

## 1.2. MARKET RISKS

As already mentioned in the Introduction, the Intesa Sanpaolo Group policies on financial risk are defined by the Parent Company's Management Bodies, with the support of specific Committees, including the Steering Committee, chaired by the Managing Director and CEO and composed of the heads of the main corporate departments, and the Group Financial Risk Committee.

The Steering Committee, a Group body with a decision-making, reporting and consulting role, is also assigned the functions of assisting the Managing Director and CEO in the performance of his duties, strengthening the coordination and cooperation mechanisms between the various business, governance and control areas of the Group, with a view to sharing the main business choices, and helping ensure coordinated and integrated risk management and the safeguarding of business value at Group level, including the correct functioning of the internal control system.

The Group Financial Risk Committee, chaired by the Chief Risk Officer and the Chief Financial Officer, is responsible for setting out the methodological and measurement guidelines for financial risks, establishing the operational limits and assessing the risk profile of the Group and its main operational units. The Committee also sets out the strategies for the management of the banking book to be submitted to the competent Bodies and establishes the guidelines on liquidity, interest rate and foreign exchange risk.

The Committee operates on the basis of the operating and functional powers delegated by the Corporate Bodies and coordination of the Steering Committee.

The Group's overall financial risk profile and the eventual necessary changes are examined periodically by the Group Financial Risk Committee.

The Parent Company's Market and Financial Risk Management Head Office Department is responsible for the development of corporate risk measurement and monitoring methodologies as well as for the proposals on the Group's system of operational limits. It is also responsible in outsourcing for the risk measurement for certain operating units on the basis of specific service contracts.

The table below shows the items of the consolidated Balance Sheet that are subject to market risks, showing the positions for which managerial VaR is the main risk measurement metric (the managerial VaR is calculated on a wider scope than subject to the Internal Model for market risks. For a more in-depth discussion, refer to the subsequent paragraph), along with those for which risks are monitored with other metrics. The latter mostly include the sensitivity analysis to the different risk factors (interest rate, credit spread, etc.).

	BOOK VALUE (supervisory scope)	MAIN RISK MEASUREMENT METRICS		
		VaR	Other	Risk factors measured using metrics included under Other
(millions of euro)				
<b>Assets subject to market risk</b>	<b>645,478</b>	<b>93,608</b>	<b>551,870</b>	
Financial assets held for trading	42,614	42,260	354	Interest rate risk, credit spread, equity
Financial assets designated at fair value	1	1	-	-
Other financial assets mandatorily measured at fair value	5,706	176	5,530	Interest rate risk, credit spread, equity
Financial assets measured at fair value through other comprehensive income (ifrs 7 par. 8 lett. h))	49,716	48,342	1,374	Interest rate risk, credit spread, equity
Due from banks	32,887	-	32,887	Interest rate risk
Loans to customers	495,952	-	495,952	Interest rate risk
Hedging derivatives	10,062	2,829	7,233	Interest rate risk
Investments in associates and companies subject to joint control	8,540	-	8,540	Equity risk
<b>Liabilities subject to market risk</b>	<b>731,920</b>	<b>55,340</b>	<b>676,580</b>	
Due to banks	137,217	-	137,217	Interest rate risk
Due to customers	456,640	-	456,640	Interest rate risk
Securities issued	77,389	-	77,389	Interest rate risk
Financial liabilities held for trading	46,533	46,462	71	Interest rate risk
Financial liabilities designated at fair value (ifrs 7 par. 8 lett. e))	8,795	8,795	-	-
Hedging derivatives	5,346	83	5,263	Interest rate risk

## REGULATORY TRADING BOOK

### 1.2.1. INTEREST RATE RISK AND PRICE RISK

#### Qualitative information

##### General aspects

The regulatory requirements for the trading book are established in Regulation EU 575/2013 (CRR - Part Three, Title I, Chapter 3, in Articles 102, 103, and 104 respectively). The combined provisions of those articles lay down the set of minimum requirements for the identification of the trading strategies and the measurement and control of the associated risks.

In accordance with the requirements of the applicable regulations, the Intesa Sanpaolo Group has established an internal policy that identifies the trading book based on:

- measurement at fair value through profit or loss of the instruments held for trading;
- the strategies defined;
- the risk-taking centres identified;
- the monitoring, limitation and management of the risks defined in accordance with the internal regulations on market risk.

In particular, the assets classified in the regulatory trading book coincide – apart from some specific exceptions – with the financial assets held for trading (Bank of Italy Circular 262). This association derives from the set of strategies, powers, limits and controls that feed and guarantee the adjacency and consistency between the accounting and prudential portfolios.

Among risks associated with trading activity, i.e. market risks deriving from the effect that changes in market variables may generate on the Group's various assets and liabilities, the latter are generally quantified through daily and periodic analysis designed to determine the vulnerability of the Intesa Sanpaolo Group's trading book. A list of the main risk factors to which the Group's trading book is exposed is set out below:

- interest rates;
- equities and market indexes;
- investment funds;
- foreign exchange rates;
- implied volatilities;
- spreads in credit default swaps (CDSs);
- spreads in bond issues;
- correlation instruments;
- dividend derivatives;
- asset-backed securities (ABSs);
- commodities.

For some of the risk factors cited above and included in the managerial VaR (Value at Risk) measurements, the Supervisory Authority has validated the internal models for the reporting of the capital requirement of Intesa Sanpaolo. More specifically, concerning market risk, the risk profiles validated are: (i) generic/specific on debt securities and on equities; (ii) position risk on quotas of UCI with daily liquidity and (iii) commodity risk.

#### Risk management processes and measurement methods

The allocation of capital for trading activities is set by the Parent Company's Board of Directors, through the attribution of operating limits in terms of VaR to the various Group units.

The structure of limits reflects the risk level deemed to be acceptable with reference to single business areas, consistent with operating and strategic guidelines defined by top management. The attribution and control of limits at the various hierarchical levels implies the assignment of delegated powers to the heads of business areas, aimed at achieving the best trade-off between a controlled risk environment and the need for operating flexibility. The functioning of the system of limits and delegated powers is underpinned by the basic concepts of hierarchy and interaction.

The application of such principles led to the definition of a structure of limits in which the distinction between first level and second level limits is particularly important:

- **first-level limits (VaR):** the overall limits of the Group as well as those of the IMI C&IB Division and Group Treasury and Finance Department are included in the Group's Risk Appetite Framework (RAF). At the same time, the Board of Directors of the Parent Company defines the operating limits in terms of VaR for other Group companies which hold smaller trading books whose risk is marginal. Following approval, these limits are then allocated to the desks of the individual legal entities, considering the proposals by the business units. Limit absorption trends and the relative congruity analysis are periodically assessed by the Group Financial Risk Committee and Board of Directors within the framework of the Tableau de Bord for the Group's risks;
- **second level limits (sensitivity and greeks):** they have the objective of controlling operations of the various desks on the basis of differentiated measures based on the specific characteristics of traded instruments and operating strategies, such as sensitivity, greeks and equivalent exposures;
- **other significant limits:** they have the objective of monitoring particular transactions (e.g. limits of negative maximum exposure of the valuation reserve, ceilings for transactions with issuer risk).

Some of these limits may be covered by the RAF rules. See also the paragraph "The internal control system" for a more detailed representation of the risk framework.

The Parent Company represents the main portion of the Group's market risks, while some other Group subsidiaries hold smaller trading books with a marginal risk (approximately less than 1% of the Group's overall management risk): in particular, the risk factors of the international subsidiaries' trading books are local government bonds, positions in interest rates, and foreign exchange rates relating to linear pay-offs.

A more detailed representation of the market risk metrics monitored in the limit structure is set out below:

### **Managerial VaR**

**Definition:** Value at Risk is a monetary estimate of risk based on statistical techniques capable of summarising the maximum probable loss, with a certain confidence level, that a financial position or portfolio may suffer in a given period (holding period) in response to changes in the risk factors underlying the measurement models caused by market dynamics.

**Method:** the mathematical and statistical models that make it possible to calculate VaR can be divided into two general categories: parametric approaches (variance/covariance) and approaches based on simulation techniques, such as that in use at Intesa Sanpaolo.

Specifically, the approach used in Intesa Sanpaolo has the following characteristics:

- historical simulation model based on the mark-to-future platform;
- a 99th percentile confidence interval;
- disposal period of 1 day;
- full revaluation of existing positions.

Historical simulation scenarios are calculated internally on time series of one-year risk factors (250 observations). For management purposes, a non-equal probability of occurrence is associated with each scenario, decreasing exponentially as a function of time, to privilege the informational content of the most recent data. For regulatory purposes, scenarios are equally weighted when calculating the capital requirement.

Please note that, in the first quarter of 2022, on approving the ordinary annual update of the market risk managerial framework (as part of the 2022 Group Risk Appetite Framework), the Board of Directors confirmed a specific limit for trading within an overall limit for trading and the hold to collect and sell (HTCS) business model.

### **Sensitivity and greeks**

**Definition:** sensitivity measures the risk attributable to a change in the theoretical value of a financial position to changes of a defined quantity of risk factors connected thereto. It therefore summarises:

- the extent and direction of the change in the form of multipliers or monetary changes in theoretical value;
- without explicit assumptions on the time horizon;
- without explicit assumptions of correlation between risk factors.

**Method:** the sensitivity indicator can be constructed using the following techniques:

- calculation of prime and second derivatives of the valuation formulae;
- calculation of the difference between the initial value and that resulting from the application of unidirectional shocks independent of risk factors (delta, gamma, vega, CR01 and PV01).

Sensitivity measures make risk profiling more accurate, especially in the presence of option components. These measure the risk attributable to a change in the value of a financial position to predefined changes in valuation parameters including a one basis point increase in interest rates.

### **Level measures**

**Definition:** Level measures, used also as ratios, are indicators supporting synthetic risk metrics which are based on the assumption of a direct relationship between the size of a financial position and the risk profile. In particular, level measures make it possible to monitor the nature of exposures to certain issuers and economic groups.

The main level measure indicators are nominal (or equivalent) position and average duration metrics; level indicators also include the Negative Maximum Exposure of the Valuation Reserve measures characteristic of the HTCS business model.

**Method:** nominal (or equivalent) position is determined by identifying:

- the notional amount;
- the mark to market;
- the conversion of the position of one or more instruments to that of a given benchmark (equivalent position);
- the FX exposure.

When determining the equivalent position, risk is defined as the value of the various assets, converted into an aggregate position that is "equivalent" in terms of sensitivity to the change in the risk factors investigated.

At Intesa Sanpaolo the approach is characterised by extended use of ceilings in terms of MtM, as representative of the value of the assets as recognised.

### **Stress tests**

**Definition:** stress tests are conducted periodically to identify and monitor potential vulnerabilities in trading books upon the occurrence of extreme, rare events not fully captured by VaR models.

**Method:** Stress tests for management purposes are applied periodically to market risk exposures, typically adopting:

- sensitivity analysis, which measures the potential impact on the main risk metrics of a change in a single risk factor or simple multi-risk factors;
- scenario analysis, which measures the potential impact on the main risk metrics of a certain scenario that considers multiple risk factors.

The following stress exercises are included in the Group's Stress Testing Programme:

- multi-risk exercise, based on scenario analysis, which enables the forward-looking assessment of the simultaneous impact on the Group of multiple risk factors, also taking into account the interrelationships between them and, where applicable, the top management's reaction capacity;
- regulatory multi-risk exercise, ordered and coordinated by the supervisor/regulator which defines its general assumptions

and scenarios, requires the full revaluation of the impacts with the resulting need of contributions from the specialist departments of the Chief Risk Officer and Chief Financial Officer Governance Areas;

- situational exercise, ordered by the top management or by the supervisor/regulator in order to assess the impact of particular events (relating to the geopolitical, financial, economic, competitive environment, etc.) from a forward-looking perspective;
- a single or specific risk exercise to assess the impact of scenarios (or single or more specific risk factors) on specific risk areas.

#### **Stressed VaR**

Definition: the stressed VaR metric is based on the same measurement techniques as VaR. In contrast to the latter, it is calculated by applying market stress conditions recorded over an uninterrupted 12-month historical period.

Method: that period was identified considering the following guidelines:

- the period must represent a stress scenario for the portfolio;
- the period must have a significant impact on the main risk factors for the portfolio of Intesa Sanpaolo;
- the period must allow real time series to be used for all portfolio risk factors.

While using the historical simulation approach for VaR calculation, the latter point is a discriminating condition in the selection of the holding period. Actually, in order to ensure that the scenario adopted is effectively consistent and to avoid the use of driver or comparable factors, the historical period must ensure the effective availability of market data.

As at the date of preparation of the 2022 Financial Statements, the period for the measurement of Stressed VaR for Intesa Sanpaolo was from 3 October 2011 to 20 September 2012.

For managerial purposes, the stressed VaR metric is calculated on the entire set of the Group's portfolios measured at fair value (trading and FVOCI in the banking scope) and the stressed period is revised at least annually, together with the annual update to the market risk management framework (Risk Appetite Framework).

#### **Incremental Risk Charge (IRC)**

Definition: The Incremental Risk Charge (IRC) is the maximum potential loss in the credit trading book resulting from an upgrade/downgrade or bankruptcy of the issuers, over a 1-year period, with a 99.9% confidence level. This measure, which is additional to the VaR, is applied to the entire trading book of Intesa Sanpaolo (just as for the other regulatory metrics, it is not applied to the sub-portfolios).

The IRC enables the correct representation of the specific risk on debt securities and credit derivatives because, in addition to idiosyncratic risk, it also captures event and default risk.

This measure applies to all financial products that are sensitive to credit spreads included in the trading book except for the securitisations.

Method: The simulation is based on a Modified Merton Model. The probabilities of transition and default are those observed through the historical matrices of the main rating agencies, applying a probability of default minimum value higher than zero. The asset correlation is inferred from the equity correlation of the issuers. The model is based on the assumption of a constant position with a holding period of one year.

A regular stress program is applied to the model's main parameters (correlation, and transition, default and credit spread matrices).

## Quantitative information

### Daily managerial VaR evolution

Below is a summary of the daily managerial VaR for the trading book only, which also shows the overall exposure of the main risk-taking centres.

#### Daily managerial VaR of the trading book

	average 4th quarter	minimum 4th quarter	maximum 4th quarter	average 3rd quarter	average 2nd quarter	(millions of euro) average 1st quarter
<b>Total Group Trading Book <sup>(a)</sup></b>	26.6	21.5	31.0	26.0	22.8	21.4
<i>of which: Group Treasury and Finance Department</i>	6.6	4.9	9.4	7.2	6.1	3.8
<i>of which: IMI C&amp;IB Division</i>	24.7	18.7	31.0	26.0	21.2	17.5

Each line in the table sets out past estimates of daily VaR calculated on the historical quarterly time-series of the Intesa Sanpaolo Group (including other subsidiaries), the Group Treasury and Finance Department and the IMI C&IB Division respectively; minimum and maximum values for the overall perimeter are estimated using aggregate historical time-series and therefore do not correspond to the sum of the individual values in the column.

(a) The Group Trading Book figure includes the managerial VaR of the Group Treasury and Finance Department, the IMI C&IB Division (Trading Book perimeter) and the other subsidiaries.

During the fourth quarter of 2022, as shown in the table above, compared to the averages for the third quarter of 2022, trading managerial risks were substantially stable (26.6 million euro in the fourth quarter of 2022 and 26 million euro in the third quarter of 2022).

Instead, with regard to the overall performance in 2022, compared to the same period of 2021, the trading managerial VaR decreased slightly, also due to lower market volatility compared to the exceptional market shocks connected with the spread of the COVID-19 pandemic. In particular, there was a reduction from 26.7 million euro in 2021 to 24.1 million euro in 2022.

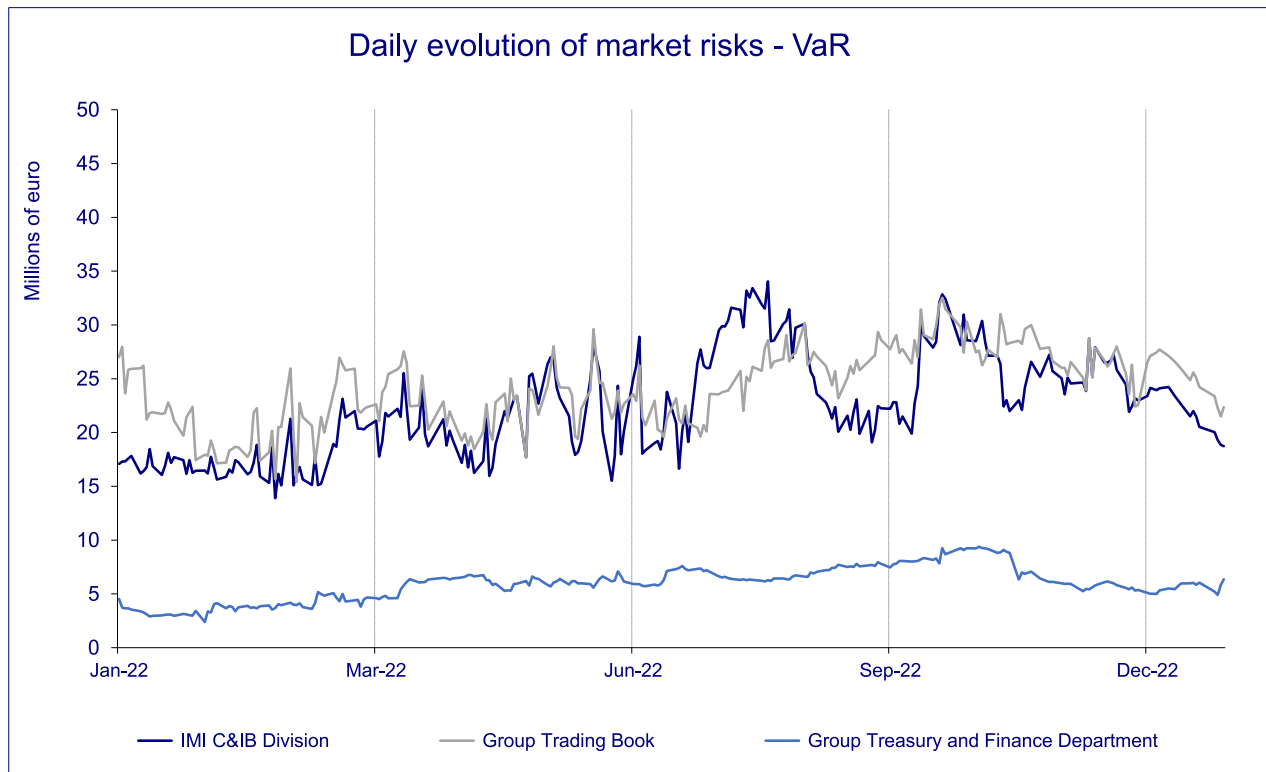
#### Daily managerial VaR of the trading book - Comparison 2022 – 2021

	2022				2021		
	average	minimum	maximum	last day	average	minimum	maximum
<b>Total Group Trading Book <sup>(a)</sup></b>	24.1	15.4	32.5	22.4	26.7	16.9	57.8
<i>of which: Group Treasury and Finance Department</i>	5.9	2.4	9.4	6.4	2.8	2.3	5.6
<i>of which: IMI C&amp;IB Division</i>	22.3	13.9	34.1	18.7	25.7	16.0	51.9

Each line in the table sets out past estimates of daily VaR calculated on the historical time-series of the first nine months of the Intesa Sanpaolo Group (including other subsidiaries), the year respectively of the Group Treasury and Finance Department and the IMI C&IB Division; minimum and maximum values for the overall perimeter are estimated using aggregate historical time-series and therefore do not correspond to the sum of the individual values in the column.

(a) The Group Trading Book figure includes the managerial VaR of the Group Treasury and Finance Department, the IMI C&IB Division (Trading Book perimeter) and the other subsidiaries.

The trend in the trading VaR in the fourth quarter of 2022 was mainly marked by transactions conducted by the IMI C&IB Division. Specifically, as shown in the chart below, there was a gradual decrease attributable to transactions in developed market government securities and credit indices. The movements are shown in the chart below:



The breakdown of the Group’s risk profile in the trading book in the fourth quarter of 2022 shows a prevalence of credit spread risk and interest rate risk, accounting for 34% and 29%, respectively, of the Group’s total managerial VaR. Instead, the single risk-taking centres show a prevalence of exchange rate risk and interest rate risk for the Group Treasury and Finance Department (46% and 44%, respectively) and of credit spread and interest rate risk for the IMI C&IB Division (40% and 29%, respectively).

**Contribution of risk factors to total managerial VaR**

4th quarter 2022	Shares	Interest rates	Credit spreads	Foreign exchange rates	Other parameters	Commodities
Group Treasury and Finance Department	4%	44%	6%	46%	0%	0%
IMI C&IB Division	13%	29%	40%	5%	8%	5%
<b>Total</b>	<b>11%</b>	<b>29%</b>	<b>34%</b>	<b>15%</b>	<b>7%</b>	<b>4%</b>

(a) Each line in the table sets out the contribution of risk factors considering 100% the overall capital at risk, calculated as the average of daily estimates in the fourth quarter of 2022, broken down between the Group Treasury and Finance Department and IMI C&IB Division and indicating the distribution of the Group’s overall capital at risk.

Risk control with regard to the activity of the Intesa Sanpaolo Group also uses scenario analyses and stress tests. The impact of selected scenarios relating to the evolution of stock prices, interest rates, credit spreads, foreign exchange rates and commodity prices at the end of December is summarised in the following table:

	EQUITY		INTEREST RATES		CREDIT SPREADS		FOREIGN EXCHANGE RATES		(millions of euro) COMMODITIES	
	Crash	Bullish	+40bps	lower rate	-25bps	+25bps	-5%	+5%	Crash	Bullish
Total Trading Book	55	15	17	10	-16	19	22	-13	-17	6

Specifically:

- for stock market positions, there would not be potential losses either in the case of sudden increases in stock prices or in the case of sharp decreases therein;
- for positions in interest rates, there would not be potential losses either in the case of sudden increases or decreases therein;
- for positions in credit spreads, a tightening of credit spreads of 25 bps would result in an overall loss of 16 million euro;
- for positions in exchange rates, there would be potential losses of 13 million euro in the event of appreciation in the Euro against the other currencies;
- finally, for positions in commodities, there would be a loss of 17 million euro in the event of a fall in prices of commodities other than precious metals.

With regard to the use of the overall limit relating to trading and the hold to collect and sell (HTCS) business model, there was an overall reduction in the market managerial VaR in the fourth quarter of 2022 from 207 million euro (average managerial VaR third quarter 2022) to 155 million euro (average managerial VaR fourth quarter 2022).

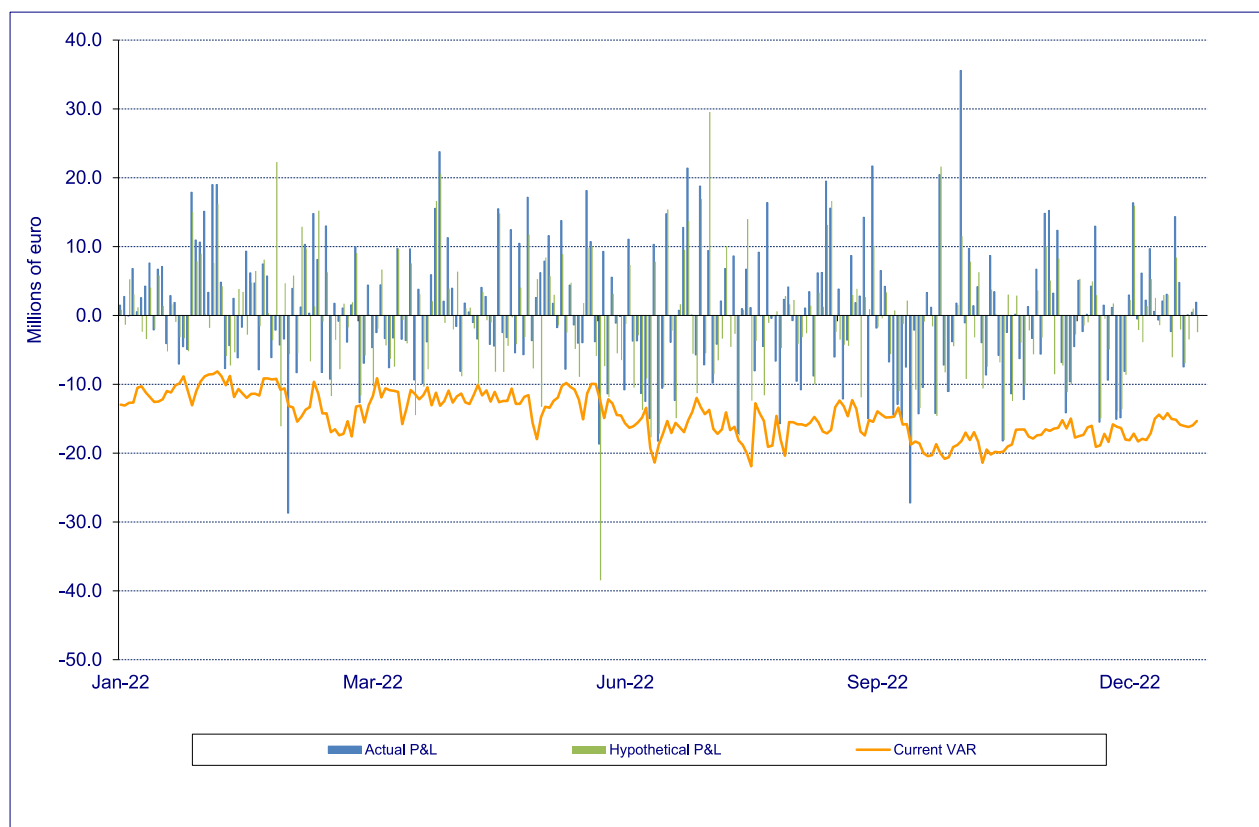
### Backtesting

The soundness of the VaR calculation methods must be monitored daily via backtesting which, for the regulatory backtesting, compares:

- the daily estimates of value at risk;
- the daily profits/losses based on backtesting which are determined using actual daily profits and losses achieved by individual desks, net of components which are not considered in backtesting: these include, for example, fees and financial costs of managing the positions that are regularly reported within the managerial area.

Backtesting allows verification of the model's capability of correctly seizing, from a statistical viewpoint, the variability in the daily valuation of trading positions, covering an observation period of one year (approximately 250 estimates). Any critical situations relative to the adequacy of the internal model are represented by situations in which daily profits/losses based on backtesting highlight more than four occasions, in the year of observation, in which the daily loss is higher than the value at risk estimate. Current regulations require that backtesting is performed by taking into consideration both the actual and hypothetical P&L series.

During the last year there were three backtesting exceptions<sup>104</sup> for the regulatory VaR measure of Intesa Sanpaolo. The breaches were not due to portfolio turnover but to peaks of volatility in the interest rate and credit risk factors.



<sup>104</sup> In the last 250 observations, the Bank recorded three Actual P&L exceptions and three Hypothetical P&L exceptions. For the total calculation, as per the reference regulations, the maximum between Actual P&L and Hypothetical P&L exceptions is counted. Accordingly, there were three backtesting exceptions in the last year.

**Issuer risk**

Issuer risk in the trading portfolio is analysed through level measures, i.e. in terms of mark to market, with exposures aggregated by rating class and sector, and is monitored through a system of operating limits based on both sector/rating classes and concentration indexes.

**Breakdown of exposures by type of issuer**

	Total	Of which					
		Corporate	Financial	Emerging	Covered	Government	Securitis.
Group Treasury and Finance Department	0%	0%	0%	0%	0%	0%	0%
IMI C&IB Division	100%	8%	40%	12%	3%	5%	32%
<b>Total</b>	<b>100%</b>	<b>8%</b>	<b>40%</b>	<b>12%</b>	<b>3%</b>	<b>5%</b>	<b>32%</b>

The table sets out in the Total column the contribution of the Group Treasury and Finance Department and the IMI C&IB Division to overall issuer risk exposures, breaking down the exposure by type of issuer. The scope corresponds to the trading portfolio with an issuer ceiling (excluding Italian Government bonds, AAA and own bonds) and including CDS (absolute value).

The breakdown of the portfolio subject to issuer risk shows, in the fourth quarter, the prevalence of an exposure attributable solely to the IMI C&IB Division and mainly in securities in the financial and securitisation segments.

**Impacts from the COVID-19 pandemic**

With regard to operating and regulatory market risks, during 2022 there were no changes in the risk metrics attributable to the context resulting from the COVID-19 pandemic.

**Impacts of the Russia-Ukraine conflict**

There were no significant impacts of the Russia-Ukraine conflict on the metrics for measuring market risk in the Group's trading book.



## **BANKING BOOK**

### **1.2.2 INTEREST RATE RISK AND PRICE RISK**

#### **Qualitative information**

##### **General aspects, interest rate risk and price risk management processes and measurement methods**

The “banking book” is defined as the trade portfolio consisting of all on-balance sheet and off-balance sheet items that are part of the Intesa Sanpaolo Group’s lending and deposit collecting activities; therefore, the interest rate risk of the banking book (hereinafter “interest rate risk” or IRRBB) refers to the current and prospective risk of changes in the Group’s banking book due to adverse changes in interest rates, which are reflected in both economic value and net interest income.

The banking book also includes exposure to market risks deriving from the equity investments in listed companies not fully consolidated, mainly held by the Parent Company.

The internal system for measuring interest rate risk assesses and describes the effect of changes in interest rates on the economic value and the net interest income and identifies all significant sources of risk that affect the banking book:

- repricing risk, i.e. the risk associated with lags in maturity dates (for fixed-rate positions) or in the interest rate revision date (for floating-rate positions) of the assets, liabilities and off-balance sheet items;
- yield curve risk, i.e. the risk associated with changes in the inclination and shape of the yield curve;
- basis risk, i.e. the risk arising from imperfect correlation in the adjustment of lending and deposit rates on different instruments, but with otherwise similar repricing characteristics. As interest rates change, these differences can lead to unexpected changes in cash flows and yield spreads between assets, liabilities and off-balance sheet positions having similar maturities or rate revision frequencies;
- optionality risk, i.e. the risk associated with the presence of automatic or behavioural options in the Group’s assets, liabilities and off-balance sheet instruments.

Intesa Sanpaolo’s current measurement system also allows the risk profile to be examined on the basis of two distinct but complementary perspectives:

- **economic value perspective** (EVE – Economic Value of Equity), which considers the impact of interest rate fluctuations and the associated volatility on the present value of all future cash flows;
- **net interest income perspective** (NII - Net Interest Income), which aims to analyse the impact of interest rate fluctuations and their associated volatility on net interest income.

The economic value perspective assesses the medium-to-long term impacts of interest rate fluctuations, while the net interest income perspective provides a short-term assessment.

Interest rate risk is managed by setting limits to both perspectives. Said limits comprise:

- consolidated limits, which are defined in the RAF and approved by the Board of Directors, both in terms of change in EVE (sensitivity or  $\Delta\text{EVE}$ ) and net interest income sensitivity ( $\Delta\text{NII}$ ). The consolidated  $\Delta\text{EVE}$  limits reflect, consistent with the context and regulatory instructions, the average expected exposure of the Group’s EVE. The expected average level is quantified within the RAF and defined as the average exposure that the Group expects to take during the year. The Group’s consolidated sensitivity limits are accompanied by a risk indicator, which constitutes an “early warning” threshold approved within the RAF, which makes it possible to control exposure to the risk of yield curve twists;
- individual sensitivity and net interest income sensitivity limits, which are part of the “cascading” process of the Group’s RAF limit, and are proposed, after being shared with the operating structures, by the Financial and Market Risks Head Office Department and approved by the Group Financial Risk Committee (GFRC). These limits take account of the characteristics of the banks’/divisions’ portfolios, with particular reference to intermediated volumes, average durations, the type of instruments traded and the Company’s strategic mission within the Group.

The Financial and Market Risks Head Office Department performs monthly checks that the limits and early warning level approved in the Risk Appetite Framework (RAF) are observed at the consolidated and individual level. In addition, the Group has adopted a specific internal policy document regarding interest rate risk (the IRRBB Guidelines) subject to approval by the Board of Directors, which governs the Group’s entire interest rate risk management framework and in particular the aspects of governance, methods of use and formulation of scenarios.

The IRRBB Guidelines define the methods for measuring the financial risks generated by the Group’s banking book:

1. Sensitivity of economic value ( $\Delta\text{EVE}$ );
2. Net interest income sensitivity ( $\Delta\text{NII}$ );
3. Credit Spread Risk of the Banking Book (CSRBB);
4. Value at Risk (VaR).

These measures are available for each relevant currency in the banking book.

The **sensitivity of the economic value** (or fair value sensitivity) measures the change in the economic value of the banking book and is calculated at individual cash flow level for each financial instrument, based on different instantaneous rate shocks and based on historical stress simulations aimed at identifying the worst and best cases. It reflects the changes in the present value of the cash flows of the positions already in the balance sheet for the entire remaining duration until maturity (run-off balance sheet). The cash flows used to determine the present value are developed at the contractual rate, FTP (internal fund transfer price) or risk-free rate (Euribor/Libor) and discounted according to risk-free discount curves. When calculating the present value of loans, the expected loss component is considered; it represents the amount of cash flow that the Bank does not expect to recover on a given exposure and that thus reduces its value. The present value of the loan adjusted for credit risk is calculated for this purpose by deducting the corresponding level of expected loss from expected cash flows according to the “cash flow adjustment” (“CFA”) method.

To control the exposure and monitor the limits, the calculation involves determining the algebraic sum of the equivalent in euro of the sensitivities of the positions in the various currencies by applying a parallel shock of +100 bps to the interest rate

curves in the various currencies. The calculation for non-parallel shocks for the purposes of controlling the exposure and monitoring the early warning level is performed similarly. The sensitivity of the relevant currencies is then corrected, according to a "currency aggregation" management technique, to take account of the imperfect correlation with the rates of the main currency (the euro).

The **sensitivity of net interest income** focuses the analysis on the impact that changes in interest rates can have on the Group's ability to generate stable profit levels. The component of profits measured is represented by the difference between the net interest income generated by interest-bearing assets and liabilities, including the results of hedging activities through the use of derivatives. The time horizon of reference is commonly limited to the short and medium term (from one to three years) and the impact is assessed on a going concern basis. The change in net interest income is estimated under expected scenarios as well as under potential interest rate shocks and stress scenarios. Further assumptions are made regarding customer behaviour (differentiated according to interest rate scenarios) and market behaviour and the response of Group/Bank management to changes in the economy. Thus, the projection of the net interest income and its sensitivity to changes in market factors require a series of modelling assumptions for the development of volumes and rates (fixed/floating), the reference time horizon, the relevant currencies, as well as the behavioural models introduced (prepayment, core deposits, etc.) and the assumptions regarding the evolution of the portfolio (run-off, constant or dynamic balance sheet).

The net interest income sensitivity limits are defined on the basis of an instantaneous and parallel interest rate shock of +/-50 bp, with a reference time horizon of 1 year and assuming a constant balance sheet. The net interest income sensitivity limit is defined as the limit on the loss in the income statement and, therefore, is exclusively negative (limit on the potential reduction in the net interest income): the use of the limit is represented by the sensitivity that generates a greater reduction in net interest income in the two scenarios of a parallel rise and fall in interest rates. The total sensitivity exposure of net interest income is given by the algebraic sum of the exposure of individual currencies.

The GFRC is also tasked with allocating sub-limits on net interest income sensitivity to the individual Banks/Companies, and may also define sub-limits on net interest income sensitivity by currency. The limit assigned to each Company is defined on the basis of the historical volatility observed in individual net interest income, consistent with the strategies and limits defined for sensitivity.

The **Credit Spread Risk of the Banking Book (CSRBB)** is defined as the risk caused by changes in the price of credit risk, liquidity premium and potentially other components of instruments with credit risk that cause fluctuations in the price of credit risk, liquidity premium and other potential components, which is not explained by the interest rate risk of the banking book. The reference area is represented by the HTCS securities portfolio, whose changes in value have an immediate impact on the Group's capital.

**Value at Risk (VaR)** is a probability-based metric that expresses the maximum potential loss of portfolio value that could be incurred within a specific time horizon, at a pre-defined confidence level. VaR is also used to consolidate exposure to financial risks of the various Group companies which perform banking book activities, also taking into account the benefits of diversification and the correlation between various risk factors and different currencies. This measure is calculated and monitored, for the entire scope, by the Financial and Market Risks Head Office Department.

In calculating the above risk measures, Intesa Sanpaolo adopts behavioural models for representing capital items.

For mortgages, statistical techniques are used to determine the probability of prepayment, in order to reduce the Group's exposure to interest rate risk (overhedging) and to liquidity risk (overfunding). The method developed estimates prepayment coefficients diversified according to the type of customer, financial characteristics of the transaction, such as the loan rate type (fixed or floating), the original term of the loan and the seasoning, understood as the age of the loan on the date of the prepayment event. The analysis refers to partial repayments, full repayments and refinancing. The prepayment model also examines the reasons that lead customers to make prepayments. With regard to this aspect, the phenomenon may be divided into a structural component ("Core Prepayment") and a scenario component ("Coupon Incentive"), primarily linked to market variations. Prepayment phenomena are monitored monthly and the prepayment coefficients to be applied to the model are re-estimated at least annually and are subject to periodic backtesting, appropriately documented in the specific model change document to ensure that the operating situation adheres to the assumptions made and incorporate any legislative and/or behavioural changes.

For core deposits (customer current accounts), a financial representation model is adopted aimed at reflecting the behavioural features of stability of deposits and partial and delayed reaction to market interest rate fluctuations. The model is continuously monitored and periodically revised to promptly reflect changes in volumes and customer characteristics over time, as well as in the relevant regulatory framework.

In order to measure the Group's vulnerability to market turbulence, the interest rate risk measurement system measures the impacts on the bank's economic value and net interest income produced by strains on the market ("scenario analysis"), i.e. sudden changes in the general level of interest rates, changes in the relationships between fundamental market rates (basis risk), in the slope and shape of the yield curve (yield curve risk), in the liquidity of the main financial markets or in the volatility of market rates.

These analyses are conducted by subjecting the portfolio to various interest rate change scenarios:

- regulatory scenarios produced by the Supervisory Outlier Test (SOT) on the EVE, which introduces an "early warning" of 15% of Tier 1, calculated with reference to the BCBS scenarios (Parallel shock up, Parallel shock down, Steepener shock, Flattener shock, Short rates shock up and Short rates shock down);
- shocks diversified by reference curve of the main risk factors and calculated as the difference between the yields of the curves of the individual factors and those of a curve relating to the selected pivot parameter (basis risk);
- stress scenarios in historical simulation.

Stress tests on behavioural models are also carried out to verify the financial impact of alternative assumptions underlying the behavioural parameters estimated in the models. The methodological assumptions underlying the assumptions contained in the stress scenarios are duly described in the detailed methodologies.

**Impacts from the COVID-19 pandemic**

In 2022, the strategies and safeguards implemented in the framework of interest rate risk management were put into place to protect net interest income against potential additional negative impacts of COVID-19. Net interest income was stabilised through measures to cover the viscosness of customer demand deposits by entering into hedging derivatives and natural hedges with mortgage loans to customers.

**Impacts of the Russia-Ukraine conflict**

The Russia-Ukraine conflict resulted in a generalised increase in the spread against the German Bund and, as a result, an increase in the related returns. With regard to the interest rate risk generated by the Intesa Sanpaolo Group's banking book, this increase resulted in a reduction in exposure of the government bond portfolio.

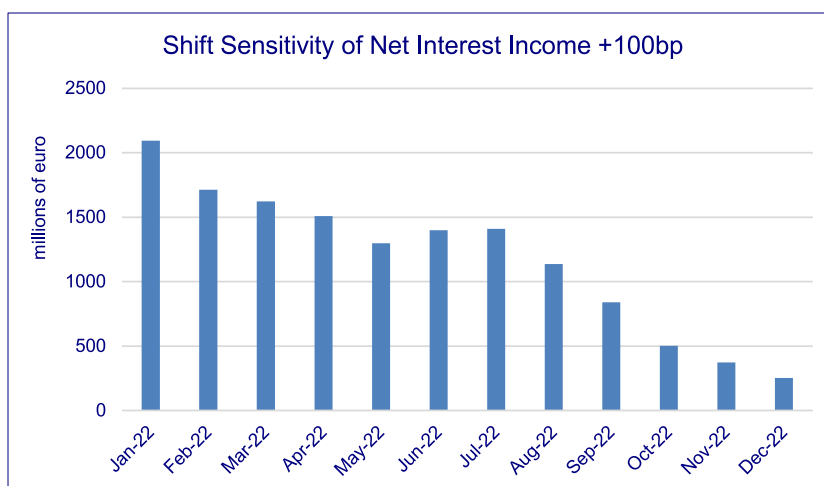
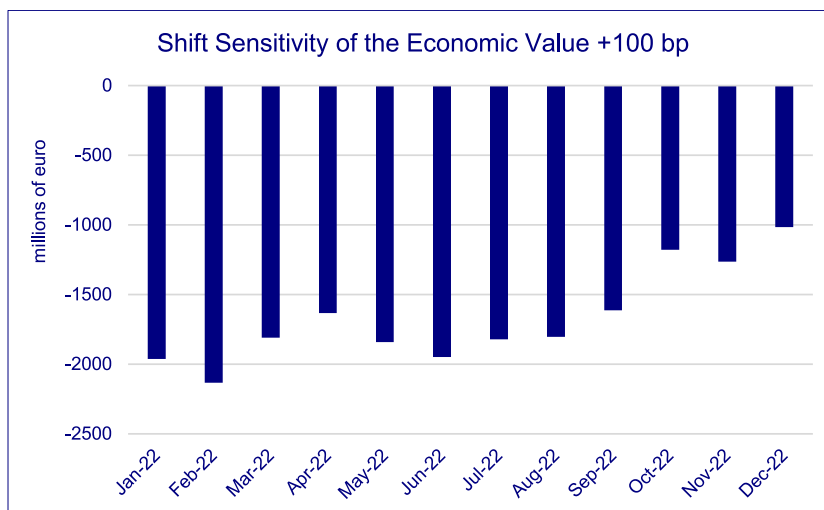
**Quantitative information****Banking book: internal models and other sensitivity analysis methodologies**

In 2022, interest rate risk generated by the Intesa Sanpaolo Group's banking book, measured through shift sensitivity of value, averaged -1,669 million euro, with a maximum of -2,134 million euro and a minimum value of -1,016 million euro, with the latter coinciding with the value at the end of December 2022. The latter figure decreased by 740 million euro on the end of 2021, when it came to -1,756 million euro. The reduction in the last few months of 2022 originates from the effect of the increase in interest rates, as well as derivatives to hedge loans and the decrease in the HTCS securities portfolio.

The sensitivity of net interest income – assuming a +50, -50 and +100 basis point change in interest rates – amounted to 633 million euro, -668 million euro and 251 million euro, respectively, at the end of December 2022. The latter figure decreased (-1,596 million euro) on the end of 2021, when it came to 1,847 million euro. The reduction was impacted by both the change in the rules of indexation of operations with the ECB, made at the end of October, and the rise in short-term market rates, which resulted in increased responsiveness of on demand deposits from customers envisaged by the behavioural model.

The following table and charts provide a representation of the performance of the shift sensitivity of economic value (or the shift sensitivity of fair value) and the shift sensitivity of net interest income.

	2022			(millions of euro)	
	average	minimum	maximum	31.12.2022	31.12.2021
Shift Sensitivity of the Economic Value +100 bp	-1,669	-1,016	-2,134	-1,016	-1,756
Shift Sensitivity of Net Interest Income -50bp	-790	-641	-903	-668	-880
Shift Sensitivity of Net Interest Income +50bp	844	617	1,105	633	962
Shift Sensitivity of Net Interest Income +100bp	1,179	251	2,094	251	1,847



Interest rate risk, measured in terms of VaR, averaged 643 million euro in 2022, with a maximum value of 885 million euro and a minimum value of 442 million euro, with the latter coinciding with the value at the end of December 2022. The latter figure decreased by 67 million euro compared to 509 million euro at the end of 2021. That change is largely due to the decrease in exposure recorded especially in the last few months of 2022.

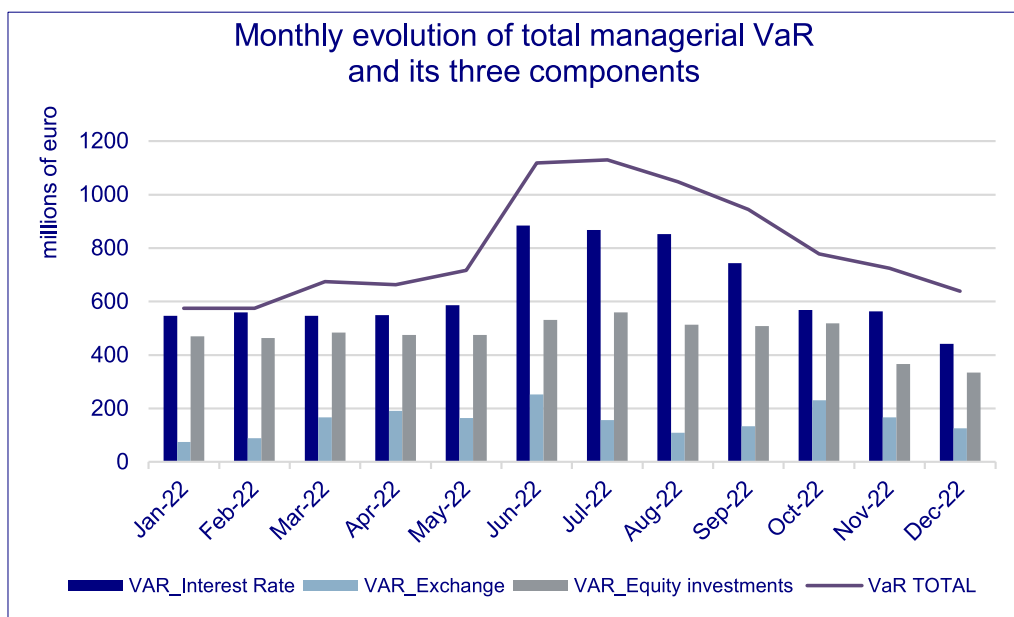
Foreign exchange risk expressed by equity investments in foreign currency (banking book) and measured in terms of VaR averaged 155 million euro in 2022, with a minimum value of 74 million euro and a maximum value of 252 million euro, standing at 126 million euro at the end of December 2022, up by 33 million euro on the value of 93 million euro at the end of December 2021. That change is due to the increase in the volatility of the Russian rouble and the Egyptian pound.

Price risk generated by the equity portfolio, measured in terms of VaR, recorded an average level during 2022 of 475 million euro, with maximum and minimum values of 560 million euro and 334 million euro, respectively, the latter being the figure of the end of December 2022, down by 33 million euro on the value at the end of December 2021 of 367 million euro. That change is mainly due to the sales of stakes in various listed subsidiaries during the last few months of 2022.

Total VaR, consisting of the three components described above (Interest Rate VaR, Exchange VaR and Equity VaR) averaged 799 million euro in 2022, with a maximum value of 1,130 million euro and a minimum value of 575 million euro, reaching a figure of 639 million euro at the end of December 2022, up by 92 million euro on the value at the end of December 2021 of 548 million euro. This was due to a reduction in the benefit of overall diversification, linked to both the recomposition of the portfolio illustrated with regard to single risks (Interest Rate, Foreign Exchange, and Equity Investment risk), and the increase in market volatility.

The table and chart below provide a representation of the performance of total VaR and its three components (Interest Rate VaR, Exchange VaR and Equity Investments VaR).

	2022			(millions of euro)	
	average	minimum	maximum	31.12.2022	31.12.2021
Value at Risk - Interest Rate	643	442	885	442	509
Value at Risk - Exchange	155	74	252	126	93
Value at Risk - Equity investments	475	334	560	334	367
<b>Total Value at Risk</b>	<b>799</b>	<b>575</b>	<b>1,130</b>	<b>639</b>	<b>548</b>



Lastly, the table below shows a sensitivity analysis of the banking book to price risk, measuring the impact on Shareholders' Equity of a price shock of  $\pm 10\%$  for the portfolio of quoted minority stakes, largely classified to the HTCS category.

**Price risk: impact on Shareholders' Equity**

		(millions of euro)				
		Impact on shareholders' equity at 31.12.2022	Impact on shareholders' equity at 30.09.2022	Impact on shareholders' equity at 30.06.2022	Impact on shareholders' equity at 31.03.2022	Impact on shareholders' equity at 31.12.2021
Price shock	10%	73	147	146	166	177
Price shock	-10%	-73	-147	-146	-166	-177

### 1.2.3. FOREIGN EXCHANGE RISK

#### Qualitative information

##### **A. General aspects, foreign exchange risk management processes and measurement methods**

“Foreign exchange risk” is defined as the potential adverse effect resulting from changes in the exchange rate between currencies that could have a negative impact on the valuation of the assets and liabilities in the financial statements and on earnings and capital ratios.

Two types of Foreign Exchange Risk are identified: *Structural* and *Transaction risk*.

*Structural Foreign Exchange Risk* is defined as the potential loss resulting from changes in the exchange rate that could have a negative impact on the foreign exchange reserves that are part of the Group’s consolidated shareholders’ equity.

*Transaction Foreign Exchange Risk* is defined as the potential loss resulting from changes in the currencies exchange rate that may have negative impacts both on the valuation of the assets and liabilities in the financial statements when converted into the reporting currency and on the earnings from funding, lending and investment/disinvestment transactions in currencies other than the euro. The main sources of this foreign exchange risk consist of: non-euro loans and deposits held by corporate and/or retail customers; conversion into domestic currency of assets, liabilities and income of the international branches; trading of foreign currencies; collection and/or payment of interest, commissions, dividends and administrative expenses in foreign currencies; purchase and sale of securities and financial instruments for the purpose of resale in the short term; etc. Transaction foreign exchange risk also includes the risk of transactions related to operations that generate the type of structural foreign exchange risk represented, for example, by dividends approved by international subsidiaries and that relating to the management of foreign exchange risk tied to the management of equity investments, also including the gains/losses of international branches (Transaction Foreign Exchange Risk associated with Structural Foreign Exchange Risk).

The Market and Financial Risk Management Head Office Department measures and controls the Parent Company and Group’s exposure to Structural Foreign Exchange Risk; it performs the management calculation of the optimal position. It represents the open position in foreign currency designed to neutralise the sensitivity of the capital ratio to foreign exchange movements. The Market and Financial Risk Management Head Office Department also produces sensitivity analyses on capital ratios for management control and monitoring of Structural Foreign Exchange Risk in view of progressive alignment with the EBA LGs and sets its own Transaction Foreign Exchange Risk associated with Structural Foreign Exchange Risk within the framework of market risk VaR.

##### **B. Foreign exchange risk hedging activities**

The Intesa Sanpaolo Group’s management of the Structural Foreign Exchange Risk assigns the Parent Company the related management and coordination powers in order to achieve a consistent Group strategy.

This choice, which is consistent with the Parent Company’s role as the liaison with the Supervisory Authority, allows the activities to be performed based on the specific responsibilities set out in the prudential supervision regulations, in addition to suitably mitigating and/or managing this type of risk.

The monitoring and management of the Structural Foreign Exchange Risk are carried out at central level by the Group Treasury and Finance Head Office Department of the Parent Company, which manages it with a view to risk/return and to optimising capital requirements.

The monitoring and hedging of the Transaction Foreign Exchange Risk are carried out at central level by the Group Treasury and Finance Head Office Department of the Parent Company and the IMI Corporate & Investment Banking Division for the area of competence, and at local level by the individual treasury functions of the Group companies and banks.

As at the date of preparation of the financial statements, there were no transactions hedging shareholders’ equity, whereas there were operational hedges of the foreign exchange risk of the assets and liabilities in the financial statements related to the banking book.

##### **Impacts from the COVID-19 pandemic**

The strategies and controls in place for the purpose of managing exchange rate risk did not require changes or specific actions in the situation resulting from the COVID-19 pandemic.

##### **Impacts of the Russia-Ukraine conflict**

The Russia-Ukraine conflict did not generate critical issues in the management of liquidity in foreign currency. Limited to the days immediately following the outbreak of the war, the cost of funding in USD increased on the market, an indicator of strong risk aversion. On the forex segment, though with low liquidity, the possibility of trading roubles on the interbank market did not disappear, save for the limits imposed by the sanctions regime.

## Quantitative information

### 1. Breakdown by currency of assets and liabilities and of derivatives

(millions of euro)

	CURRENCIES							
	US dollar	GB pound	Croatian kuna	Swiss franc	Hungarian forint	Yen	Australian dollar	Other currencies
<b>A. FINANCIAL ASSETS</b>	<b>38,356</b>	<b>3,770</b>	<b>8,660</b>	<b>1,052</b>	<b>5,456</b>	<b>2,700</b>	<b>3,605</b>	<b>17,115</b>
A.1 Debt securities	8,194	661	848	-	1,112	2,457	854	3,316
A.2 Equities	624	95	5	63	2	-	-	824
A.3 Loans to banks	10,728	623	434	174	1,847	48	1,441	5,764
A.4 Loans to customers	18,810	2,391	7,373	815	2,495	195	1,310	7,211
A.5 Other financial assets	-	-	-	-	-	-	-	-
<b>B. OTHER ASSETS</b>	<b>3,432</b>	<b>556</b>	<b>771</b>	<b>987</b>	<b>204</b>	<b>103</b>	<b>117</b>	<b>2,277</b>
<b>C. FINANCIAL LIABILITIES</b>	<b>40,959</b>	<b>3,147</b>	<b>6,988</b>	<b>995</b>	<b>4,769</b>	<b>703</b>	<b>2,164</b>	<b>12,218</b>
C.1 Due to banks	20,464	588	160	185	865	47	1,898	1,741
C.2 Due to customers	7,025	833	6,828	718	3,889	28	200	8,494
C.3 Debt securities	13,470	1,726	-	92	15	628	66	1,983
C.4 Other financial liabilities	-	-	-	-	-	-	-	-
<b>D. OTHER LIABILITIES</b>	<b>1,561</b>	<b>692</b>	<b>351</b>	<b>118</b>	<b>73</b>	<b>27</b>	<b>50</b>	<b>1,468</b>
<b>E. FINANCIAL DERIVATIVES</b>								
- Options								
<i>long positions</i>	5,552	133	-	53	55	408	65	336
<i>short positions</i>	5,711	195	-	37	33	340	69	761
- Other derivatives								
<i>long positions</i>	62,767	10,972	12	5,946	1,849	3,246	1,501	11,711
<i>short positions</i>	62,708	11,271	9	6,706	1,960	5,366	3,070	13,524
<b>TOTAL ASSETS</b>	<b>110,107</b>	<b>15,431</b>	<b>9,443</b>	<b>8,038</b>	<b>7,564</b>	<b>6,457</b>	<b>5,288</b>	<b>31,439</b>
<b>TOTAL LIABILITIES</b>	<b>110,939</b>	<b>15,305</b>	<b>7,348</b>	<b>7,856</b>	<b>6,835</b>	<b>6,436</b>	<b>5,353</b>	<b>27,971</b>
<b>DIFFERENCE (+/-)</b>	<b>-832</b>	<b>126</b>	<b>2,095</b>	<b>182</b>	<b>729</b>	<b>21</b>	<b>-65</b>	<b>3,468</b>

As of 31 December 2022, the presentation of the "Breakdown by currency of assets and liabilities and of derivatives" has been aligned with the prudential approach in compliance with the new methodological framework introduced by the EBA Guidelines on the treatment of structural FX under Article 352(2) of Regulation (EU) No 575/2013 (CRR).

On 1 January 2023, the Croatian kuna joined the euro Area, and will no longer be the subject of future reporting.

### 2. Internal models and other sensitivity analysis methodologies

As already noted, the management of Transaction Foreign Exchange Risk relating to trading activities is included in the operating procedures and in the estimation methodologies of the managerial VaR.

Foreign exchange risk expressed by equity investments in foreign currency (banking book), including Group companies, originated a VaR (99% confidence level, 10-day holding period) amounting to 126 million euro as at 31 December 2022. This potential impact would only be reflected in the Shareholders' Equity.

### 1.3. DERIVATIVES AND HEDGING POLICIES

Starting from 2014, the Parent Company has been authorised to use EPE (Expected Positive Exposure) internal models to determine the capital requirement for counterparty risk. This approach is applicable to almost the entire derivatives portfolio (as shown in the table below, as at 31 December 2022 approximately 95% of the total EAD of financial and credit derivatives is measured using EPE models). Derivatives whose counterparty risk is measured using approaches other than internal models represent a residual portion of the portfolio (as at 31 December 2022 accounting for approximately 5% of overall EAD) and refer to:

- residual contracts of Intesa Sanpaolo to which EPE is not applied (in compliance with the immateriality thresholds set by the EBA);
- EAD generated by all other banks and companies in the Group which do not report using an internal model.

The table below shows the overall EAD of exposures in financial and credit derivatives, broken down by measurement approach.

Transaction categories	Exposure at default (EAD)			
	31.12.2022		31.12.2021	
	Standardised models	Internal Method (EPE)	Standardised models	Internal Method (EPE)
Derivative contracts	666	12,340	599	16,270

(millions of euro)

The EPE internal model considers the collateral collected to mitigate credit exposure and any excess collateral paid. The value of the guarantees received and included in the calculation of the EAD amounts to approximately 17.7 billion euro for the Parent Company, while the collateral paid equals 18 billion euro (including the initial margins posted in connection with transactions with central counterparties).

#### 1.3.1. Trading derivatives

### A. FINANCIAL DERIVATIVES

#### A.1. Financial trading derivatives: period-end notional amounts

Underlying asset/Type of derivatives	31.12.2022				31.12.2021			
	Over the counter			Organised markets	Over the counter			Organized markets
	Central Counterparties	without central counterparties			Central Counterparts	without central counterparties		
		With netting agreements	Without netting agreements			With netting agreements	Without netting agreements	
<b>1. Debt securities and interest rate</b>	<b>2,301,865</b>	<b>244,096</b>	<b>76,402</b>	<b>109,527</b>	<b>1,933,468</b>	<b>255,211</b>	<b>70,804</b>	<b>167,501</b>
a) Options	-	68,869	7,909	1,004	-	68,964	6,224	6,868
b) Swaps	2,301,865	175,227	66,617	-	1,933,468	186,247	63,792	-
c) Forwards	-	-	1,607	-	-	-	751	-
d) Futures	-	-	269	108,523	-	-	37	160,633
e) Other	-	-	-	-	-	-	-	-
<b>2. Equities and stock indices</b>	<b>-</b>	<b>6,570</b>	<b>25,435</b>	<b>5,889</b>	<b>-</b>	<b>4,955</b>	<b>28,500</b>	<b>2,480</b>
a) Options	-	6,101	25,426	3,961	-	4,948	28,491	609
b) Swaps	-	469	9	-	-	7	9	-
c) Forwards	-	-	-	-	-	-	-	-
d) Futures	-	-	-	1,928	-	-	-	1,871
e) Other	-	-	-	-	-	-	-	-
<b>3. Foreign exchange rates and gold</b>	<b>-</b>	<b>163,959</b>	<b>17,532</b>	<b>209</b>	<b>96</b>	<b>170,930</b>	<b>17,670</b>	<b>2,005</b>
a) Options	-	27,688	1,282	5	-	22,674	1,186	89
b) Swaps	-	37,274	2,952	201	95	44,619	4,450	-
c) Forwards	-	98,710	12,425	-	-	103,454	11,258	1,901
d) Futures	-	-	-	3	-	-	-	15
e) Other	-	287	873	-	1	183	776	-
<b>4. Commodities</b>	<b>-</b>	<b>4,043</b>	<b>1,079</b>	<b>1,640</b>	<b>-</b>	<b>3,070</b>	<b>1,074</b>	<b>1,698</b>
<b>5. Other</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>2,301,865</b>	<b>418,668</b>	<b>120,448</b>	<b>117,265</b>	<b>1,933,564</b>	<b>434,166</b>	<b>118,048</b>	<b>173,684</b>

(millions of euro)



The notional amounts shown as at 31 December 2022 in the column “Over the counter” with central counterparties relate to interest rate derivatives settled through legal clearing for a total of 2,302 billion euro.

## A.2. Financial trading derivatives: gross positive and negative fair value – breakdown by product

(millions of euro)

Type of derivative	31.12.2022				31.12.2021			
	Over the counter			Organised markets	Over the counter			Organised markets
	Central Counterparties	Without central counterparties			Central Counterparties	Without central counterparties		
		With netting agreements	Without netting agreements			With netting agreements	Without netting agreements	
<b>1. Positive fair value</b>								
a) Options	-	1,580	594	54	-	1,750	789	26
b) Interest rate swaps	83,520	9,334	1,649	-	39,039	9,181	5,331	-
c) Cross currency swaps	-	1,599	201	-	-	1,250	272	-
d) Equity swaps	-	21	2	1	-	-	-	-
e) Forwards	-	1,886	232	-	-	890	108	8
f) Futures	-	-	-	-	-	-	-	-
g) Other	-	723	170	-	-	757	190	-
<b>Total</b>	<b>83,520</b>	<b>15,143</b>	<b>2,848</b>	<b>55</b>	<b>39,039</b>	<b>13,828</b>	<b>6,690</b>	<b>34</b>
<b>2. Negative fair value</b>								
a) Options	-	1,803	6,320	44	-	1,815	6,365	19
b) Interest rate swaps	80,573	10,223	3,824	-	39,252	13,298	801	-
c) Cross currency swaps	-	1,443	878	-	-	1,127	864	-
d) Equity swaps	-	21	-	1	-	-	-	-
e) Forwards	-	1,323	365	-	-	1,146	212	16
f) Futures	-	-	-	-	-	-	-	-
g) Other	-	558	186	-	-	752	422	-
<b>Total</b>	<b>80,573</b>	<b>15,371</b>	<b>11,573</b>	<b>45</b>	<b>39,252</b>	<b>18,138</b>	<b>8,664</b>	<b>35</b>

**A.3. Over the counter financial trading derivatives: notional values, gross positive and negative fair value by counterparty**

Underlying asset	(millions of euro)			
	Central Counterparties	Banks	Other financial companies	Other counterparties
<b>Contracts not included under netting agreements</b>				
<b>1) Debt securities and interest rates</b>				
- notional amount	X	1,982	16,278	58,142
- positive fair value	X	288	120	1,339
- negative fair value	X	-235	-502	-3,555
<b>2) Equities and stock indices</b>				
- notional amount	X	14,300	5,362	5,773
- positive fair value	X	518	41	3
- negative fair value	X	-841	-160	-5,009
<b>3) Foreign exchange rates and gold</b>				
- notional amount	X	1,352	2,961	13,219
- positive fair value	X	34	13	345
- negative fair value	X	-668	-31	-397
<b>4) Commodities</b>				
- notional amount	X	-	114	965
- positive fair value	X	-	8	139
- negative fair value	X	-	-19	-156
<b>5) Other</b>				
- notional amount	X	-	-	-
- positive fair value	X	-	-	-
- negative fair value	X	-	-	-
<b>Contracts included under netting agreements</b>				
<b>1) Debt securities and interest rates</b>				
- notional amount	2,301,865	171,158	58,904	14,034
- positive fair value	83,520	6,514	3,523	315
- negative fair value	-80,573	-8,639	-1,505	-1,072
<b>2) Equities and stock indices</b>				
- notional amount	-	2,490	4,065	15
- positive fair value	-	134	64	3
- negative fair value	-	-101	-330	-
<b>3) Foreign exchange rates and gold</b>				
- notional amount	-	118,496	34,311	11,152
- positive fair value	-	2,610	867	394
- negative fair value	-	-1,829	-659	-676
<b>4) Commodities</b>				
- notional amount	-	350	1,725	1,968
- positive fair value	-	48	219	452
- negative fair value	-	-38	-189	-333
<b>5) Other</b>				
- notional amount	-	-	-	-
- positive fair value	-	-	-	-
- negative fair value	-	-	-	-

**A.4. Residual maturity of over the counter financial derivatives: notional amounts**

Underlying/Residual maturity	(millions of euro)			
	Up to 1 year	Between 1 and 5 years	Over 5 years	Total
A.1 Financial derivatives on debt securities and interest rates	847,618	1,021,245	753,500	2,622,363
A.2 Financial derivatives on equities and stock indices	11,182	19,440	1,383	32,005
A.3 Financial derivatives on foreign exchange rates and gold	129,901	38,991	12,599	181,491
A.4 Financial derivatives on commodities	2,632	2,490	-	5,122
A.5 Other financial derivatives	-	-	-	-
<b>Total 31.12.2022</b>	<b>991,333</b>	<b>1,082,166</b>	<b>767,482</b>	<b>2,840,981</b>
<b>Total 31.12.2021</b>	<b>730,422</b>	<b>1,012,428</b>	<b>742,928</b>	<b>2,485,778</b>

**B. CREDIT DERIVATIVES****B.1. Credit trading derivatives: period-end notional amounts**

Categories of transactions	(millions of euro)	
	Trading derivatives	
	single counterparty	more counterparties (basket)
<b>1. Protection purchases</b>		
a) Credit default products	7,582	68,356
b) Credit spread products	-	-
c) Total rate of return swap	-	-
d) Other	-	-
<b>Total 31.12.2022</b>	<b>7,582</b>	<b>68,356</b>
<b>Total 31.12.2021</b>	<b>7,531</b>	<b>67,468</b>
<b>2. Protection sales</b>		
a) Credit default products	7,890	65,183
b) Credit spread products	-	-
c) Total rate of return swap	-	-
d) Other	-	-
<b>Total 31.12.2022</b>	<b>7,890</b>	<b>65,183</b>
<b>Total 31.12.2021</b>	<b>8,043</b>	<b>63,098</b>

As at 31 December 2022, none of the contracts shown in the table above have been included within the structured credit products.

**B.2. Credit trading derivatives: gross positive and negative fair value – breakdown by product**

Type of derivative	(millions of euro)	
	Total 31.12.2022	Total 31.12.2021
<b>1. Positive fair value</b>		
a) Credit default products	936	2,225
b) Credit spread products	-	-
c) Total rate of return swap	-	-
d) Other	-	-
<b>Total</b>	<b>936</b>	<b>2,225</b>
<b>2. Negative fair value</b>		
a) Credit default products	943	2,341
b) Credit spread products	-	-
c) Total rate of return swap	-	-
d) Other	-	-
<b>Total</b>	<b>943</b>	<b>2,341</b>

As at 31 December 2022, none of the contracts shown in the table above have been included within the structured credit products.

**B.3. Over the counter credit trading derivatives: notional values, gross positive and negative fair value by counterparty**

	Central counterparties	Banks	Other financial companies	(millions of euro) Other counterparties
<b>Contracts not included under netting agreements</b>				
<b>1) Protection purchases</b>				
- notional amount	X	-	-	275
- positive fair value	X	-	-	22
- negative fair value	X	-	-	-
<b>2) Protection sales</b>				
- notional amount	X	-	36	8
- positive fair value	X	-	-	-
- negative fair value	X	-	-	-8
<b>Contracts included under netting agreements</b>				
<b>1) Protection purchases</b>				
- notional amount	53,496	11,408	10,759	-
- positive fair value	15	168	147	-
- negative fair value	-421	-77	-83	-
<b>2) Protection sales</b>				
- notional amount	53,235	10,587	9,207	-
- positive fair value	410	62	112	-
- negative fair value	-13	-185	-156	-

As at 31 December 2022, none of the contracts shown in the table above have been included within the structured credit products.

**B.4. Residual maturity of over the counter credit trading derivatives: notional amounts**

Underlying/Residual maturity	Up to 1 year	Between 1 and 5 years	Over 5 years	(millions of euro) Total
1. Protection sales	7,767	64,382	924	73,073
2. Protection purchases	8,088	67,174	676	75,938
<b>Total 31.12.2022</b>	<b>15,855</b>	<b>131,556</b>	<b>1,600</b>	<b>149,011</b>
<b>Total 31.12.2021</b>	<b>9,145</b>	<b>135,770</b>	<b>1,225</b>	<b>146,140</b>

**B.5. Credit derivatives associated with the fair value option: annual changes**

The Intesa Sanpaolo Group does not hold credit derivatives associated with the fair value option.

### 1.3.2. Accounting hedges

#### Qualitative information

On first-time adoption of IFRS 9, the Intesa Sanpaolo Group exercised its option under the said Standard to continue to fully apply the rules of IAS 39 for all types of hedges (micro and macro hedges). As a result, the provisions of IFRS 9 on hedging do not apply.

#### A. Fair value hedging

The hedging carried out by the Intesa Sanpaolo Group is aimed at protecting the banking book from variations in the fair value of loans and deposits due to movements in the interest rate curve (interest rate risk).

The Group uses both micro fair value hedges and macro fair value hedges.

The micro fair value hedges mainly hedge bonds issued, securities under assets and loans to customers.

The macro fair value hedges are used for:

- core deposits, based on the applicable standards in the carved-out version of IAS 39 in accordance with the option provided by IFRS 9 to make use of the possibility of fully applying the provisions of IAS 39 on hedges;
- the already fixed portion of floating-rate loans, in which the macro fair value hedge is used to hedge the interest rate risk inherent in the floating-rate coupons of the loans granted, when the coupon rate is set;
- a portion of fixed-rate loans; for this type, in line with the carved-out version of IAS 39, an open-portfolio macrohedging model has been adopted according to a bottom-layer approach that, in accordance with the interest rate risk measurement method involving modelling of the prepayment phenomenon, is more closely correlated with risk management activity and asset dynamics.

The main types of derivative contracts used are plain and structured interest rate swaps (IRS), overnight index swaps (OIS), cross-currency swaps (CCS), forward sales and options on interest rates stipulated with third parties.

The derivatives are not listed on regulated markets but are traded in OTC (over the counter) circuits. The OTC contracts also include contracts entered into through clearing houses.

#### B. Cash flow hedging

The hedging carried out by the Intesa Sanpaolo Group is aimed at protecting the Group from the exposure to changes in future cash flows attributable to movements in the interest rate curve, associated with a particular asset/liability, such as variable future interest payments on a debt/loan or a highly probable expected future transaction.

The Group uses both micro cash flow hedges and macro cash flow hedges.

The micro cash flow hedges mainly hedge bonds issued.

The macro cash flow hedges are used for:

- floating-rate funding when it is used to finance fixed-rate loans;
- floating-rate loans to hedge the fixed-rate funding.

The derivatives used are interest rate swaps (IRS) with third parties or with other Group companies, which, in turn, hedge the risk in the market to meet the requirements for the outsourcing of the hedges to third-party counterparties required to qualify the hedges as IAS-compliant in the consolidated financial statements.

The derivatives are not listed on regulated markets but are traded in OTC (over the counter) circuits. The OTC contracts also include contracts brokered through clearing houses.

#### C. Hedging of foreign investments

In 2022 the Group entered into hedging relationships, subject to hedge accounting, to neutralise the effects of structural foreign exchange rate fluctuations on positions not exempt for the purposes of calculating capital requirements for foreign exchange risk. Such hedging relationships were entered into in respect of structural foreign exchange risk positions capable of generating an impact on the foreign exchange reserves that form part of the Group's consolidated shareholders' equity. In the Parent Company's financial statements these hedging relationships are accounted for as micro fair value hedges, whereas in the consolidated financial statements they are treated as hedges of a net investment in a foreign currency.

#### D. Hedging instruments

The main causes of ineffectiveness of the model adopted by the Group for verifying the effectiveness of the hedges are attributable to the following:

- misalignment between the notional value of the derivative and the hedged underlying recognised at the time of initial designation or generated subsequently, such as in the case of partial repayments of loans or the repurchase of bonds;
- application of different curves on the hedging derivative and hedged item for the purpose of carrying out the effectiveness test on fair value hedges. The derivatives, normally collateralised or entered into through clearing houses, are discounted on the overnight curves, while the hedged items are discounted on the indexing curve of the hedging instrument;
- inclusion in the effectiveness test of the value of the variable leg of the hedging derivative, in the case of fair value hedges.

The ineffectiveness of the hedge is promptly recognised for the purposes of:

- the determination of the effect on the income statement;
- the assessment of the possibility of continuing to apply the hedge accounting rules.

The Group does not use dynamic hedges, as defined in IFRS 7, paragraph 23C.

## E. Hedged items

The main types of hedged items are:

- debt securities under assets;
- debt securities issued and non-securities funding;
- fixed-rate loans;
- floating-rate loans;
- optional embedded component of floating-rate mortgages;
- already fixed coupon of floating rate-loans;
- modelled on demand deposits.
- net investments in foreign currency.

### E.1 Debt securities under assets

These are hedged by micro fair value hedges, using IRS (interest rate swaps), OIS (overnight index swaps) and CCS (cross-currency swaps) as hedging instruments.

The interest rate risk is generally hedged for the entire duration of the obligation.

The Dollar Offset Method is used to verify the hedge effectiveness. This method is based on the ratio between the cumulative changes (from the inception of the hedge) in the fair value of the hedging instrument, attributable to the hedged risk, and past changes in the fair value of the hedged item (fair value change), net of accrued interest.

Micro fair value hedges also include forward sales on securities in the HTCS portfolio, carried out to hedge fair value risks from movements in credit spreads and interest rate curves. With regard to the forward sale contract, which is a derivative because it is a non-regular way transaction, the spot component is separated from the interest component by designating only the spot component as the hedging instrument in a fair value hedging relationship.

### E.2 Debt securities issued and non-securities funding

The Group currently has micro fair value hedges in place on fixed- or structured-rate funding and micro cash flow hedges or macro cash flow hedges on floating-rate funding, using IRS (interest rate swaps), OIS (overnight index swaps) and CCS (cross-currency swaps) as hedging instruments.

The interest rate risk is generally hedged for the entire duration of the obligation.

For the micro hedges, the hedge effectiveness is verified using the Dollar Offset Method. This method is based on the ratio between the cumulative changes (from the inception of the hedge) in the fair value or the cash flows of the hedging instrument, attributable to the hedged risk, and past changes in the fair value or the cash flows of the hedged item (fair value change), net of accrued interest.

For the macro hedges, the hedge effectiveness is verified by means of a capacity test. This test involves a comparison of the consistency between the hedged items, referring to existing and expected floating-rate funding (so-called highly probable future transactions), and the hedging instruments, which must always be confirmed throughout the life of the hedging relationship and for each time band. In this case, the hedged item is represented by the expected cash flows from funding that will arise over the life of the issues.

### E.3 Fixed-rate loans

The Group has designated micro fair value hedges for fixed-rate loans and macro fair value hedges for mortgage loans in the retail segment, mainly using IRS (interest rate swaps) as hedging instruments.

In a micro fair value hedge, the interest rate risk is generally hedged throughout the life of the underlying.

For the micro hedges, the hedge effectiveness is verified using the Dollar Offset Method.

For the macro hedges, the loan portfolio hedged is open, i.e. it is dynamically composed of fixed-rate instruments managed at aggregate level through hedging derivatives entered into over time.

The effectiveness of the macro hedges on fixed-rate loans is periodically verified through specific prospective and retrospective tests aimed at demonstrating that the hedged portfolio contains an amount of assets whose sensitivity profile and changes in fair value due to interest rate risk reflect those of the derivatives used for the hedge.

### E.4 Floating-rate loans

The Group currently has macro cash flow hedges in place on floating-rate loans, mainly using IRS as hedging instruments.

The hedge effectiveness is verified by means of a capacity test. This test involves a comparison of the consistency between the hedged items, referring to the floating-rate loans outstanding, and the hedging instruments, which must always be confirmed throughout the life of the hedging relationship and for each time band. In this case, the hedged item is represented by the expected cash flows originating from the loans that will arise over the life of the assets.

### E.5 Optional embedded component of floating-rate mortgages

The optional embedded components (interest rate options) of floating-rate mortgages are hedged by micro fair value hedges, using options (cap, floor, collar) as hedging instruments.

The underlying assets may be partially or totally hedged, over time and in terms of amount.

The Dollar Offset Method is used to verify the hedge effectiveness.

### E.6 Already fixed coupon of floating-rate loans

The Group has designated macro fair value hedges on coupons already set for floating-rate loans using OIS (overnight index swaps) as hedging instruments.

The purpose of this type of hedge is to neutralise the interest rate risk generated by the coupons already set for floating-rate loans.

The Dollar Offset Method is used to verify the hedge effectiveness, while the actual consistency of the hedged items is verified by a capacity test.

**E.7 Modelled on demand deposits.**

Modelled on demand deposits are hedged by macro fair value hedges, as required by the “carve out” of IAS 39, using IRS (interest rate swaps) and OIS (overnight index swaps) as hedging instruments.

The purpose of this type of hedge is to protect the net interest income from possible falls in interest rates that reduce the spread generated by core deposits.

The model is subject to continuous monitoring and verification by the Market and Financial Risk Management Head Office Department, in order to promptly incorporate changes in the main characteristics (volumes, stability, reactivity) and make the necessary adjustments where appropriate.

The Dollar Offset Method is used to verify the hedge effectiveness.

**E.8 Foreign investments**

The Group currently has active hedging relationships of net investments in a foreign currency that use outright currency forward contracts as the hedging instruments.

The purpose of the hedging is to protect the Group from the effects of changes in the exchange rate that could have impacts on the foreign exchange reserves that are part of the Group’s consolidated shareholders’ equity.

Of the currency forward derivative contract, only the change relating to the spot exchange rate (spot component) is designated a hedge subject to hedge accounting; this change is separated from the total fair value of the instrument.

In the Parent Company’s financial statements, these hedging relationships are accounted for as micro fair value hedges, whereas in the consolidated financial statements they are treated as hedges of a net investment in a foreign currency.

The Dollar Offset Method is used to verify the hedge effectiveness at the Parent Company level, while at the Group level the actual consistency of the hedged items is verified by a capacity test.

**Quantitative information****A. Financial hedging derivatives***A.1 Financial hedging derivatives: period-end notional amounts*

Underlying asset/Type of derivative	(millions of euro)							
	31.12.2022				31.12.2021			
	Over the counter			Organised markets	Over the counter			Organised markets
	Central Counterparties	Without central counterparties			Central Counterparts	Without central counterparties		
With netting agreements		Without netting agreements	With netting agreements	Without netting agreements				
<b>1. Debt securities and interest rates</b>	<b>322,529</b>	<b>28,225</b>	<b>8,873</b>	-	<b>253,424</b>	<b>29,784</b>	<b>8,435</b>	-
a) Options	-	1,587	-	-	-	1,851	-	-
b) Swaps	322,529	26,269	8,873	-	253,424	27,195	7,687	-
c) Forwards	-	349	-	-	-	718	748	-
d) Futures	-	-	-	-	-	-	-	-
e) Others	-	20	-	-	-	20	-	-
<b>2. Equities and stock indices</b>	-	-	-	-	-	-	-	-
a) Options	-	-	-	-	-	-	-	-
b) Swaps	-	-	-	-	-	-	-	-
c) Forwards	-	-	-	-	-	-	-	-
d) Futures	-	-	-	-	-	-	-	-
e) Other	-	-	-	-	-	-	-	-
<b>3. Foreign exchange rates and gold</b>	-	<b>9,528</b>	<b>21</b>	<b>316</b>	-	<b>9,576</b>	<b>26</b>	<b>175</b>
a) Options	-	-	-	-	-	-	-	-
b) Swaps	-	9,321	21	316	-	9,576	26	175
c) Forwards	-	207	-	-	-	-	-	-
d) Futures	-	-	-	-	-	-	-	-
e) Other	-	-	-	-	-	-	-	-
<b>4. Commodities</b>	-	-	-	-	-	-	-	-
<b>5. Other</b>	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>322,529</b>	<b>37,753</b>	<b>8,894</b>	<b>316</b>	<b>253,424</b>	<b>39,360</b>	<b>8,461</b>	<b>175</b>

The average notional amount in the year of the financial hedging derivatives was 335,456 million euro.

A.2 Financial hedging derivatives: gross positive and negative fair value – breakdown by product

(millions of euro)

Type of derivative	Positive and negative fair value								Change in value used to calculate hedge effectiveness	
	Total 31.12.2022				Total 31.12.2021				Total 31.12.2022	Total 31.12.2021
	Over the counter			Organised markets	Over the counter			Organised markets		
	Central Counterparties	Without central counterparties			Central Counterparties	Without central counterparties				
With netting agreements		Without netting agreements	With netting agreements	Without netting agreements						
<b>Positive fair value</b>										
a) Options	-	75	-	-	-	26	-	-	-47	-114
b) Interest rate swap	17,193	1,637	830	-	2,816	712	61	-	18,312	2,505
c) Cross currency swap	-	325	-	-	-	483	-	-	-92	68
d) Equity swap	-	-	-	-	-	-	-	-	-	-
e) Forwards	-	-	-	-	-	-	-	-	-	-
f) Futures	-	-	-	-	-	-	-	-	-	-
g) Other	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>17,193</b>	<b>2,037</b>	<b>830</b>	<b>-</b>	<b>2,816</b>	<b>1,221</b>	<b>61</b>	<b>-</b>	<b>18,173</b>	<b>2,459</b>
<b>Negative fair value</b>										
a) Options	-	1	-	-	-	2	-	-	1	2
b) Interest rate swap	12,471	1,631	18	-	5,238	2,492	63	-	13,360	5,743
c) Cross currency swap	-	788	8	-	-	380	7	-	1,015	378
d) Equity swap	-	-	-	-	-	-	-	-	-	-
e) Forwards	-	5	-	-	-	6	1	-	-	-
f) Futures	-	-	-	-	-	-	-	-	-	-
g) Other	-	-	-	6	-	-	-	-	-	-
<b>Total</b>	<b>12,471</b>	<b>2,425</b>	<b>26</b>	<b>6</b>	<b>5,238</b>	<b>2,880</b>	<b>71</b>	<b>-</b>	<b>14,376</b>	<b>6,123</b>



## A.3 Over the counter financial hedging derivatives: notional amounts, gross positive and negative fair values by counterparty

Underlying asset	(millions of euro)			
	Central counterparties	Banks	Other financial companies	Other counterparties
<b>Contracts not included under netting agreements</b>				
<b>1) Debt securities and interest rates</b>				
- notional amount	X	4,834	4,039	-
- positive fair value	X	497	333	-
- negative fair value	X	-16	-2	-
<b>2) Equities and stock indices</b>				
- notional amount	X	-	-	-
- positive fair value	X	-	-	-
- negative fair value	X	-	-	-
<b>3) Foreign exchange rates and gold</b>				
- notional amount	X	21	-	-
- positive fair value	X	-	-	-
- negative fair value	X	-8	-	-
<b>4) Commodities</b>				
- notional amount	X	-	-	-
- positive fair value	X	-	-	-
- negative fair value	X	-	-	-
<b>5) Other</b>				
- notional amount	X	-	-	-
- positive fair value	X	-	-	-
- negative fair value	X	-	-	-
<b>Contracts included under netting agreements</b>				
<b>1) Debt securities and interest rates</b>				
- notional amount	322,529	26,545	1,680	-
- positive fair value	17,193	1,668	44	-
- negative fair value	-12,471	-1,119	-517	-
<b>2) Equities and stock indices</b>				
- notional amount	-	-	-	-
- positive fair value	-	-	-	-
- negative fair value	-	-	-	-
<b>3) Foreign exchange rates and gold</b>				
- notional amount	-	7,918	1,610	-
- positive fair value	-	293	32	-
- negative fair value	-	-465	-324	-
<b>4) Commodities</b>				
- notional amount	-	-	-	-
- positive fair value	-	-	-	-
- negative fair value	-	-	-	-
<b>5) Other</b>				
- notional amount	-	-	-	-
- positive fair value	-	-	-	-
- negative fair value	-	-	-	-

*A.4 Residual maturity of over the counter financial hedging derivatives: notional amounts*

Underlying/Residual maturity	(millions of euro)			
	Up to 1 year	Between 1 and 5 years	Over 5 year	Total
A.1 Financial derivatives on debt securities and interest rates	83,539	151,813	124,275	359,627
A.2 Financial derivatives on equities and stock indices	-	-	-	-
A.3 Financial derivatives on foreign exchange rates and gold	687	3,704	5,158	9,549
A.4 Financial derivatives on commodities	-	-	-	-
A.5 Other financial derivatives	-	-	-	-
<b>Total 31.12.2022</b>	<b>84,226</b>	<b>155,517</b>	<b>129,433</b>	<b>369,176</b>
<b>Total 31.12.2021</b>	<b>60,347</b>	<b>126,333</b>	<b>114,565</b>	<b>301,245</b>

**Information on the uncertainty deriving from hedging derivative benchmark indices**

As illustrated in Part A – Accounting policies, the Intesa Sanpaolo Group, from the 2019 Financial Statements, has applied Regulation (EU) 34/2020 of 15 January 2020, which adopted the document issued by the IASB in September 2019 on “Interest Rate Benchmark Reform (amendments to IFRS 9 Financial Instruments, IAS 39 Financial Instruments: Recognition and Measurement and IFRS 7 Financial Instruments: Disclosures)”. This regulation introduced several amendments regarding hedge accounting designed to prevent uncertainties about the amount and timing of the cash flows arising from the rate reform resulting in the discontinuation of existing hedges and difficulties in designating new hedging relationships. Therefore, the analysis of hedge effectiveness was carried out considering the flows and timing of outstanding hedging derivatives, assuming that the interest rate benchmarks used to set existing interest rates will not be changed as a result of the Interest Rate Benchmark Reform (IBOR Reform).

The disclosure required by IFRS 7, paragraph 24H, on the uncertainty arising from interest rate benchmark reform on hedging relationships and the nominal amount of hedging instruments potentially impacted by the benchmark rate reform is provided below. Reference should also be made to that set out in the Notes to the consolidated financial statements, in the Introduction of Part E – Information on risks and relative hedging policies, for an illustration of how the Group is managing the process to transition to alternative benchmark rates.

**B. Credit hedging derivatives***B.1 Credit hedging derivatives: period-end notional amounts**B.2 Credit hedging derivatives: gross positive and negative fair value - breakdown by product**B.3 Over the counter credit hedging derivatives: notional amounts, gross positive and negative fair values by counterparty**B.4 Residual maturity of over the counter credit hedging derivatives: notional amounts*

The Intesa Sanpaolo Group does not hold credit derivatives classified as hedges in its portfolio.

**C. Non-derivative hedging instruments***C.1 Non-derivative hedging instruments: breakdown by accounting portfolio and type of hedge*

The Intesa Sanpaolo Group has exercised the option, provided for on the introduction of IFRS 9, of continuing to fully apply the provisions of IAS 39 on hedge accounting (in the carved-out version endorsed by the European Commission) for each type of hedge (both for micro hedges and macro hedges).

For this reason, the Intesa Sanpaolo Group does not hold financial instruments to be shown in table “C.1 Non-derivative hedging instruments: breakdown by accounting portfolio and type of hedge”.

*Fair value hedge derivatives*

Fair value hedge derivatives of the Group are mainly index-linked to the Euribor, whose calculation method was revised during 2019 to be able to continue using that parameter also after 1 January 2022, both for outstanding contracts and new contracts. To make the Euribor compliant with the EU Benchmarks Regulation (BMR - Regulation 2016/1011/EU) the EMMI - European Money Markets Institute - implemented the change to a new “hybrid” calculation method. The current calculation system – which was completed at the end of November 2019 – does not change the economic variable that the benchmark measures: the Euribor expresses the actual cost of funding for contributing European banks, and is always available and consultable.

Therefore, it is not deemed to be uncertainty on the timing or cash flows of the Euribor, and the fair value hedges linked to the Euribor are not deemed to be impacted by the reform, in line with the approach already adopted in previous years.

With reference to the benchmarks being wound down as at 31 December 2021, the transition activities have been successfully completed for all these benchmarks. Specifically, with regard to the remaining hedging derivative contracts still outstanding as at 31 December 2021 with an underlying EONIA benchmark rate (EONIA OIS), as well as the contracts with the EONIA as the collateral benchmark remuneration rate, no positions were open as at 31 December 2022.

It is also noted that the exposures relating to hedging derivative contracts linked to the Libor to be wound down as at 31 December 2021 (mainly in relation to those expressed in GBP, CHF, JPY and EUR) were no longer present from the initial months of 2022.

With regard to hedging derivative contracts linked to the USD LIBOR, the transition must be carried out by 30 June 2023 (the last date of publication of only the one-week and two-month USD LIBOR rates was 31 December 2021). Therefore, for the purpose of managing the transition to the new RFR, only the financial instruments with maturities after that date are concerned. The date on which the USD LIBOR will no longer be used does not give rise to specific uncertainties except for those linked to trading timescales, which could be deferred by the counterparties.

Specifically, as at 31 December 2022 fair value hedge derivatives indexed to the USD LIBOR amounted to a notional value of 13,332 million euro, accounting for 4% of the Group's total fair value hedge derivatives. As at 31 December 2021 fair value hedge derivatives indexed to the EONIA amounted to a notional value of 4 million euro, those indexed to the USD LIBOR to a notional value of 16,646 million euro and those indexed to the LIBOR in other currencies to a notional value of 62 million euro, accounting for 6% of the Group's total fair value hedge derivatives.

These amounts are included in the disclosure provided on the IBOR Reform in Part A, Section 4 - Other aspects. Specifically, the table published includes, in the "derivatives" column, both trading and hedging derivatives not yet passed to the alternative benchmarks as at 31 December 2022. See that section for qualitative analyses of the methods of management of the transition by the Group.

#### *Cash flow hedge derivatives*

Cash flow hedge derivatives are index-linked to the Euribor. As illustrated for fair value hedges, the Group does not deem that there is uncertainty on the timing or cash flows of the Euribor, and, therefore does not consider the cash flow hedges linked to the Euribor to be impacted by the reform.

**D. Hedged items**

The Intesa Sanpaolo Group has exercised the option, provided for on the introduction of IFRS 9, of continuing to fully apply the provisions of IAS 39 on hedge accounting (in the carved-out version endorsed by the European Commission) for each type of hedge (both for micro hedges and macro hedges).

**D.1 Fair value hedges**

		(millions of euro)					
		Micro-hedges: book value	Micro-hedges – net positions: book value of assets and liabilities (prior to netting)	Cumulative fair value changes (hedged instrument)	Micro-hedges Termination of hedging: residual cumulative fair value changes	Changes in value used to assess hedge ineffectiveness	Macro-hedges: book value
<b>A. Assets</b>							
<b>1. Financial assets designated at fair value through other comprehensive income – hedging of:</b>							
		30,794	-	-4,934	-2,221	-4,575	-
1.1	Debt securities and interest rates	28,597	-	-4,905	-2,214	-4,566	X
1.2	Equities and stock indices	-	-	-	-	-	X
1.3	Foreign exchange rates and gold	-	-	-	-	-	X
1.4	Loans	-	-	-	-	-	X
1.5	Other	2,197	-	-29	-7	-9	X
<b>2. Financial assets measured at amortised cost - hedging of:</b>							
		35,329	-	-2,568	-1,028	-2,536	99,032
1.1	Debt securities and interest rates	34,751	-	-2,766	-1,028	-2,738	X
1.2	Equities and stock indices	-	-	-	-	-	X
1.3	Foreign exchange rates and gold	157	-	-1	-	-	X
1.4	Loans	-	-	-	-	-	X
1.5	Other	421	-	199	-	202	X
	<b>Total 31.12.2022</b>	<b>66,123</b>	<b>-</b>	<b>-7,502</b>	<b>-3,249</b>	<b>-7,111</b>	<b>99,032</b>
	<b>Total 31.12.2021</b>	<b>84,679</b>	<b>-</b>	<b>3,383</b>	<b>190</b>	<b>2,773</b>	<b>76,009</b>
<b>B. Liabilities</b>							
<b>1. Financial liabilities measured at amortised cost - hedging of:</b>							
		55,128	-	-3,589	-370	-3,764	111,035
1.1	Debt securities and interest rates	49,462	-	-2,997	-66	-3,219	X
1.2	Foreign exchange rates and gold	-	-	-	-	-	X
1.3	Other	5,666	-	-592	-304	-545	X
	<b>Total 31.12.2022</b>	<b>55,128</b>	<b>-</b>	<b>-3,589</b>	<b>-370</b>	<b>-3,764</b>	<b>111,035</b>
	<b>Total 31.12.2021</b>	<b>61,269</b>	<b>-</b>	<b>740</b>	<b>3</b>	<b>697</b>	<b>61,554</b>

## D.2 Cash flow hedges and hedges of foreign investments

	Change in value used to assess hedge ineffectiveness	Hedging reserves	(millions of euro) Termination of hedging: residual cumulative value of the hedging reserves
<b>A. Cash flow hedge</b>			
<b>1. Assets</b>	<b>640</b>	<b>-488</b>	<b>-</b>
1.1 Debt securities and interest rates	640	-488	-
1.2 Equities and stock indices	-	-	-
1.3 Foreign exchange rates and gold	-	-	-
1.4 Loans	-	-	-
1.5 Other	-	-	-
<b>2. Liabilities</b>	<b>192</b>	<b>22</b>	<b>-</b>
1.1 Debt securities and interest rates	192	22	-
1.2 Foreign exchange rates and gold	-	-	-
1.3 Other	-	-	-
<b>Total (A) 31.12.2022</b>	<b>832</b>	<b>-466</b>	<b>-</b>
<b>Total (A) 31.12.2021</b>	<b>-751</b>	<b>-607</b>	<b>-</b>
<b>B. Hedges of foreign investments</b>	<b>X</b>	<b>10</b>	<b>-</b>
<b>Total (A+B) 31.12.2022</b>	<b>832</b>	<b>-456</b>	<b>-</b>
<b>Total (A+B) 31.12.2021</b>	<b>-751</b>	<b>-607</b>	<b>-</b>

## E. Effects of hedging on shareholders' equity

## E.1 Reconciliation of components of shareholders' equity

	Cash flow hedging reserve					Reserve for hedging of foreign investments				
	Debt securities and interest rates	Equities and stock indices	Foreign exchange rates and gold	Loans	Other	Debt securities and interest rates	Equities and stock indices	Foreign exchange rates and gold	Loans	Other
<b>Initial amount</b>	<b>-607</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Fair value changes (effective portion)	141	-	-	-	-	-	-	-	-	-
Reclassification to the income statement	-	-	-	-	-	-	-	-	-	-
<i>of which: future transaction not expected</i>	-	-	-	-	-	X	X	X	X	X
Other changes	-	-	-	-	-	-	-	10	-	-
<i>of which: transfer to initial book value</i>	-	-	-	-	-	X	X	X	X	X
<b>Final amount</b>	<b>-466</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>10</b>	<b>-</b>	<b>-</b>

The category "Hedging instruments (non-designated items)" is not present, because the Intesa Sanpaolo Group has exercised the option, provided for on the introduction of IFRS 9, of continuing to fully apply the provisions of IAS 39 on hedge accounting (in the carved-out version endorsed by the European Commission) for each type of hedge (both for micro hedges and macro hedges).

### 1.3.3. Other information on derivative instruments (trading and hedging)

#### A. Credit and financial derivatives

##### A.1 Over the counter credit and financial derivatives: net fair values by counterparty

	Central counterparties	Banks	Other financial companies	(millions of euro) Other counterparties
<b>A. Financial derivatives</b>				
<b>1) Debt securities and interest rates</b>				
- notional amount	1,650,362	-	-	-
- positive net fair value	564	-	-	-
- negative net fair value	-	-	-	-
<b>2) Equities and stock indices</b>				
- notional amount	-	-	-	-
- positive net fair value	-	-	-	-
- negative net fair value	-	-	-	-
<b>3) Foreign exchange rates and gold</b>				
- notional amount	-	-	-	-
- positive net fair value	-	-	-	-
- negative net fair value	-	-	-	-
<b>4) Commodities</b>				
- notional amount	-	-	-	-
- positive net fair value	-	-	-	-
- negative net fair value	-	-	-	-
<b>5) Other</b>				
- notional amount	-	-	-	-
- positive net fair value	-	-	-	-
- negative net fair value	-	-	-	-
<b>B. Credit derivatives</b>				
<b>1) Protection purchases</b>				
- notional amount	-	-	-	-
- positive net fair value	-	-	-	-
- negative net fair value	-	-	-	-
<b>2) Protection sales</b>				
- notional amount	-	-	-	-
- positive net fair value	-	-	-	-
- negative net fair value	-	-	-	-

The table shows the values resulting from the offsetting in the balance sheet for the derivatives whose netting agreements meet the criteria set out in IAS 32 paragraph 42.

In particular, the above refers mainly to OTC trading and hedging financial and credit derivatives in place with the legal clearing agent LCH Ltd., for which the fair values attributable to transactions on own account and transactions on behalf of customers have been offset separately in the financial statements.

The clearing amount, which had a total net positive value of 564 million euro (positive fair value of 85,957 million euro and negative fair value of 85,393 million euro), attributable to a positive result of 147 million euro from trading derivatives and a positive result of 417 million euro from hedging derivatives, is presented in Part B of the Notes to the financial statements, for operations on behalf of customers and Group companies (trading derivatives) among Financial assets held for trading for 4,384 million euro and operations on own account (trading derivatives and hedging derivatives) among Financial liabilities held for trading for 3,820 million euro, respectively.