
30	*C.30 - Manufacture of other transport equipment*	61	-	-	4	4	-4	-	-4	1 265	577	-	56	4	-	-	3
31	*C.31 - Manufacture of furniture*	70	-	-	6	2	-2	-	-1	4 781	1 119	-	51	18	2	-	4
32	*C.32 - Other manufacturing*	67	-	-	2	-	-	-	-	2 407	1 163	-	27	39	1	1	5
33	*C.33 - Repair and installation of machinery and equipment*	50	-	-	20	1	-4	-3	-	2 645	409	-	42	6	1	1	4
34	D - Electricity, gas, steam and air conditioning supply	410	31	-	34	9	-9	-4	-4	55 489	536	0	144	90	175	-	8
35	*D35.1 - Electric power generation, transmission and distribution*	379	-	-	34	9	-9	-4	-4	28 656	329	0	133	84	163	-	8
36	*D35.11 - Production of electricity*	379	-	-	34	8	-8	-4	-3	28 372	326	0	132	84	163	-	8
37	*D35.2 - Manufacture of gas; distribution of gaseous fuels through mains*	31	31	-	-	-	-	-	-	26 833	207	-	12	6	13	-	7
38	*D35.3 - Steam and air conditioning supply*	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	0
39	E - Water supply; sewerage, waste management and remediation activities	169	-	-	2	1	-1	-	-	176 906	943	0	101	33	35	-	7
40	F - Construction	1 798	-	-	209	450	-108	-22	-83	85 899	9 349	-	1 203	281	301	13	4
41	*F.41 - Construction of buildings*	759	-	-	73	211	-63	-3	-58	25 194	4 148	-	621	103	29	6	3
42	*F.42 - Civil engineering*	887	-	-	116	238	-42	-18	-24	32 850	3 726	-	465	156	265	1	6
43	*F.43 - Specialised construction activities*	152	-	-	20	2	-2	-1	-1	27 855	1 475	-	117	22	7	6	4
44	G - Wholesale and retail trade; repair of motor vehicles and motorcycles	1 788	-	-	289	97	-68	-12	-51	126 822	64 615	-	1 298	370	74	47	4
45	H - Transportation and storage	1 261	-	-	234	74	-49	-12	-35	362 454	14 318	0	707	426	126	1	6
46	*H.49 - Land transport and transport via pipelines*	367	-	-	35	7	-6	-1	-4	233 270	7 781	-	269	93	3	1	4
47	*H.50 - Water transport*	81	-	-	52	-	-7	-7	-	19 575	429	-	25	56	-	-	7
48	*H.51 - Air transport*	185	-	-	133	48	-24	-3	-21	100 664	1 797	-	120	49	15	-	6
49	*H.52 - Warehousing and support activities for transportation*	589	-	-	12	19	-12	-1	-11	7 487	3 701	0	254	228	107	-	7
50	*H.53 - Postal and courier activities*	39	-	-	-	-	-	-	-	1 458	610	-	39	-	-	-	1
51	I - Accommodation and food service activities	1 273	-	-	539	176	-120	-53	-62	51 291	-	-	345	364	539	25	9
52	L - Real estate activities	1 636	-	-	211	185	-126	-14	-105	5 155	1 557	-	1 044	411	178	2	5
53	**Exposures towards sectors other than those that highly contribute to climate change***	12 540	-	-	845	456	-360	-92	-247	-	-	-	7 322	4 748	1 317	309	5
54	K - Financial and insurance activities	2 610	-	-	245	146	-127	-50	-69	-	-	-	1 248	1 292	50	20	5
55	Exposures to other sectors (NACE codes J, M - U)	9 930	-	-	600	310	-233	-42	-178	-	-	-	5 779	3 122	749	280	5
56	TOTAL	25 156	176	-	2 963	1 597	-980	-259	-668	2 252 484	183 300	0	14 893	7 491	2 370	403	5

The table above provides information on exposure to non-financial companies in the banking book that operate in sectors that most contribute to climate change. The industries identified face a larger risk of transitioning to a low-carbon economy and must thus exert more effort than industries that do not significantly contribute to climate change. novobanco's exposure is split into 50% in industries identified as having the highest contribution to climate change (NACE codes A-I and L) and 50% in the remaining industries (NACE codes K, J, M-U).

Regarding the exposures excluded from the Paris agreement benchmarks, their contribution is only 0.7%, of which 0.5% corresponds to the manufacturing industry (NACE C). Considering that data on greenhouse gas emissions reported by our clients is insufficient, we adopted calculation methodologies based on the global standard Partnership for Carbon Accounting Financials (PCAF) for financial sector reports on GHG emissions related to loans and investments. When real information is available, this sort of methodology gives precedence to actual information published by the company itself to compute financed GHG emissions. Otherwise, industry data-based proxies are used. Loans for financed emissions typically have maturities of less than five years, especially in the case of the biggest contributors to climate change, i.e., Manufacturing (NACE C), Wholesale and Retail Trade (NACE G) and Construction (NACE F).

Table 101 – Energy efficiency of properties given as collateral.

million euros

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
		2022-12															
		Total gross carrying amount amount (in MEUR															
			Level of energy efficiency (EP score in kWh/m² of collateral)						Level of energy efficiency (EPC label of collateral)							Without EPC label of collateral	
	Counterparty sector		0; <= 100	> 100; <= 200	> 200; <= 300	> 300; <= 400	> 400; <= 500	> 500	A	B	C	D	E	F	G		Of which level of energy efficiency (EP score in kWh/m² of collateral) estimated
1	Total EU area	14 268	11 038	14	88	32	312	2 784	-	-	-	-	-	-	-	14 268	1
2	Of which Loans collateralised by commercial immovable property	3 124	-	13	83	31	310	2 687	-	-	-	-	-	-	-	3 124	1
3	Of which Loans collateralised by residential immovable property	11 037	10 969	-	-	-	-	67	-	-	-	-	-	-	-	11 037	1
4	Of which Collateral obtained by taking possession: residential and commercial immovable properties	108	68	1	6	2	1	30	-	-	-	-	-	-	-	108	1
5	Of which Level of energy efficiency (EP score in kWh/m² of collateral) estimated	14 268	11 038	14	88	32	312	2 784	-	-	-	-	-	-	-	14 268	1
6	Total non-EU area	81	-	-	-	-	-	-	-	-	-	-	-	-	-	81	-
7	Of which Loans collateralised by commercial immovable property	49	-	-	-	-	-	-	-	-	-	-	-	-	-	49	-
8	Of which Loans collateralised by residential immovable property	31	-	-	-	-	-	-	-	-	-	-	-	-	-	31	-
9	Of which Collateral obtained by taking possession: residential and commercial immovable properties	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Of which Level of energy efficiency (EP score in kWh/m² of collateral) estimated	81	-	-	-	-	-	-	-	-	-	-	-	-	-	81	-

The table above shows the energy efficiency of loan collaterals, broken down by residential property, commercial property and foreclosed property received through credit recovery. The majority of the portfolio lacks energy performance certificates (EPCs), despite the fact that they are currently mandatory for the purchase of real estate assets in the European Union. In order to guarantee that the certificates will be accessible in the future, the Bank is currently processing this information. Given the lack of real energy performance data and certificates for properties, energy efficiency is estimated based on the properties' characteristics, such as valuation, location, year of construction, number of rooms, and size.

Table 102 – Exposures to the 20 most carbon intensive companies

million euros

	a	b	c	d	e
	2022-12				
	Gross carrying amount (aggregate)	Gross carrying amount towards the counterparties compared to total gross carrying amount (aggregate)*	Of which environmentally sustainable (CCM)	Weighted average maturity	Number of top 20 polluting firms included
1	55	0,00%	-	2,5	5

This table shows the aggregate exposure to the 20 most polluting (carbon-intensive) global companies included in the banking book. Five of the Top 20 most polluting global companies are included in the aggregate exposure; nonetheless, exposure to these companies is immaterial relative to novobanco's portfolio total exposure.

Table 103 – Exposures subject to physical risk

million euros

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
	2022-12													
	Gross carrying amount (Mln EUR)													
		of which exposures sensitive to impact from climate change physical events												
		Breakdown by maturity bucket					of which exposures sensitive to impact from chronic climate change events	of which exposures sensitive to impact from acute climate change events	of which exposures sensitive to impact both from chronic and acute climate change events	Of which Stage 2 exposures	Of which non-performing exposures	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		
Variable: Geographical area subject to climate change physical risk - acute and chronic events		<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity							of which Stage 2 exposures	Of which non-performing exposures
1 A - Agriculture, forestry and fishing	201	64	70	51	8	8	181	137	137	39	6	- 7	- 2	- 3
2 B - Mining and quarrying	19	17	1	-	-	-	2	2	2	16	-	- 4	- 4	-
3 C - Manufacturing	750	233	355	64	6	5	465	364	364	173	48	- 57	- 29	- 27
4 D - Electricity, gas, steam and air conditioning supply	152	3	15	5	-	3	10	1	1	10	4	- 5	- 2	- 2
5 E - Water supply; sewerage, waste management and remediation activities	43	2	6	8	-	13	16	15	15	-	-	-	-	-
6 F - Construction	760	343	113	23	12	3	351	315	315	101	63	- 66	- 16	- 49
7 G - Wholesale and retail trade; repair of motor vehicles and motorcycles	469	111	168	65	48	9	325	253	253	97	35	- 34	- 6	- 27
8 H - Transportation and storage	432	51	48	8	1	3	36	28	28	11	3	- 17	- 2	- 15
9 L - Real estate activities	1 274	640	331	156	2	5	950	718	718	171	145	- 116	- 13	- 97
10 Loans collateralised by residential immovable property	11 139	565	954	2 012	7 608	24	10 997	8 641	8 641	964	238	- 197	- 38	- 152
11 Loans collateralised by commercial immovable property	3 173	1 023	1 252	851	48	8	3 154	2 596	2 596	830	454	- 441	- 98	- 329
12 Repossessed colalterals	184	-	-	-	-	-	181	162	162	-	-	- 0	-	-
13 Other relevant sectors (breakdown below where relevant)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

The table above shows the exposures subject to acute and chronic physical risks, by industry sector, including exposures collaterised by real estate, and assets received through credit recovery. These risks are a result of either acute factors (originating from a severe event) or chronic factors (originating from medium to long-term environmental conditions), such as the adverse effects that global warming may have on certain sectors' production cycles. Physical risks can have internal financial impacts (physical damage caused to own assets) or external financial impacts (disruption in the production cycles of clients or counterparties). The methodology to measure these risks is based on the location of the assets or the company financed, considering the specific danger level of each district in Portugal, according to data published by the World Bank Group (Think Hazard!) on the probability of occurrence of various events (floods, earthquakes, tsunamis, volcanic eruptions, cyclones, water scarcity, extreme heat and wildfires).

Table 104 – Other climate change mitigating actions that are not covered in Regulation (EU) 2020/852

million euros

	2022-12				
Type of financial instrument	Type of counterparty	Gross carrying amount (million EUR)	Type of risk mitigated (Climate change transition risk)	Type of risk mitigated (Climate change physical risk)	Qualitative information on the nature of the mitigating actions
Bonds (e.g. green, sustainable, sustainability-linked under standards other than the EU standards)	Financial corporations	264	YES	YES	Green and Social Bonds are included.
	Non-financial corporations	134	YES	YES	Green Bonds, Sustainability Linked Bonds and Sustainability Bonds are included.
	Of which Loans collateralised by commercial immovable property	-	NO	NO	N.A.
	Other counterparties	-	NO	NO	N.A.
Loans (e.g. green, sustainable, sustainability-linked under standards other than the EU standards)	Financial corporations	-	NO	NO	N.A.
	Non-financial corporations	-	NO	NO	N.A.
	Of which Loans collateralised by commercial immovable property	226	YES	YES	Green Bonds and Sustainability Bonds are included.
	Households	-	NO	NO	N.A.
	Of which Loans collateralised by residential immovable property	2	YES	NO	Sustainibility Loans
	Of which building renovation loans	-	NO	NO	N.A.
	Other counterparties	333	YES	YES	Real Estate renovation loans, Real Estate loans, loans to acquire Hybrid and/or electrical vehicles and Microcredit to social purpuses

The table above shows all customer exposures that contribute to climate change adaptation and mitigation, namely to the mitigation of physical and transition risks.

14 . Annexes

Annex I – Template EU CCA: Main features of regulatory own funds instruments and eligible liabilities instruments

	million euros
Detalhe dos instrumentos de Fundos Próprios	**2022-12**
Issuer	NOVO BANCO, SA
Unique identifier (eg CUSIP, ISIN or Bloomberg identifier for private placement)	PTNOBFOM0017
Public or private placement	Public
Governing law(s) of the instrument	Portuguese and English law
Contractual recognition of write down and conversion powers of resolution authorities	Yes
Regulatory treatment	
Current treatment taking into account, where applicable, transitional CRR rules	Tier 2 capital
Post-transitional CRR rules	Tier 2 capital
Eligible at solo/(sub-)consolidated/ solo&(sub-)consolidated	Solo and subconsolidated
Instrument type (types to be specified by each jurisdiction)	Subordinated
Amount recognised in regulatory capital or eligible liabilities (Currency in million, as of most recent reporting date)	399
Nominal amount of instrument	400
Issue price	1
Redemption price	At par
Accounting classification	Subordinated loans
Original date of issuance	6/07/2018
Perpetual or dated	Dated
Original maturity date	6/07/2028
Issuer call subject to prior supervisory approval	Yes
Optional call date, contingent call dates and redemption amount	6/07/2023
Subsequent call dates, if applicable	N/A
Coupons / dividends	
Fixed or floating dividend/coupon	Fixed
Coupon rate and any related index	0,085
Existence of a dividend stopper	N/A
Fully discretionary, partially discretionary or mandatory (in terms of timing)	Mandatory
Fully discretionary, partially discretionary or mandatory (in terms of amount)	Mandatory
Existence of step up or other incentive to redeem	No
Noncumulative or cumulative	Cumulative
Convertible or non-convertible	Non-convertible
If convertible, conversion trigger(s)	N/A
If convertible, fully or partially	N/A
If convertible, conversion rate	N/A
If convertible, mandatory or optional conversion	N/A
If convertible, specify instrument type convertible into	N/A
If convertible, specify issuer of instrument it converts into	N/A
Write-down features	N/A
If write-down, write-down trigger(s)	N/A
If write-down, full or partial	N/A
If write-down, permanent or temporary	N/A
If temporary write-down, description of write-up mechanism	N/A
Type of subordination (only for eligible liabilities)	N/A
Ranking of the instrument in normal insolvency proceedings	3
Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Senior
Non-compliant transitioned features	No
If yes, specify non-compliant features	N/A
Link to the full term and conditions of the instrument (signposting)	https://www.novobanco.pt/investidores/informacao-divida

The previous table provides a description of the main features of the only equity instrument issued by novobanco in the form of subordinated debt. The genesis and structure of the Bank's core capital were presented in point **3.2.1.1 Common Equity Tier I** capital and for this reason the dematerialised shares that make up the Bank's share capital have not been included in this table.

Annex II - Template EU CC1 - Composition of regulatory own funds

million euros

		2022-12	
		Amounts	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
	Common Equity Tier 1 (CET1) capital: instruments and reserves		
1	Capital instruments and the related share premium accounts	6 305	21
	of which: Instrument type 1	6 305	
	of which: Instrument type 2	-	
	of which: Instrument type 3	-	
2	Retained earnings	-8 537	23
3	Accumulated other comprehensive income (and other reserves)	4 940	22; 24
EU-3a	Funds for general banking risk	-	
4	Amount of qualifying items referred to in Article 484 (3) and the related share premium accounts subject to phase out from CET1	-	
5	Minority interests (amount allowed in consolidated CET1)	8	26
EU-5a	Independently reviewed interim profits net of any foreseeable charge or dividend	556	25
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	3 272	
	Common Equity Tier 1 (CET1) capital: regulatory adjustments		
7	Additional value adjustments (negative amount)	-4	
8	Intangible assets (net of related tax liability) (negative amount)	-73	8; 10
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability where the conditions in Article 38 (3) are met) (negative amount)	-64	11
11	Fair value reserves related to gains or losses on cash flow hedges of financial instruments that are not valued at fair value	100	22
12	Negative amounts resulting from the calculation of expected loss amounts	-	
13	Any increase in equity that results from securitised assets (negative amount)	-	
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	-	
15	Defined-benefit pension fund assets (negative amount)	-60	12
16	Direct and indirect holdings by an institution of own CET1 instruments (negative amount)	-	
17	Direct, indirect and synthetic holdings of the CET 1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-	
18	Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
19	Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
EU-20a	Exposure amount of the following items which qualify for a RW of 1250%, where the institution opts for the deduction alternative	-17	
EU-20b	of which: qualifying holdings outside the financial sector (negative amount)	-	
EU-20c	of which: securitisation positions (negative amount)	-17	
EU-20d	of which: free deliveries (negative amount)	-	
21	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability where the conditions in Article 38 (3) are met) (negative amount)	-245	11
22	Amount exceeding the 17.65% threshold (negative amount)	-	
23	of which: direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities	-	8
25	of which: deferred tax assets arising from temporary differences	-	11
EU-25a	Losses for the current financial year (negative amount)	0	
EU-25b	Foreseeable tax charges relating to CET1 items except where the institution suitably adjusts the amount of CET1 items insofar as such tax charges reduce the amount up to which those items may be used to cover risks or losses (negative amount)	-	
27	Qualifying AT1 deductions that exceed the AT1 items of the institution (negative amount)	-	
27a	Other regulatory adjusments	17	8; 11; 12
28	Total regulatory adjustments to Common Equity Tier 1 (CET1)	-346	
29	Common Equity Tier 1 (CET1) capital	2 927	

	Additional Tier 1 (AT1) capital: instruments		
30	Capital instruments and the related share premium accounts	-	
31	of which: classified as equity under applicable accounting standards	-	
32	of which: classified as liabilities under applicable accounting standards	-	
33	Amount of qualifying items referred to in Article 484 (4) and the related share premium accounts subject to phase out from AT1 as described in Article 486(3) of CRR	-	
EU-33a	Amount of qualifying items referred to in Article 494a(1) subject to phase out from AT1	-	
EU-33b	Amount of qualifying items referred to in Article 494b(1) subject to phase out from AT1	-	
34	Qualifying Tier 1 capital included in consolidated AT1 capital (including minority interests not included in row 5) issued by subsidiaries and held by third parties	2	26
35	of which: instruments issued by subsidiaries subject to phase out	-	
36	Additional Tier 1 (AT1) capital before regulatory adjustments	2	
	Additional Tier 1 (AT1) capital: regulatory adjustments		
37	Direct and indirect holdings by an institution of own AT1 instruments (negative amount)	-	
38	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-	
39	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
40	Direct, indirect and synthetic holdings by the institution of the AT1 instruments of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	-	
42	Qualifying T2 deductions that exceed the T2 items of the institution (negative amount)	-	
42a	Other regulatory adjustments to AT1 capital	-	
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	-	
44	**Additional Tier 1 (AT1) capital**	2	
45	**Tier 1 capital (T1 = CET1 + AT1)**	2 928	
	Tier 2 (T2) capital: instruments		
46	Capital instruments and the related share premium accounts	399	15; 26
47	Amount of qualifying items referred to in Article 484 (5) and the related share premium accounts subject to phase out from T2 as described in Article 486 (4) CRR	-	
EU-47a	Amount of qualifying items referred to in Article 494a (2) subject to phase out from T2	-	
EU-47b	Amount of qualifying items referred to in Article 494b (2) subject to phase out from T2	-	
48	Qualifying own funds instruments included in consolidated T2 capital (including minority interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties	2	15
49	of which: instruments issued by subsidiaries subject to phase out	-	15
50	Credit risk adjustments	89	
51	**Tier 2 (T2) capital before regulatory adjustments**	490	
	Tier 2 (T2) capital: regulatory adjustments		
52	Direct and indirect holdings by an institution of own T2 instruments and subordinated loans (negative amount)	-	
53	Direct, indirect and synthetic holdings of the T2 instruments and subordinated loans of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-	
54	Direct and indirect holdings of the T2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
54a	Not applicable	-	
55	Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	-	4; 5
56	Not applicable	-	
EU-56a	Qualifying eligible liabilities deductions that exceed the eligible liabilities items of the institution (negative amount)	-	
EU-56b	Other regulatory adjusments to T2 capital	-	
57	**Total regulatory adjustments to Tier 2 (T2) capital**	-	
58	**Tier 2 (T2) capital**	490	
59	**Total capital (TC = T1 + T2)**	3 418	
60	**Total risk exposure amount**	21 355	
	Capital ratios and requirements including buffers		
61	Common Equity Tier 1 (as a percentage of total risk exposure amount)	13,7%	
62	Tier 1 (as a percentage of total risk exposure amount)	13,7%	
63	Total capital (as a percentage of total risk exposure amount)	16,0%	
64	Institution CET1 overall capital requirements	8,7%	
65	of which: capital conservation buffer requirement	2,5%	
66	of which: countercyclical buffer requirement	0,0%	
67	of which: systemic risk buffer requirement	0,0%	

EU-67a	of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	0,0%
68	**Common Equity Tier 1 available to meet buffer (as a percentage of risk exposure amount)**	3,5%
	Amounts below the thresholds for deduction (before risk weighting)	
72	Direct and indirect holdings of own funds and eligible liabilities of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	137
73	Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 17.65% thresholds and net of eligible short positions)	40
75	Deferred tax assets arising from temporary differences (amount below 17.65% threshold, net of related tax liability where the conditions in Article 38 (3) are met)	323
	Applicable caps on the inclusion of provisions in Tier 2	
76	Credit risk adjustments included in T2 in respect of exposures subject to standardised approach (prior to the application of the cap)	111
77	Cap on inclusion of credit risk adjustments in T2 under standardised approach	185
78	Credit risk adjustments included in T2 in respect of exposures subject to internal ratings-based approach (prior to the application of the cap)	258
79	Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	89
	Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2014 and 1 Jan 2022)	
80	Current cap on CET1 instruments subject to phase out arrangements	-
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	-
82	Current cap on AT1 instruments subject to phase out arrangements	-
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	-
84	Current cap on T2 instruments subject to phase out arrangements	-
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	-

Annex III - Template EU CC2 - Reconciliation of regulatory own funds to balance sheet in the audited financial statements

million euros

	2022-12		
	Balance sheet as in published financial statements	Under regulatory scope of consolidation	Reference
Assets			
Cash, cash balances at central banks and other demand deposits	6 599	6 557	
Financial assets held for trading	172	172	
Financial assets mandatorily at fair value through profit or loss	314	1 130	
Financial assets at fair value through other comprehensive income	2 331	2 331	55
Financial assets at amortised cost	32 778	32 780	55
Securities	8 183	8 183	
Loans and advances to banks	44	44	
Loans and advances to customers	24 551	24 553	
Derivatives — Hedge accounting	563	563	
Fair value changes of the hedged items in portfolio hedge of interest rate risk	-384	-384	
Investments in subsidiaries, joint ventures and associates	120	120	23; 27a; 8
Tangible assets	799	265	
Tangible fixed assets	299	265	
Investment properties	500	0	
Intangible assets	70	70	8
Tax assets	956	956	10; 21; 25
Current Tax Assets	33	32	
Deferred Tax Assets	923	923	
Other assets	1 618	1 601	27a
Non-current assets and disposal groups classified as held for sale	60	57	
Total asseta	**45 995**	**46 216**	
Liabilities			
Financial liabilities held for trading	99	99	
Financial liabilities measured at amortised cost	40 987	41 194	
Deposits from central banks and other banks	9 705	9 705	
(of which: Operations with repurchase agreement)	2 151	2 151	
Due to customers	29 278	29 485	
Debt securities issued, Subordinated debt and liabilities associated to transferred assets	1 629	1 629	46; 48; 49
Other financial liabilities	375	375	
Derivatives — Hedge accounting	120	120	
Provisions	413	435	
Tax liabilities	8	8	
Current Tax liabilities	8	8	
Deferred Tax liabilities	1	0	
Other liabilities	840	854	
Liabilities included in disposal groups classified as held for sale	15	15	
Total liabilities	**42 483**	**42 725**	
Equity			
Capital	6 305	6 305	1
Accumulated other comprehensive income	-1 235	-1 202	3; 11
Retained earnings	-8 577	-8 577	2
Other reserves	6 439	6 391	3; 15
Profit or loss attributable to Shareholders of the parent	561	556	5a
Minority interests (Non-controlling interests)	18	18	5; 34; 48
Total equity	**3 512**	**3 491**	

Annex IV – Template EU KM1 - Key metrics template

million euros

	2022-12	2022-09	2022-06	2022-03	2021-12
Available own funds (amounts)					
Common Equity Tier 1 (CET1) capital	2 927	2 906	2 711	2 571	2 768
Tier 1 capital	2 928	2 908	2 712	2 572	2 769
Total capital	3 418	3 409	3 214	3 076	3 276
Risk-weighted exposure amounts					
Total risk exposure amount	21 355	22 848	23 058	23 761	24 929
Capital ratios (as a percentage of risk-weighted exposure amount)					
Common Equity Tier 1 ratio (%)	13,7%	12,7%	11,8%	10,8%	11,1%
Tier 1 ratio (%)	13,7%	12,7%	11,8%	10,8%	11,1%
Total capital ratio (%)	16,0%	14,9%	13,9%	12,9%	13,1%
Additional own funds requirements to address risks other than the risk of excessive leverage (as a percentage of risk-weighted exposure amount)					
Additional own funds requirements to address risks other than the risk of excessive leverage (%)	1,7%	1,7%	1,7%	1,7%	1,7%
of which: to be made up of CET1 capital (percentage points)	0,6%	0,6%	0,6%	0,6%	0,6%
of which: to be made up of Tier 1 capital (percentage points)	0,7%	0,7%	0,7%	0,7%	0,7%
Total SREP own funds requirements (%)	11,0%	11,0%	11,0%	11,0%	11,0%
Combined buffer and overall capital requirement (as a percentage of risk-weighted exposure amount)					
Capital conservation buffer (%)	2,5%	2,5%	2,5%	2,5%	2,5%
Conservation buffer due to macro-prudential or systemic risk identified at the level of a Member State (%)	0,0%	0,0%	0,0%	0,0%	0,0%
Institution specific countercyclical capital buffer (%)	0,02%	0,0%	0,0%	0,0%	0,0%
Systemic risk buffer (%)	0,0%	0,0%	0,0%	0,0%	0,0%
Global Systemically Important Institution buffer (%)	0,0%	0,0%	0,0%	0,0%	0,0%
Other Systemically Important Institution buffer (%)	0,0%	0,0%	0,0%	0,0%	0,0%
Combined buffer requirement (%)	2,5%	2,5%	2,5%	2,5%	2,5%
Overall capital requirements (%)	13,5%	13,5%	13,5%	13,5%	13,5%
CET1 available after meeting the total SREP own funds requirements (%)	3,5%	2,5%	1,6%	0,6%	1,1%
Leverage ratio					
Total exposure measure	48 147	49 308	47 760	46 679	46 524
Leverage ratio (%)	6,1%	5,9%	5,7%	5,5%	6,0%
Additional own funds requirements to address the risk of excessive leverage (as a percentage of total exposure measure)					
Additional own funds requirements to address the risk of excessive leverage (%)	3,0%	3,0%	3,0%	3,0%	3,0%
of which: to be made up of CET1 capital (percentage points)	3,0%	3,0%	3,0%	3,0%	3,0%
Total SREP leverage ratio requirements (%)	3,0%	3,0%	3,0%	3,0%	3,0%
Leverage ratio buffer and overall leverage ratio requirement (as a percentage of total exposure measure)					
Leverage ratio buffer requirement (%)	-	-	-	-	-
Overall leverage ratio requirement (%)	3,0%	3,0%	3,0%	3,0%	3,0%
Liquidity Coverage Ratio					
Total high-quality liquid assets (HQLA) (Weighted value -average)	11 930	11 389	10 932	10 641	10 263
Cash outflows - Total weighted value	7 151	7 185	7 315	7 551	7 752
Cash inflows - Total weighted value	872	856	843	886	911
Total net cash outflows (adjusted value)	6 279	6 329	6 472	6 664	6 841
Liquidity coverage ratio (%)	190,1%	180,0%	169,8%	160,5%	150,4%
Net Stable Funding Ratio (NSFR)					
Total available stable funding	27 491	31 202	30 793	32 710	33 395
Total required stable funding	31 135	27 928	28 663	28 534	28 482
NSFR ratio (%)	113,3%	111,7%	107,4%	114,6%	117,3%

Annex V – Template IFRS9 / Article 468 of CRR - Comparison of institutions' own funds and capital and leverage ratios with and without the application of transitional arrangements for IFRS 9 or analogous ECLs

million euros

	2021-12	2022-03	2022-06	2022-09	2022-12
Available capital (amounts)					
Common Equity Tier 1 (CET1) capital	2 768	2 571	2 711	2 906	2 927
Common Equity Tier 1 (CET1) capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	2 507	2 419	2 558	2 746	2 787
Tier 1 capital	2 769	2 572	2 712	2 908	2 928
Tier 1 capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	2 509	2 420	2 559	2 747	2 789
Total capital	3 276	3 076	3 214	3 409	3 418
Total capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	3 015	2 925	3 061	3 248	3 279
Risk-weighted assets (amounts)					
Total risk-weighted assets	24 929	23 761	23 058	22 848	21 355
Total risk-weighted assets as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	24 689	23 620	22 914	21 929	21 334
Capital ratios					
Common Equity Tier 1 (as a percentage of risk exposure amount)	11,1%	10,8%	11,8%	12,7%	13,7%
Common Equity Tier 1 (as a percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	10,2%	10,2%	11,2%	12,5%	13,1%
Tier 1 (as a percentage of risk exposure amount)	11,1%	10,8%	11,8%	12,7%	13,7%
Tier 1 (as a percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	10,2%	10,2%	11,2%	12,5%	13,1%
Total capital (as a percentage of risk exposure amount)	13,1%	12,9%	13,9%	14,9%	16,0%
Total capital (as a percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	12,2%	12,4%	13,4%	14,8%	15,4%
Leverage ratio					
Leverage ratio total exposure measure	46 524	46 679	47 760	49 308	48 147
Leverage ratio	6,0%	5,5%	5,7%	5,9%	6,1%
Leverage ratio as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	5,4%	5,2%	5,4%	5,6%	5,8%

The NB Group, pursuant to article 473-A of the CRR, opted, at the beginning of 2018, to consider the static component stipulated for the phased recognition of the impacts resulting from the introduction of IFRS 9 regarding expected credit losses, in the calculation of their solvency and leverage ratios. Additionally, following the entry into force of Regulation (EU) 2020/873 ("CRR Quick Fix") of the European Parliament and of the Council that amended the CRR in reaction to the crisis caused by COVID-19, in 2020 NB Group adhered to the dynamic option, option that allows the phased consideration of sudden increases in provisions for ECL occurred since the beginning of the crisis in the calculation of own funds.

Annex VI – Template EU LI3 – Outline of the differences in the scopes of consolidation (entity by entity)

Entity	Method of accounting consolidation	2022-12					Entity description
		Method of prudential consolidation					
		Full consolidation	Proportional consolidation	Equity method	Neither consolidated nor deducted	Deducted	
NOVO BANCO, SA	Full consolidation	X					Commercial Banking
Novo Banco dos Açores, SA (novobanco Açores)	Full consolidation	X					Commercial Banking
BEST - Banco Electrónico de Serviço Total, SA (BEST)	Full consolidation	X					Electronic banking
NB África, SGPS, SA	Full consolidation	X					Holding
GNB - Gestão de Ativos, SGPS, SA (GNB GA)	Full consolidation	X					Holding
ES Tech Ventures, S.G.P.S., SA (ESTV)	Full consolidation	X					Holding
NB Finance, Ltd. (NBFINANCE)	Full consolidation	X					Issue and distribution of securities
GNB Concessões, SGPS, SA (GNB CONCESSÕES)	Full consolidation	X					Holding
Espírito Santo Representações, Ltda. (ESREP)	Full consolidation	X					Representation services
Aroleri, SLU	Full consolidation	X					Real estate development
Fundo de Capital de Risco NOVO BANCO PME Capital Growth	Full consolidation				X		Venture capital fund
Fundo de Gestão de Património Imobiliário - FUNGEPI - Novo Banco	Full consolidation				X		Real estate fund management
Fundo de Gestão de Património Imobiliário - FUNGEPI - Novo Banco II	Full consolidation				X		Real estate fund management
Imolnvestimento – Fundo Especial de Investimento Imobiliário Fechado	Full consolidation				X		Real estate fund management
Prediloc Capital – Fundo Especial de Investimento Imobiliário Fechado	Full consolidation				X		Real estate fund management
Imogestão – Fundo de Investimento Imobiliário Fechado	Full consolidation				X		Real estate fund management
Invesfundo VII – Fundo de Investimento Imobiliário Fechado	Full consolidation				X		Real estate fund management
NB Património - Fundo de Investimento Imobiliário Aberto	Full consolidation				X		Real estate fund management
NB Arrendamento - Fundo de Investimento Imobiliário Fechado para Arrendamento Habitacional	Full consolidation				X		Real estate fund management
Fimes Oriente - Fundo de Investimento Imobiliário Fechado	Full consolidation				X		Real estate fund management
Fundo de Investimento Imobiliário Fechado Amoreiras	Full consolidation				X		Real estate fund management
NB Branches - Fundo Especial de Investimento Imobiliário Fechado	Full consolidation				X		Real estate fund management
Febagri-Actividades Agropecuárias e Imobiliárias SA	Full consolidation				X		Real estate development
JCN - IP - Investimentos Imobiliários e Participações, SA	Full consolidation				X		Real estate development
Greenwoods Ecoresorts empreendimentos imobiliários, SA	Full consolidation				X		Real estate development
Imalgarve - Sociedade de Investimentos Imobiliários, SA	Full consolidation				X		Real estate development
Herdade da Boina - Sociedade Imobiliária	Full consolidation				X		Real estate development
Benagil - Promoção Imobiliária, SA	Full consolidation				X		Real estate development
Promofundo - Fundo Especial de Investimento Imobiliário Fechado	Full consolidation				X		Real estate fund management
Locarent - Companhia Portuguesa de Aluguer de Viaturas, SA (LOCARENT)	Equity method			X			Renting
UNICRE - Instituição Financeira de Crédito, SA	Equity method			X			Non banking financing
Edenred Portugal, SA	Equity method			X			Services provider
Multipessoal Recursos Humanos - SGPS, S.A	Equity method			X			Management of shareholdings

Annex VII – Template EU LR2 - LRCom: Leverage ratio common disclosure

million euros

	2022-06	2022-12
On-balance sheet exposures (excluding derivatives and SFTs)		
On-balance sheet items (excluding derivatives, SFTs, but including collateral)	45 085	44 945
Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	-	-
(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-	-
(Adjustment for securities received under securities financing transactions that are recognised as an asset)	-	-
(General credit risk adjustments to on-balance sheet items)	-	-
(Asset amounts deducted in determining Tier 1 capital)	- 317	- 369
Total on-balance sheet exposures (excluding derivatives and SFTs)	**44 768**	**44 576**
Derivative exposures		
Replacement cost associated with SA-CCR derivatives transactions (ie net of eligible cash variation margin)	640	779
Derogation for derivatives: replacement costs contribution under the simplified standardised approach	-	-
Add-on amounts for potential future exposure associated with SA-CCR derivatives transactions	213	182
Derogation for derivatives: Potential future exposure contribution under the simplified standardised approach	-	-
Exposure determined under Original Exposure Method	-	-
(Exempted CCP leg of client-cleared trade exposures) (SA-CCR)	-	-
(Exempted CCP leg of client-cleared trade exposures) (simplified standardised approach)	-	-
(Exempted CCP leg of client-cleared trade exposures) (original Exposure Method)	-	-
Adjusted effective notional amount of written credit derivatives	-	-
(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-	-
Total derivatives exposures	**853**	**961**
Securities financing transaction (SFT) exposures		
Gross SFT assets (with no recognition of netting), after adjustment for sales accounting transactions	-	-
(Netted amounts of cash payables and cash receivables of gross SFT assets)	-	-
Counterparty credit risk exposure for SFT assets	171	914
Derogation for SFTs: Counterparty credit risk exposure in accordance with Articles 429e(5) and 222 CRR	-	-
Agent transaction exposures	-	-
(Exempted CCP leg of client-cleared SFT exposure)	-	-
Total securities financing transaction exposures	**171**	**914**
Other off-balance sheet exposures		
Off-balance sheet exposures at gross notional amount	8 378	8 095
(Adjustments for conversion to credit equivalent amounts)	6 410	6 400
(General provisions deducted in determining Tier 1 capital and specific provisions associated with off-balance sheet exposures)	-	-
Off-balance sheet exposures	**1 968**	**1 695**
Excluded exposures		
(Exposures excluded from the leverage ratio total exposure measure in accordance with point (c) of Article 429a(1) CRR)	-	-
(Exposures exempted in accordance with point (j) of Article 429a (1) CRR (on and off balance sheet))	-	-
(Excluded exposures of public development banks (or units) - Public sector investments)	-	-
(Excluded exposures of public development banks (or units) - Promotional loans)	-	-
(Excluded passing-through promotional loan exposures by non-public development banks (or units))	-	-
(Excluded guaranteed parts of exposures arising from export credits)	-	-
(Excluded excess collateral deposited at triparty agents)	-	-
(Excluded CSD related services of CSD/institutions in accordance with point (o) of Article 429a(1) CRR)	-	-
(Excluded CSD related services of designated institutions in accordance with point (p) of Article 429a(1) CRR)	-	-
(Reduction of the exposure value of pre-financing or intermediate loans)	-	-
(Total exempted exposures)	**-**	**-**
Capital and total exposure measure		
Tier 1 capital	2 712	2 928
Total exposure measure	**47 760**	**48 147**

Leverage ratio		
Leverage ratio	5,7%	6,1%
Leverage ratio (excluding the impact of the exemption of public sector investments and promotional loans) (%)	5,7%	6,1%
Leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves)	5,7%	6,1%
Regulatory minimum leverage ratio requirement (%)	3,0%	3,0%
Additional own funds requirements to address the risk of excessive leverage (%)	-	-
of which: to be made up of CET1 capital (percentage points)	-	-
Leverage ratio buffer requirement (%)	-	-
Overall leverage ratio requirement (%)	3,0%	3,0%
Choice on transitional arrangements and relevant exposures		
Choice on transitional arrangements for the definition of the capital measure	Transitional	Transitional
Disclosure of mean values		
Mean value of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables	-	-
Quarter-end value of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables	-	-
Total exposure measure (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	47 760	48 147
Total exposure measure (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	47 760	48 147
Leverage ratio (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	5,7%	6,1%
Leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	5,7%	6,1%

Annex VIII – Template EU CCyB1 - Geographical distribution of credit exposures relevant for the calculation of the institution-specific countercyclical buffer

million euros

	2022-12												
	General credit exposures		Relevant credit exposures – Market risk		Securitisation exposures Exposure value for non-trading book	Total exposure value	Own fund requirements				Risk-weighted exposure amounts	Own fund requirements weights (%)	Countercyclical buffer rate (%)
	Exposure value under the standardised approach	Exposure value under the IRB approach	Sum of long and short positions of trading book exposures for SA	Value of trading book exposures for internal models			Relevant credit risk exposures - Credit risk	Relevant credit exposures – Market risk	Relevant credit exposures – Securitisation positions in the non-trading book	Total			
Portugal	2 111	20 032	0	0	1 012	23 155	1 015	0	12	1 027	12 838	77,85%	0,00%
Spain	898	233	0	0	0	1 131	83	0	0	83	1 038	6,29%	0,00%
Angola	6	145	0	0	0	151	5	0	0	5	63	0,35%	0,00%
Luxembourg	251	153	0	0	0	404	32	0	0	32	400	2,41%	0,50%
United States	118	650	0	0	0	768	32	0	0	32	400	2,40%	0,00%
Netherlands	142	173	0	0	0	315	18	0	0	18	225	1,39%	0,00%
France	214	366	0	0	0	580	30	0	0	30	375	2,28%	0,00%
United Kingdom	176	503	0	0	0	679	33	0	0	33	413	2,50%	0,00%
Germany	117	566	0	0	0	683	19	0	0	19	238	1,40%	0,00%
Switzerland	2	312	0	0	0	314	7	0	0	7	88	0,50%	0,00%
Greece	65	0	0	0	0	65	5	0	0	5	63	0,39%	0,00%
Irland	1	101	0	0	0	102	4	0	0	4	50	0,30%	0,00%
Finland	13	47	0	0	0	60	5	0	0	5	63	0,37%	0,00%
Mexico	3	2	0	0	0	5	0	0	0	0	0	0,02%	0,00%
Macao	0	4	0	0	0	4	0	0	0	0	0	0,03%	0,00%
Brazil	9	117	0	0	0	126	2	0	0	2	25	0,12%	0,00%
Denmark	0	27	0	0	0	27	1	0	0	1	13	0,07%	2,00%
Czech Republic	0	9	0	0	0	9	0	0	0	0	0	0,03%	1,50%
Norway	0	37	0	0	0	37	1	0	0	1	13	0,09%	2,00%
Italy	2	3	0	0	0	5	0	0	0	0	0	0,01%	0,00%
Slovakia	0	0	0	0	0	0	0	0	0	0	0	0,00%	1,00%
Sweden	6	49	0	0	0	55	4	0	0	4	50	0,30%	1,00%
Hong Kong	0	7	0	0	0	7	0	0	0	0	0	0,01%	1,00%
Iceland	0	1	0	0	0	1	0	0	0	0	0	0,00%	2,00%
Bulgaria	0	0	0	0	0	0	0	0	0	0	0	0,00%	1,00%
Lithuania	0	0	0	0	0	0	0	0	0	0	0	0,00%	0,00%
Other [2]	29	344	0	0	0	373	11	0	0	11	138	0,83%	
Total	**4 163**	**23 881**	**0**	**0**	**1 012**	**29 056**	**1 307**	**0**	**12**	**1 319**	**16 488**	**100,00%**	

[1] Includes relevant exposures subject to credit risk, market risk and securitization positions in the banking book, in accordance with number 4 of article 140 of CRD IV.
[2] Sum of exposures relevant to the calculation of the countercyclical buffer with weighting of own funds requirements below 0.01%, where the designated authority of the country in question has not established a countercyclical buffer rate.

Annex IX – Template EU CCyB2- Amount of institution-specific countercyclical capital

	million euros
	2022-12
Total risk exposure amount	21 355
Institution specific countercyclical capital buffer rate	0,02%
Institution specific countercyclical capital buffer requirement	4

Annex X – Location of complementary information in Annual Report

Pillar 3 2022	Annual Report 2022
2.1 Novo Banco: origins, structure and activity - Origins and structure	III. Financial Statements and Final Notes - Note 1
2.1 Novo Banco: origins, structure and activity - Relevant risk management events	III. Financial Statements and Final Notes - Note 44
	I. Management Report - 2.3 Risk Management
2.1 Novo Banco: origins, structure and activity - Contingent Capital Agreement (CCA)	III. Financial Statements and Final Notes - Note 38
2.2 Scope and basis of consolidation for accounting and prudential purposes - Consolidation scope	III. Financial Statements and Final Notes - Notes 1 and 7
2.3.3 Governance structures and risk management committees	I. Management Report - 5.2 Corporate Bodies: Composition and Functioning
2.4 The audit function	I. Management Report - 5.3 Internal Control
2.5 The compliance fuction	I. Management Report - 5.4 Main Policies
2.7.1 Relevant information	I. Management Report - 5.2.3. General and Supervisory Board
2.7.2. Limits to remuneration in novobanco	I. Management Report - 5.4 Main Policies
2.7.4. Specific rules of novobanco's remuneration policies	I. Management Report - 5.4 Main Policies
2.9 Policy for selection and assessment of the management and supervisory bodies and key function holders	I. Management Report - 5.4 Main Policies
3.2.1.1.1 Common Equity Tier I	III. Financial Statements and Final Notes - Notes 36 and 37
3.8 Minimum requirement for own funds and eligible liabilities (MREL)	I. Management Report - 4. Capital and Liquidity
4.3 Quantitative information on counterparty credit risk	III. Financial Statements and Final Notes - Notes 23, 25 and 42
5.1. Management of credit risk	III. Financial Statements and Final Notes - Note 44
5.1.2 Definições e métodos de estimação das perdas por imparidade para outros ativos	III. Financial Statements and Final Notes - Note 7
7.3. Accounting policies	III. Financial Statements and Final Notes - Note 41
7.6. Calculation methods of own funds requirements for securitisation exposures	III. Financial Statements and Final Notes - Notes 23, 25 and 42
9.1. General overview	III. Financial Statements and Final Notes - Note 7
12.1. Management of liquidity risk	I. Management Report - 4.2 Liquidity and Funding
	III. Financial Statements and Final Notes - Note 44
12.4. Encumbered assets disclosure 12.4.2 Quantitative information	III. Financial Statements and Final Notes - Note 44
13. Management of ESG risks 13.1. Qualitative information on environmental risks 13.1.1 Business strategy and processes	II. Sustainability Report
13.1.2 Governance	II. Sustainability Report
13.1.3 Risk management	II. Sustainability Report
13.2.1. Business strategy and processes	II. Sustainability Report
13. Management of ESG risks 13.1. Qualitative information on environmental risks 13.1.1 Business strategy and processes	II. Sustainability Report
13.2.2 Governance	II. Sustainability Report
13.3. Qualitative information on governance risks	I. Management Report - 5 Corporate Governance