1.2. MARKET RISKS

As already mentioned in the Introduction, the Intesa Sanpaolo Group policies on financial risk taking 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 Bank and 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 Bank's and 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 that 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.).

(millions of euro)

	BOOK VALUE (supervisory scope)	**MAIN RISK MEASUREMENT METRICS**		
		VaR	Other	Risk factors measured using metrics included under Other
Assets subject to market risk	**802,216**	**113,705**	**688,510**	
Financial assets held for trading	47,196	46,647	549	Interest rate risk, credit spread, equity
Financial assets designated at fair value	4	1	3	Interest rate risk, credit spread
Other financial assets mandatorily measured at fair value	6,139	2,447	3,691	Interest rate risk, credit spread
Financial assets measured at fair value through other comprehensive income (ifrs 7 par. 8 lett. h))	67,595	64,236	3,359	Interest rate risk, equity
Due from banks	163,940	-	163,940	Interest rate risk
Loans to customers	505,766	-	505,766	Interest rate risk
Hedging derivatives	1,732	374	1,358	Interest rate risk
Investments in associates and companies subject to joint control	9,844	-	9,844	Equity risk
Liabilities subject to market risk	**777,512**	**60,122**	**717,390**	
Due to banks	164,980	-	164,980	Interest rate risk
Due to customers	459,540	-	459,540	Interest rate risk
Securities issued	88,062	-	88,062	Interest rate risk
Financial liabilities held for trading	56,388	56,310	78	Interest rate risk
Financial liabilities designated at fair value (ifrs 7 par. 8 lett. e))	3,674	3,674	-	-
Hedging derivatives	4,868	138	4,730	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 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 OICR with regard the only quote in CPPI (Constant Proportion Portfolio Insurance) products and the hedge fund portfolios with a look through approach; (iii) position risk on dividend derivatives and (iv) 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. 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. ceiling for transactions with issuer risk, Incremental Risk Charge limit).

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 accounts for the main share of the Group's market risks, while some Group subsidiaries hold smaller trading portfolios 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 2021, the approval of the ordinary annual update of the market risk managerial framework by the Board of Directors (as part of the 2021 Risk Appetite Framework) set 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 the underlying risk factors. 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: This period was identified considering the following guidelines, on the basis of the indications presented in the Basel document "Revision to the Basel 2 market risk framework":

- 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 2021 Financial Statements, the period for the measurement of Stressed VaR for Intesa Sanpaolo was from 3 October 2011 to 20 September 2012.

For management 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 is additional to VaR and 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 books 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

(millions of euro)

	average 4th quarter	minimum 4th quarter	maximum 4th quarter	average 3rd quarter	average 2nd quarter	average 1st quarter
Total GroupTrading Book [(a)]	19.9	16.9	25.8	20.4	25.8	41.3
of which: Group Treasury and Finance Department	2.7	2.3	3.2	2.6	2.8	3.2
of which: IMI C&IB Division	*19.1*	*16.0*	*25.7*	*20.5*	*25.9*	*38.1*

Each line in the table sets out past estimates of daily VaR calculated on the histrorical 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 2021, as shown in both the tables and the graph below, there was a substantial stability in the overall trading risks compared to the averages for the third quarter of 2021 (19.9 million euro in the fourth quarter 2021 and 20.4 million euro in the third quarter 2021) and, more generally, a reduction compared to the averages of the first and second quarter 2021, but also compared to the average values for the full year 2020. These reductions are mainly attributable to the scenario “rolling effect” due to the lower market volatility following the exceptional market shocks related to the spread of the COVID-19 pandemic.

In the interest of completeness, the table below shows the average, minimum and maximum managerial VaR for the full year 2021 compared with the same period of 2020.

Daily managerial VaR of the trading book - Comparison 2021 – 2020

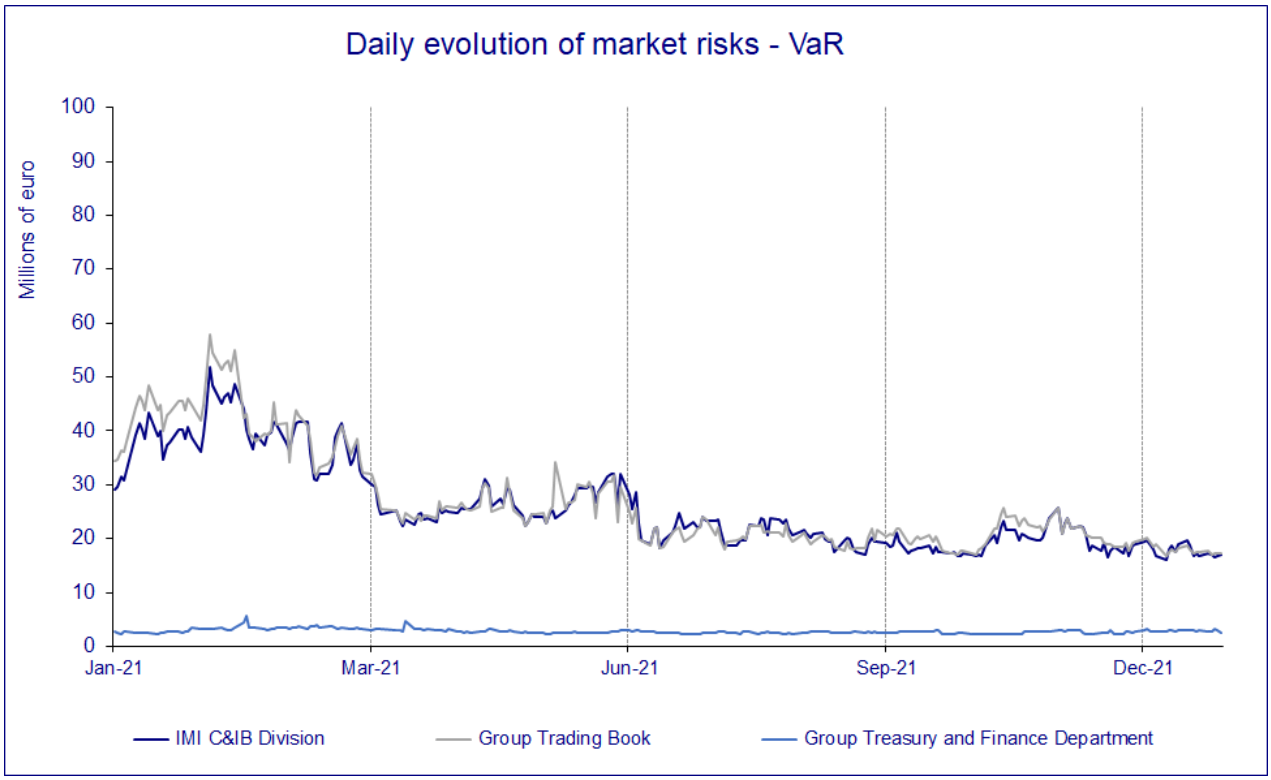
(millions of euro)

	2021				2020		
	average	minimum	maximum	last day	average	minimum	maximum
Total GroupTrading Book [(a)]	26.7	16.9	57.8	17.2	65.3	31.4	98.6
of which: Group Treasury and Finance Department	2.8	2.3	5.6	2.5	16.5	2.3	42.6
of which: IMI C&IB Division	*25.7*	*16.0*	*51.9*	*17.0*	*46.6*	*20.7*	*72.1*

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.

With regard to the trend in the trading VaR during the fourth quarter of 2021, the change was mainly due to the IMI C&IB Division: in particular, at the beginning of the quarter there was a slight uptrend due to the entry of new volatility scenarios in the tail of the distribution and, starting from November, a gradual realignment of the measure with the levels at the beginning of the period due to the effect of the reduction of Italy risk. 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 2021 shows a prevalence of credit spread risk and interest rate risk, accounting for 34% and 23%, respectively, of the Group's total managerial VaR. Instead, the single risk-taking centres show a prevalence of interest rate risk and exchange rate risk for the Group Treasury and Finance Department (39% and 45%, respectively) and of credit spread and interest rate risk for the IMI C&IB Division (36% and 22%, respectively).

Contribution of risk factors to total managerial VaR

4th quarter 2021	Shares	Interest rates	Credit spreads	Foreign exchange rates	Other parameters	Commodities
Group Treasury and Finance Department	7%	39%	9%	45%	0%	0%
IMI C&IB Division	11%	22%	36%	5%	20%	6%
Total	**10%**	**23%**	**34%**	**9%**	**18%**	**6%**

(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 2021, 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:

(millions of euro)

	EQUITY		TASSI D'INTERESSE		CREDIT SPREAD		CAMBI		MATERIE PRIME	
	Crash	Bullish	+40bp	lower rate	-25bp	+25bp	-5%	+5%	Crash	Bullish
Total Trading Book	109	-	9	-16	-15	16	15	2	-1	4

Specifically:
- for stock market positions, there would be no potential losses in the event of a sudden rise in equity prices and a concurrent sharp reduction in volatility;
- for positions in interest rates, there would be potential losses of 16 million euro in the event of a fall in interest rates;
- for positions in credit spreads, a tightening of credit spreads of 25 bps would result in an overall loss of 15 million euro;
- for positions in exchange rates, there would be potential gains both in the event of appreciation and depreciation of the

Euro against the other currencies;
- finally, for positions in commodities, there would be a loss of 1 million euro in the event of a fall in prices of commodities other than precious metals.

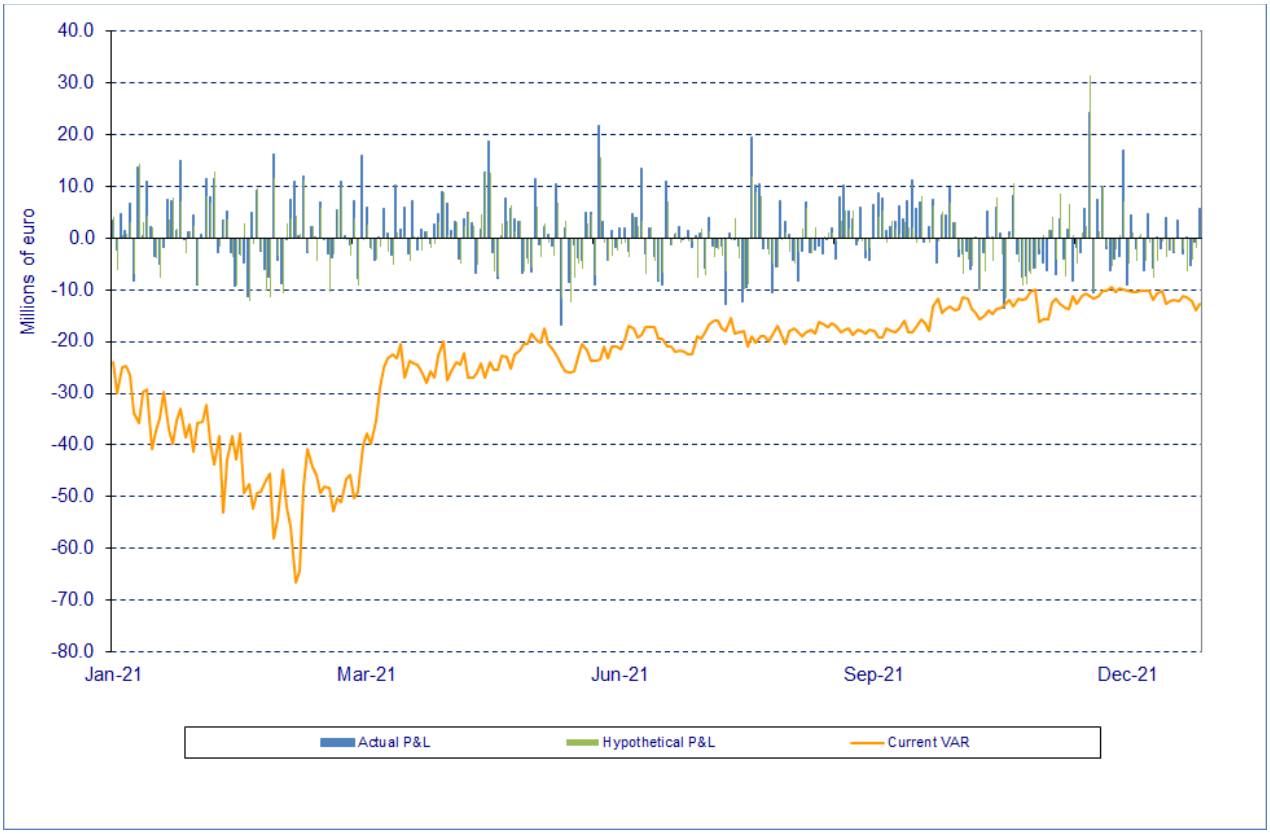
With regard to the use of the overall limit relating to trading and the hold to collect and sell (HTCS) business model, there was an overall reduction in the market managerial VaR in the fourth quarter from 144 million euro (average managerial VaR third quarter 2021) to 139 million euro (average managerial VaR fourth quarter 2021).

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.

A single backtesting exception was recorded during the reporting year on 28 October 2021. The current VaR measure is sufficiently conservative; the only exception recorded does not entail add-ons to regulatory requirements.



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%	11%	29%	4%	3%	35%	18%
Total	**100%**	**11%**	**29%**	**4%**	**3%**	**35%**	**18%**

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 government segments.

Impacts from the COVID-19 pandemic

Within the framework of the impacts of the COVID-19 pandemic on market risk dynamics, in 2021 there was a progressive return to orderly functioning of the main financial markets, as witnessed by the return of the main market parameters to within the average values observed over the twelve months prior to the crisis. These dynamics enabled an ordinary management of the Group's HTCS and trading portfolios not only in terms of turnover but also in term of risk management, as further highlighted by the dynamics of the main market risk metrics.

In the current market environment, characterised by low volatility, the managerial VaR measures showed, as described in the previous sections, a slight decrease in the average VaR calculated at Group level for all the financial assets under the Trading and HTCS business models (average managerial VaR of around 139 million euro in the fourth quarter compared to an average of 144 million euro in the third quarter); only the Trading component was stable at around 20 million euro (compared to an average of 20.4 million euro in the third quarter and an average of 19.9 million euro in the fourth quarter).

With regard to capital requirements (market risk), as the effects of the outbreak of the COVID-19 pandemic on financial markets diminished, there was a marked reduction in the volatility levels of the main risk factors in 2021. The new volatility levels jointly with a lesser overall exposure of the trading book triggered a reduction in RWAs from 17 billion to 11 billion euro, compared to December 2020.

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 Bank's 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 (shift sensitivity or ΔEVE) and net interest income sensitivity (ΔNII). The consolidated ΔEVE 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 shift 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 shift 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 of the Parent Company 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 (ΔEVE);
2. Net interest income sensitivity (ΔNII);
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 **shift sensitivity of the economic value** (or fair value shift 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 FTP (internal fund transfer price) or risk-free rate 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 shift 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 shift 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 or by the expected credit risk/jump-to-default risk. In line with the EBA Guidelines, which limit the reference area to assets only (i.e. excluding derivatives and liabilities), specific monitoring is envisaged for 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), 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 2021, and in the second half of the year in particular, 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 viscousness of customer demand deposits by entering into hedging derivatives and natural hedges with mortgage loans to customers.

Quantitative information

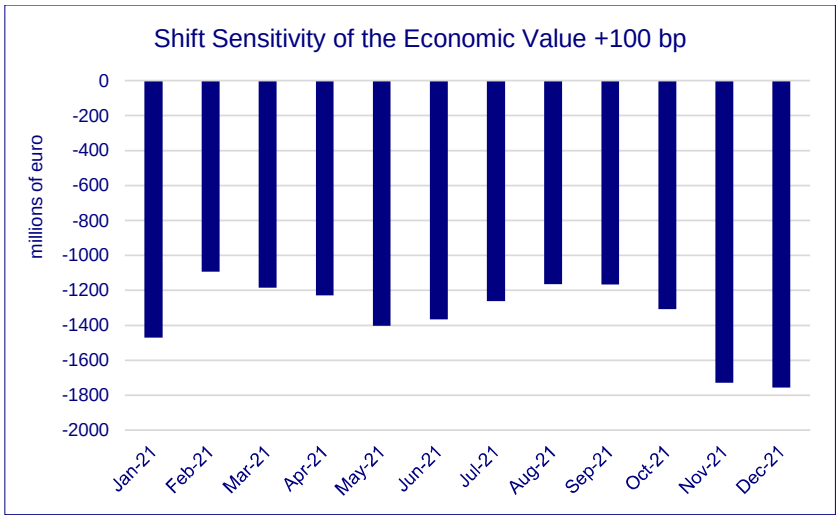
Banking book: internal models and other sensitivity analysis methodologies

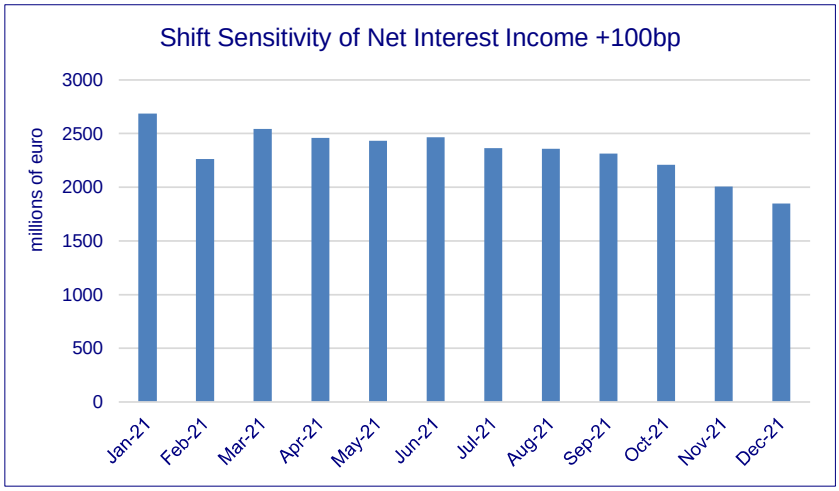
In 2021, interest rate risk generated by the Intesa Sanpaolo Group's banking book, measured through shift sensitivity of value, averaged -1,345 million euro, with a minimum value of -1,094 million euro and a maximum value of -1,756 million euro. This latter figure coincided with that of the end of December 2021, up by 451 million euro on the end of December 2020, when it came to -1,305 million euro. This change was due, above all in the fourth quarter of 2021, to greater fixed rate lending and hedging of customer demand deposits.
The sensitivity of net interest income – assuming a +50, -50 and +100 basis point change in interest rates – amounted to 962 million euro, -880 million euro and 1,847 million euro, respectively, at the end of December 2021. The latter figure decreased (-734 million euro) on the end of 2020, when it came to 2,581 million euro. This decline was due to both the hedging of customer demand deposits and the particular indexing of the TLTRO, which gives rise to asymmetry between upwards sensitivity and lower rates.

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.

(millions of euro)

	2021			31.12.2021	31.12.2020
	average	minimum	maximum		
Shift Sensitivity of the Economic Value +100 bp	-1,345	-1,094	-1,756	-1,756	-1,305
Shift Sensitivity of Net Interest Income -50bp	-872	-803	-1,044	-880	-1,011
Shift Sensitivity of Net Interest Income +50bp	1,191	962	1,364	962	1,312
Shift Sensitivity of Net Interest Income +100bp	2,330	1,847	2,687	1,847	2,581



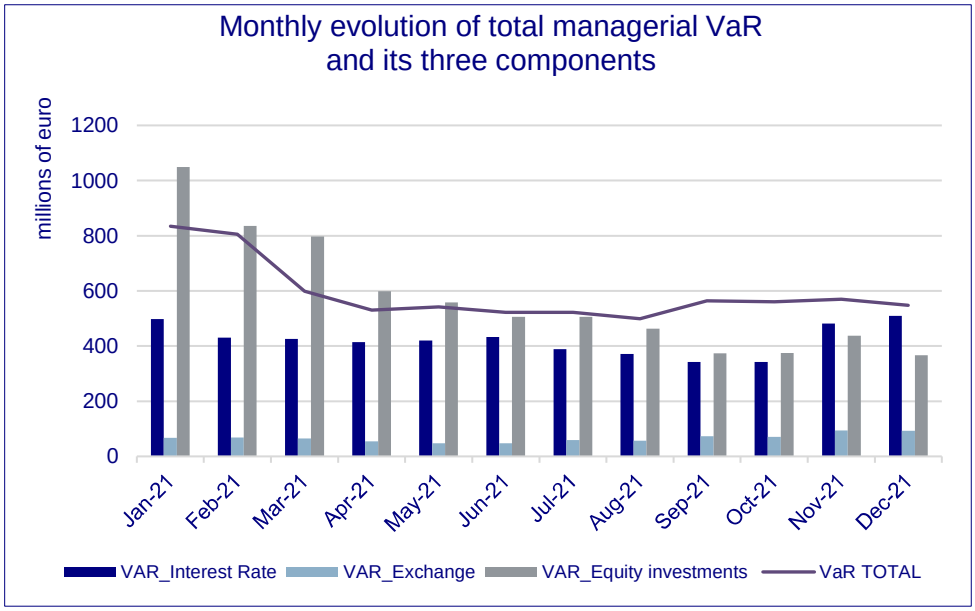


Interest rate risk, measured in terms of VaR, averaged 421 million euro in 2021, with a minimum value of 342 million euro and a maximum value of 509 million euro, with the latter coinciding with the value at the end of December 2021 (492 million euro at the end of 2020). No significant changes were reported.
Foreign exchange risk expressed by equity investments in foreign currency (banking book) and measured in terms of VaR averaged 67 million euro in 2021, with a maximum value of 94 million euro and a minimum value of 48 million euro, standing at 93 million euro at the end of December 2021 (78 million euro at the end of 2020). No significant changes were reported.
Price risk generated by the equity portfolio, measured in terms of VaR, recorded an average level during 2021 of 572 million euro, with maximum and minimum values of 1,049 million euro and 367 million euro, respectively, the latter being the figure of the end of December 2021, down by 620 million euro on the value at the end of December 2020 of 987 million euro. This change was due in part to market volatility, seen in particular in the first few months of 2021, and in part to the disposal of equity investments.

Total VaR, consisting of the three components described above (Interest Rate VaR, Exchange VaR and Equity Investments VaR) averaged 592 million euro in 2021, with a maximum value of 835 million euro and a minimum value of 499 million euro, reaching a figure of 548 million euro at the end of December 2021, down by 417 million euro on the value at the end of December 2020 of 965 million euro. This change is primarily due to the Equity Investments VaR component and the phenomena indicated above.
The table and chart below provides a representation of the performance of total VaR and its three components (Interest Rate VaR, Exchange VaR and Equity Investments VaR).

(millions of euro)

	2021			31.12.2021	31.12.2020
	average	minimum	maximum		
Value at Risk - Interest Rate	421	342	509	509	492
Value at Risk - Exchange	67	48	94	93	78
Value at Risk - Equity investments	572	367	1.049	367	987
Total Value at Risk	**592**	**499**	**835**	**548**	**965**



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 ±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 31.12.2021	Impact on shareholders' equity at 30.09.2021	Impact on shareholders' equity at 30.06.2021	Impact on shareholders' equity at 31.03.2021	Impact on shareholders' equity at 31.12.2020
Price shock	10%	177	181	208	152	155
Price shock	-10%	-177	-181	-208	-152	-155

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.
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.
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 key sources of exchange rate risk lie in: 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, applicable with effect from 1 January 2022. 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 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.
According to the general principle underlying the management of the Structural Foreign Exchange Rate Risk, the related exposures are not normally subject to microhedging. This is because, firstly, by their nature they permit the stability of capital ratios, and in addition the foreign exchange risk arising from the investments where the Group has equity investments reflects the long-term strategic view of investing in the macroeconomic growth of those countries and any hedging would mean giving up the additional profit arising from the rate spread against the euro rates. In addition, over the long term, the benefits deriving from diversification of the Group's portfolio among different currencies optimises its risk/return and mitigates the Group's exposure to Italy country risk, albeit to a limited extent. However, it cannot be excluded that, in particular market phases, the Group may decide to enter into hedging transactions: for economic reasons, where hedging costs are lower than the potential losses estimated in relation to possible depreciation of the currency; and to optimise capital requirements when hedging costs are appropriate.
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.

Quantitative information

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

(millions of euro)

	CURRENCIES							
	US dollar	**GB pound**	**Swiss franc**	**Hungarian forint**	**Egyptian pound**	**Croatian kuna**	**Yen**	**Other currencies**
A. FINANCIAL ASSETS	**41,005**	**4,098**	**2,046**	**5,797**	**5,601**	**7,856**	**3,668**	**13,073**
A.1 Debt securities	14,492	912	-	1,089	1,782	949	3,097	3,261
A.2 Equities	663	1	15	1	20	2	1	335
A.3 Loans to banks	5,036	99	180	2,160	1,213	2,998	5	1,896
A.4 Loans to customers	20,550	3,052	1,258	2,431	2,586	3,904	561	7,077
A.5 Other financial assets	264	34	593	116	-	3	4	504
B. OTHER ASSETS	**4,249**	**137**	**98**	**121**	**199**	**241**	**107**	**652**
C. FINANCIAL LIABILITIES	**41,066**	**2,828**	**1,058**	**5,196**	**4,881**	**5,952**	**769**	**7,359**
C.1 Due to banks	15,597	174	139	917	14	186	11	1,413
C.2 Due to customers	11,664	1,215	661	4,195	2,320	5,765	114	5,761
C.3 Debt securities	13,803	1,438	242	-	2,547	-	644	180
C.4 Other financial liabilities	2	1	16	84	-	1	-	5
D. OTHER LIABILITIES	**495**	**38**	**41**	**21**	**106**	**202**	**2**	**175**
E. FINANCIAL DERIVATIVES								
- Options								
long positions	*1,617*	*3*	*-*	*1*	*-*	*-*	*11*	*25*
short positions	*1,608*	*63*	*-*	*-*	*-*	*-*	*13*	*21*
- Other derivatives								
long positions	*64,757*	*13,312*	*8,672*	*1,672*	*-*	*12*	*5,462*	*12,730*
short positions	*68,361*	*14,482*	*9,552*	*1,649*	*-*	*147*	*8,530*	*16,566*
TOTAL ASSETS	**111,628**	**17,550**	**10,816**	**7,591**	**5,800**	**8,109**	**9,248**	**26,480**
TOTAL LIABILITIES	**111,530**	**17,411**	**10,651**	**6,866**	**4,987**	**6,301**	**9,314**	**24,121**
DIFFERENCE (+/-)	**98**	**139**	**165**	**725**	**813**	**1,808**	**-66**	**2,359**

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 internal model based on VaR calculations, as already illustrated.

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 93 million euro as at 31 December 2021. 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 trading portfolio (as shown in the table below, as at 31 December 2021 approximately 96% 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 2021 accounting for approximately 4% 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.

(millions of euro)

Transaction categories	31.12.2021		31.12.2020	
	Standardised models	Internal Method (EPE)	Standardised models	Internal Method (EPE)
Derivative contracts	599	16,270	829	19,999

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 7 billion euro for the Parent Company, while the collateral paid equals 19 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

(millions of euro)

Underlying asset/Type of derivatives	31.12.2021				31.12.2020			
	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	
1. Debt securities and interest rate	**1,933,468**	**255,211**	**70,804**	**167,501**	**1,850,843**	**277,526**	**75,307**	**162,222**
a) Options	-	68,964	6,224	6,868	-	81,269	7,722	54,385
b) Swaps	1,933,468	186,247	63,792	-	1,850,843	196,257	64,170	-
c) Forwards	-	-	751	-	-	-	2,484	-
d) Futures	-	-	37	160,633	-	-	931	107,837
e) Other	-	-	-	-	-	-	-	-
2. Equities and stock indices	**-**	**4,955**	**28,500**	**2,480**	**-**	**6,828**	**31,621**	**1,897**
a) Options	-	4,948	28,491	609	-	6,515	31,608	401
b) Swaps	-	7	9	-	-	313	13	-
c) Forwards	-	-	-	-	-	-	-	7
d) Futures	-	-	-	1,871	-	-	-	1,489
e) Other	-	-	-	-	-	-	-	-
3. Foreign exchange rates and gold	**96**	**170,930**	**17,670**	**2,005**	**-**	**158,342**	**20,387**	**375**
a) Options	-	22,674	1,186	89	-	17,135	1,232	117
b) Swaps	95	44,619	4,450	-	-	52,006	5,701	16
c) Forwards	-	103,454	11,258	1,901	-	88,952	12,860	-
d) Futures	-	-	-	15	-	-	-	242
e) Other	1	183	776	-	-	249	594	-
4. Commodities	**-**	**3,070**	**1,074**	**1,698**	**-**	**2,993**	**740**	**1,685**
5. Other	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**1,933,564**	**434,166**	**118,048**	**173,684**	**1,850,843**	**445,689**	**128,055**	**166,179**

The notional amounts shown as at 31 December 2021 in the column "Over the counter" with central counterparties relate to interest rate derivatives of 1,933 billion euro and foreign exchange rates and gold derivatives of 96 million euro settled through legal clearing.

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

(millions of euro)

Type of derivative	31.12.2021				31.12.2020			
	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	
1. Positive fair value								
a) Options	-	1,750	789	26	-	2,426	774	45
b) Interest rate swaps	39,039	9,181	5,331	-	51,707	14,225	7,368	-
c) Cross currency swaps	-	1,250	272	-	-	1,254	353	-
d) Equity swaps	-	-	-	-	-	3	6	-
e) Forwards	-	890	108	8	-	1,282	153	-
f) Futures	-	-	-	-	-	-	-	-
g) Other	-	757	190	-	-	173	60	1
Total	**39,039**	**13,828**	**6,690**	**34**	**51,707**	**19,363**	**8,714**	**46**
2. Negative fair value								
a) Options	-	1,815	6,365	19	-	2,393	6,404	18
b) Interest rate swaps	39,252	13,298	801	-	52,369	19,447	1,124	-
c) Cross currency swaps	-	1,127	864	-	-	1,542	778	-
d) Equity swaps	-	-	-	-	-	1	-	-
e) Forwards	-	1,146	212	16	-	1,120	260	-
f) Futures	-	-	-	-	-	-	-	-
g) Other	-	752	422	-	-	173	62	1
Total	**39,252**	**18,138**	**8,664**	**35**	**52,369**	**24,676**	**8,628**	**19**

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

(millions of euro)

Underlying asset	Central Counterparties	Banks	Other financial companies	Other counterparties
Contracts not included under netting agreements				
1) Debt securities and interest rates				
- notional amount	X	2,081	14,659	54,064
- positive fair value	X	870	260	4,242
- negative fair value	X	-517	-167	-256
2) Equities and stock indices				
- notional amount	X	16,497	6,481	5,522
- positive fair value	X	677	47	4
- negative fair value	X	-1,103	-176	-5,018
3) Foreign exchange rates and gold				
- notional amount	X	2,449	3,856	11,365
- positive fair value	X	15	25	363
- negative fair value	X	-701	-40	-268
4) Commodities				
- notional amount	X	1	78	995
- positive fair value	X	-	2	185
- negative fair value	X	-	-15	-403
5) Other				
- notional amount	X	-	-	-
- positive fair value	X	-	-	-
- negative fair value	X	-	-	-
Contracts included under netting agreements				
1) Debt securities and interest rates				
- notional amount	1,933,468	188,754	50,561	15,896
- positive fair value	39,039	7,394	1,926	1,278
- negative fair value	-39,252	-11,729	-2,576	-366
2) Equities and stock indices				
- notional amount	-	2,034	2,906	15
- positive fair value	-	81	19	5
- negative fair value	-	-86	-95	-
3) Foreign exchange rates and gold				
- notional amount	96	130,731	28,589	11,610
- positive fair value	-	1,519	462	385
- negative fair value	-	-1,461	-599	-467
4) Commodities				
- notional amount	-	328	1,266	1,476
- positive fair value	-	53	312	394
- negative fair value	-	-19	-244	-496
5) Other				
- notional amount	-	-	-	-
- positive fair value	-	-	-	-
- negative fair value	-	-	-	-

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

(millions of euro)

Underlying/Residual maturity	Up to 1 year	Between 1 and 5 years	Over 5 years	Total
A.1 Financial derivatives on debt securities and interest rates	579,423	953,844	726,216	2,259,483
A.2 Financial derivatives on equities and stock indices	9,893	21,985	1,577	33,455
A.3 Financial derivatives on foreign exchange rates and gold	138,434	35,127	15,135	188,696
A.4 Financial derivatives on commodities	2,672	1,472	-	4,144
A.5 Other financial derivatives	-	-	-	-
Total 31.12.2021	**730,422**	**1,012,428**	**742,928**	**2,485,778**
Total 31.12.2020	**747,540**	**912,082**	**764,965**	**2,424,587**

B. CREDIT DERIVATIVES

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

(millions of euro)

Categories of transactions	Trading derivatives	
	single counterparty	more counterparties (basket)
1. Protection purchases		
a) Credit default products	7,531	67,468
b) Credit spread products	-	-
c) Total rate of return swap	-	-
d) Other	-	-
Total 31.12.2021	**7,531**	**67,468**
Total 31.12.2020	**7,072**	**58,781**
2. Protection sales		
a) Credit default products	8,043	63,098
b) Credit spread products	-	-
c) Total rate of return swap	-	-
d) Other	-	-
Total 31.12.2021	**8,043**	**63,098**
Total 31.12.2020	**7,253**	**51,887**

As at 31 December 2021, 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

(millions of euro)

Type of derivative	Total 31.12.2021	Total 31.12.2020
1. Positive fair value		
a) Credit default products	2,225	1,616
b) Credit spread products	-	-
c) Total rate of return swap	-	-
d) Other	-	-
Total	**2,225**	**1,616**
2. Negative fair value		
a) Credit default products	2,341	1,759
b) Credit spread products	-	-
c) Total rate of return swap	-	-
d) Other	-	-
Total	**2,341**	**1,759**

As at 31 December 2021, 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

(millions of euro)

	Central counterparties	Banks	Other financial companies	Other counterparties
Contracts not included under netting agreements				
1) Protection purchases				
− notional amount	X	-	-	246
− positive fair value	X	-	-	35
− negative fair value	X	-	-	-
2) Protection sales				
− notional amount	X	-	33	8
− positive fair value	X	-	-	-
− negative fair value	X	-	-1	-9
Contracts included under netting agreements				
1) Protection purchases				
− notional amount	49,299	12,574	12,880	-
− positive fair value	-	158	146	-
− negative fair value	-1,615	-171	-211	-
2) Protection sales				
− notional amount	46,227	13,042	11,831	-
− positive fair value	1,508	153	225	-
− negative fair value	-	-173	-161	-

As at 31 December 2021, 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

(millions of euro)

Underlying/Residual maturity	Up to 1 year	Between 1 and 5 years	Over 5 years	Total
1. Protection sales	4,426	66,021	694	71,141
2. Protection purchases	4,719	69,749	531	74,999
Total 31.12.2021	**9,145**	**135,770**	**1,225**	**146,140**
Total 31.12.2020	**9,350**	**114,049**	**1,594**	**124,993**

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 (over the counter) 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 2021, foreign exchange hedges were taken out against the foreign exchange risk on the cost of funding in foreign currency and on foreign currency gains generated by the Group. These are operational hedges, which are therefore not recognised as accounting hedges covered by this section.

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, which are 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.

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.

Quantitative information

A. Financial hedging derivatives

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

(millions of euro)

Underlying asset/Type of derivative	31.12.2021				31.12.2020			
	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	
1. Debt securities and interest rates	**253,424**	**29,784**	**8,435**	**-**	**225,066**	**25,626**	**5,617**	**-**
a) Options	-	1,851	-	-	-	2,229	-	-
b) Swaps	253,424	27,195	7,687	-	225,066	22,827	4,173	-
c) Forwards	-	718	748	-	-	550	1,444	-
d) Futures	-	-	-	-	-	-	-	-
e) Others	-	20	-	-	-	20	-	-
2. Equities and stock indices	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
a) Options	-	-	-	-	-	-	-	-
b) Swaps	-	-	-	-	-	-	-	-
c) Forwards	-	-	-	-	-	-	-	-
d) Futures	-	-	-	-	-	-	-	-
e) Other	-	-	-	-	-	-	-	-
3. Foreign exchange rates and gold	**-**	**9,576**	**26**	**175**	**-**	**7,425**	**31**	**59**
a) Options	-	-	-	-	-	-	-	-
b) Swaps	-	9,576	26	175	-	7,425	31	59
c) Forwards	-	-	-	-	-	-	-	-
d) Futures	-	-	-	-	-	-	-	-
e) Other	-	-	-	-	-	-	-	-
4. Commodities	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
5. Other	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
TOTAL	**253,424**	**39,360**	**8,461**	**175**	**225,066**	**33,051**	**5,648**	**59**

The average notional amount in the year of the financial hedging derivatives was 235,245 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 31.12.2021				Total 31.12.2020					
	Over the counter			Organised markets	Over the counter			Organised markets	Total 31.12.2021	Total 31.12.2020
	Central Counterparties	Without central counterparties			Central Counterparties	Without central counterparties				
		With netting agreements	Without netting agreements			With netting agreements	Without netting agreements			
Positive fair value										
a) Options	-	26	-	-	-	10	-	-	-114	-155
b) Interest rate swap	2,816	712	61	-	3,082	834	1	-	2,505	2,682
c) Cross currency swap	-	483	-	-	-	287	-	-	68	103
d) Equity swap	-	-	-	-	-	-	-	-	-	-
e) Forwards	-	-	-	-	-	-	1	-	-	-
f) Futures	-	-	-	-	-	-	-	-	-	-
g) Other	-	-	-	-	-	1	-	-	-	-
Total	**2,816**	**1,221**	**61**	**-**	**3,082**	**1,132**	**2**	**-**	**2,459**	**2,630**
Negative fair value										
a) Options	-	2	-	-	-	3	-	-	2	3
b) Interest rate swap	5,238	2,492	63	-	9,455	2,626	161	-	5,743	8,871
c) Cross currency swap	-	380	7	-	-	407	5	-	378	204
d) Equity swap	-	-	-	-	-	-	-	-	-	-
e) Forwards	-	6	1	-	-	-	12	-	-	-
f) Futures	-	-	-	-	-	-	-	-	-	-
g) Other	-	-	-	-	-	-	-	2	-	-
Total	**5,238**	**2,880**	**71**	**-**	**9,455**	**3,036**	**178**	**2**	**6,123**	**9,078**

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

(millions of euro)

Underlying asset	Central counterparties	Banks	Other financial companies	Other counterparties
Contracts not included under netting agreements				
1) Debt securities and interest rates				
- notional amount	X	5,172	3,263	-
- positive fair value	X	33	28	-
- negative fair value	X	-53	-11	-
2) Equities and stock indices				
- notional amount	X	-	-	-
- positive fair value	X	-	-	-
- negative fair value	X	-	-	-
3) Foreign exchange rates and gold				
- notional amount	X	26	-	-
- positive fair value	X	-	-	-
- negative fair value	X	-7	-	-
4) Commodities				
- notional amount	X	-	-	-
- positive fair value	X	-	-	-
- negative fair value	X	-	-	-
5) Other				
- notional amount	X	-	-	-
- positive fair value	X	-	-	-
- negative fair value	X	-	-	-
Contracts included under netting agreements				
1) Debt securities and interest rates				
- notional amount	253,424	28,250	1,534	-
- positive fair value	2,816	702	36	-
- negative fair value	-5,238	-1,626	-875	-
2) Equities and stock indices				
- notional amount	-	-	-	-
- positive fair value	-	-	-	-
- negative fair value	-	-	-	-
3) Foreign exchange rates and gold				
- notional amount	-	8,285	1,291	-
- positive fair value	-	458	25	-
- negative fair value	-	-172	-207	-
4) Commodities				
- notional amount	-	-	-	-
- positive fair value	-	-	-	-
- negative fair value	-	-	-	-
5) Other				
- notional amount	-	-	-	-
- positive fair value	-	-	-	-
- negative fair value	-	-	-	-

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

(millions of euro)

Underlying/Residual maturity	Up to 1 year	Between 1 and 5 years	Over 5 year	Total
A.1 Financial derivatives on debt securities and interest rates	59,977	121,797	109,869	291,643
A.2 Financial derivatives on equities and stock indices	-	-	-	-
A.3 Financial derivatives on foreign exchange rates and gold	370	4,536	4,696	9,602
A.4 Financial derivatives on commodities	-	-	-	-
A.5 Other financial derivatives	-	-	-	-
Total 31.12.2021	**60,347**	**126,333**	**114,565**	**301,245**
Total 31.12.2020	**60,460**	**100,373**	**102,932**	**263,765**

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.

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 values, 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.
The fair value hedges also include derivatives index-linked to benchmarks impacted by the reform, specifically to the EONIA and the LIBOR, for the various currencies, which are being replaced with new risk-free interest rates. In Europe, the EONIA fixing, calculated starting from October 2019 based on the new risk-free rate €STR, was published until the end of 3 January 2022, in reference to operations as at 31 December 2021, and then permanently replaced by €STR. For the LIBOR fixing, publication took place until 31 December 2021, with the exception of the USD LIBOR, the discontinuation of which was postponed until June 2023, and there are alternative risk-free rates available in the individual nations, which will replace the LIBOR. In further detail, 31 December 2021 was the final date for publication of the one-week and two-month USD LIBOR rates, whereas the USD LIBOR rates on the other maturities will continue to be published until 30 June 2023.

Specifically, as at 31 December 2021, there were fair value hedges linked to parameters impacted by the reform, with a total notional value of 16,712 million (48,175 million euro as at 31 December 2020), relating to the following parameters:
- EONIA with a notional value of 4 million euro (32,461 million euro as at 31 December 2020);
- USD LIBOR with a notional value of 16,646 million euro (15,266 million euro as at 31 December 2020);
- other rates impacted by the reform represented by LIBOR in other currencies for a notional value of 62 million euro (448 million euro at 31 December 2020).

The total notional value of the fair value hedge derivatives impacted by the reform represents 6% of the Group's total of fair value hedge derivatives (19% as at 31 December 2020). In 2021, there was also a progressive increase in the use of derivatives indexed to the €STR in the hedging subject to hedge accounting.

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 2021. 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)	Micro-hedges			Macro-hedges: book value
			Cumulative fair value changes (hedged instrument)	Termination of hedging: residual cumulative fair value changes	Changes in value used to assess hedge ineffectiveness	
A. Assets						
1. Financial assets designated at fair value through other comprehensive income – hedging of:	**46,591**	**-**	**-277**	**453**	**-226**	**-**
1.1 Debt securities and interest rates	43,778	-	-266	453	-264	X
1.2 Equities and stock indices	-	-	-	-	-	X
1.3 Foreign exchange rates and gold	-	-	-	-	-	X
1.4 Loans	-	-	-	-	-	X
1.5 Other	2,813	-	-11	-	38	X
2. Financial assets measured at amortised cost - hedging of:	**38,088**	**-**	**3,660**	**-263**	**2,999**	**76,009**
1.1 Debt securities and interest rates	37,379	-	3,307	-263	2,642	X
1.2 Equities and stock indices	-	-	-	-	-	X
1.3 Foreign exchange rates and gold	118	-	-2	-	-	X
1.4 Loans	-	-	-	-	-	X
1.5 Other	591	-	355	-	357	X
Total 31.12.2021	**84,679**	**-**	**3,383**	**190**	**2,773**	**76,009**
Total 31.12.2020	**77,913**	**-**	**6,187**	**634**	**5,246**	**77,305**
B. Liabilities						
1. Financial liabilities measured at amortised cost - hedging of:	**61,269**	**-**	**740**	**3**	**697**	**61,554**
1.1 Debt securities and interest rates	56,334	-	720	3	669	X
1.2 Foreign exchange rates and gold	-	-	-	-	-	X
1.3 Other	4,935	-	20	-	28	X
Total 31.12.2021	**61,269**	**-**	**740**	**3**	**697**	**61,554**
Total 31.12.2020	**60,506**	**-**	**1,949**	**-5**	**2,084**	**34,996**

D.2 Cash flow hedges and hedges of foreign investments

(millions of euro)

			Change in value used to assess hedge ineffectiveness	Hedging reserves	Termination of hedging: residual cumulative value of the hedging reserves
A. Cash flow hedge					
1. Assets			**-52**	**-40**	**-**
1.1 Debt securities and interest rates			-52	-40	-
1.2 Equities and stock indices			-	-	-
1.3 Foreign exchange rates and gold			-	-	-
1.4 Loans			-	-	-
1.5 Other			-	-	-
2. Liabilities			**-699**	**-567**	**-**
1.1 Debt securities and interest rates			-699	-567	-
1.2 Foreign exchange rates and gold			-	-	-
1.3 Other			-	-	-
Total (A)	**31.12.2021**		**-751**	**-607**	**-**
Total (A)	**31.12.2020**		**-1,038**	**-781**	**-**
B. Hedges of foreign investments			X	-	-
Total (A+B)	**31.12.2021**		**-751**	**-607**	**-**
Total (A+B)	**31.12.2020**		**-1,038**	**-781**	**-**

E. Effects of hedging on shareholders' equity

E.1 Reconciliation of components of shareholders' equity

(millions of euro)

	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**
Initial amount	**-781**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Fair value changes (effective portion)	174	-	-	-	-	-	-	-	-	-
Reclassification to the income statement	-	-	-	-	-	-	-	-	-	-
of which: future transaction not expected	-	-	-	-	-	*X*	*X*	*X*	*X*	*X*
Other changes	-	-	-	-	-	-	-	-	-	-
of wich: transfer to initial book value	-	-	-	-	-	*X*	*X*	*X*	*X*	*X*
Final amount	**-607**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

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

(millions of euro)

	Central counterparties	Banks	Other financial companies	Other counterparties
A. Financial derivatives				
1) Debt securities and interest rates				
- notional amount	1,784,370	-	-	-
- positive net fair value	-	-	-	-
- negative net fair value	-2,352	-	-	-
2) Equities and stock indices				
- notional amount	-	-	-	-
- positive net fair value	-	-	-	-
- negative net fair value	-	-	-	-
3) Foreign exchange rates and gold				
- notional amount	-	-	-	1
- positive net fair value	-	-	-	-
- negative net fair value	-	-	-	-
4) Commodities				
- notional amount	-	-	-	-
- positive net fair value	-	-	-	-
- negative net fair value	-	-	-	-
5) Other				
- notional amount	-	-	-	-
- positive net fair value	-	-	-	-
- negative net fair value	-	-	-	-
B. Credit derivatives				
1) Protection purchases				
- notional amount	-	-	-	-
- positive net fair value	-	-	-	-
- negative net fair value	-	-	-	-
2) Protection sales				
- 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 overall negative result of 2,352 million euro (negative fair value of 43,435 million euro and positive fair value of 41,083 million euro) is reported in Part B of the Notes to the financial statements under hedging derivatives liabilities at 1,842 million euro for the first transaction type and under financial liabilities held for trading at 510 million euro for the second transaction types.