

## 49. Fair value

Fair value is based on market prices, whenever these are available. If market prices are not available, as occurs regarding many products sold to clients, fair value is estimated through internal models based on cash-flow discounting techniques. Cash-flows for the different instruments sold are calculated according to its financial characteristics and the discount rates used include both the market interest rate curve and the current conditions of the Bank's pricing policy.

Thus, the fair value obtained is influenced by the parameters used in the evaluation model that have some degree of judgment and reflects exclusively the value attributed to different financial instruments. However, it does not consider prospective factors, as the future business evolution. Therefore, the values presented cannot be understood as an estimate of the economic value of the Bank.

The main methods and assumptions used in estimating the fair value for the financial assets and financial liabilities are presented as follows:

### **Cash and deposits at Central Banks and Loans and advances to credit institutions repayable on demand**

Considering the short term of these financial instruments, the amount in the balance sheet is a reasonable estimate of its fair value.

### **Loans and advances to credit institutions, Deposits from credit institutions and Assets with repurchase agreements**

The fair value of these financial instruments is calculated discounting the expected principal and interest future cash flows for these instruments, considering that the payments of the instalments occur in the contractually defined dates. This update is made based on the prevailing market rate for the term of each cash flow plus the average spread of the production of the most recent 3 months of the same. For the elements with signs of impairment, the net impairment of these operations is considered as a reasonable estimate of their fair value, considering the economic valuation that is realized in the determination of this impairment.

For resources from Central Banks it was considered that the book value is a reasonable estimate of its fair value, given the nature of operations and the associated short-term. The rate of return of funding with the European Central Bank is -0.5% as at 31 December 2020 (31 December 2019: -0.4%).

For the remaining loans and advances and deposits, the discount rate used reflects the current conditions applied by the Bank on identical instruments for each of the different residual maturities (rates from the monetary market or from the interest rate swap market).

### **Loans and advances to customers without defined maturity date**

Considering the short maturity of these financial instruments, the conditions of the portfolio are similar to conditions used at the date of the report. Therefore, the amount in the balance sheet is a reasonable estimate of its fair value.

### **Loans and advances to customers with defined maturity date**

The fair value of these instruments is calculated by discounting the expected principal and interest future cash flows for these instruments, considering that the payments of the instalments occur in the contractually defined dates. For loans with signs of impairment, the net impairment of these operations is considered as a reasonable estimate of their fair value, considering the economic valuation that is realized in the determination of this impairment.

The discount rate used is the one that reflects the current rates of the Bank for each of the homogeneous classes of this type of instruments and with similar residual maturity. The discount rate includes the market rates for the residual maturity date (rates from the monetary market or from the interest rate swap market) and the spread used at the date of the report, which was calculated from the average production of the three most recent months compared to the reporting date.

## Resources from customers and other loans

The fair value of these financial instruments is calculated by discounting the expected principal and interest future cash flows for the referred instruments, considering that payments occur in the contractually defined dates. The discount rate used reflects the current conditions applied by the Bank in similar instruments with a similar maturity. The discount rate includes the market rates of the residual maturity date (rates of monetary market or the interest rate swap market, at the end of the period) and the actual spread of the Bank. This was calculated from the average production of the three most recent months compared to the reporting date.

The average discount rates for Loans and advances to credit institutions, Loans and advances to customers, Resources from credit institutions and Resources from customers are analysed as follows:

	Loans and advances to credit institutions		Loans and advances to customers		Resources from credit institutions		Resources from customers	
	2020	2019	2020	2019	2020	2019	2020	2019
EUR	0.53%	0.66%	1.84%	2.26%	0.17%	0.57%	-0.17%	-0.08%
AOA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
AUD	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.29%	1.17%
CAD	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.59%	2.05%
CHF	n.a.	n.a.	2.20%	2.30%	n.a.	n.a.	-0.37%	-0.45%
CNY	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.35%	2.64%
DKK	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-0.12%	-0.29%
GBP	n.a.	0.83%	3.19%	3.88%	n.a.	n.a.	0.22%	0.94%
HKD	n.a.	n.a.	0.43%	n.a.	n.a.	n.a.	0.07%	2.99%
MOP	n.a.	n.a.	0.37%	2.29%	n.a.	n.a.	0.43%	2.35%
MZN	11.36%	n.a.	11.48%	15.81%	n.a.	n.a.	6.39%	9.66%
NOK	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.79%	2.08%
PLN	-0.13%	1.60%	4.51%	5.73%	0.10%	1.31%	0.10%	1.55%
SEK	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.29%	0.44%
USD	0.68%	2.13%	1.40%	3.45%	0.58%	1.93%	0.05%	1.62%
ZAR	6.77%	7.20%	9.55%	11.58%	n.a.	n.a.	1.79%	3.72%

## Financial assets and liabilities measured at fair value through profit or loss (except derivatives), financial assets at fair value through other comprehensive income

These financial instruments are accounted for at fair value. Fair value is based on market prices ("Bid-price"), whenever these are available. If market prices are not available, fair value is estimated through numerical models based on cash-flow discounting techniques, using the market interest rate curve adjusted for factors associated, predominantly credit risk and liquidity risk, determined in accordance with the market conditions and time frame.

Market interest rates are determined based on information released by the suppliers of financial content - Reuters and Bloomberg - more specifically because of prices of interest rate swaps. The values for the very short-term rates are obtained from similar sources but regarding interbank money market. The interest rate curve obtained is calibrated with the values of interest rate short-term futures. Interest rates for specific periods of the cash flows are determined by appropriate interpolation methods. The same interest rate curves are used in the projection of the non-deterministic cash flows such as indexes.

When optionality is involved, the standard templates (Black-Scholes, Black, Ho and others) are used considering the volatility areas applicable. Whenever there are no references in the market of sufficient quality or that the available models do not fully apply to meet the characteristics of the financial instrument, specific quotations supplied by an external entity are applied, typically a counterparty of the business.

## Financial assets measured at amortised cost - Debt securities

These financial instruments are accounted at amortised cost net of impairment. Fair value is based on market prices, whenever these are available. If market prices are not available, fair value is estimated through numerical models based on cash-flow discounting techniques, using the market interest rate curve adjusted for factors associated, predominantly credit risk and liquidity risk, determined in accordance with the market conditions and time frame.

## Hedging and trading derivatives

All derivatives are recorded at fair value. In case of derivative contracts that are quoted in organised markets their market prices are used. As for derivatives traded "Over-the-counter", it is applied methods based on numerical cash-flow discounting techniques and models for assessment of options considering variables of the market, particularly the interest rates on the instruments in question, and where necessary, their volatilities.

Interest rates are determined based on information disseminated by the suppliers of financial content - Reuters and Bloomberg - more specifically those resulting from prices of interest rate swaps. The values for the very short-term rates are obtained from a similar source but regarding interbank money market. The interest rate curve obtained is calibrated with the values of interest rate short-term futures. Interest rates for specific periods of the cash flows are determined by appropriate interpolation methods. The interest rate curves are used in the projection of the non-deterministic cash flows such as indexes.

## Debt securities non subordinated issued and subordinated debt

For these financial instruments the fair value was calculated for components for which fair value is not yet reflected in the balance sheet. Fixed rate remunerated instruments for which the Group adopts "hedge-accounting", the fair value related to the interest rate risk is already recognised. For the fair value calculation, other components of risk were considered, in addition to the interest rate risk already recorded, when applicable. The fair value is based on market prices, whenever these are available. If market prices are not available, fair value is estimated through numerical models based on cash-flow discounting techniques, using the market interest rate curve adjusted by associated factors, predominantly credit risk and trading margin, the latter only in the case of issues placed on non-institutional customers of the Group.

As original reference, the Group applies the curves resulting from the market interest rate swaps for each specific currency. The credit risk (credit spread) is represented by an excess from the curve of interest rate swaps established specifically for each term and class of instruments based on the market prices on equivalent instruments.

For own issued debts placed among non-institutional customers of the Group, one more differential was added (commercial spread), which represents the margin between the financing cost in the institutional market and the cost obtained by distributing the respective instrument in the owned commercial network.

The average of the reference rates of the yield curve obtained from the market prices of the different currencies used in the determination of the fair value of the issues is analysed as follows:

	2020			2019		
	EUR	PLN	USD	EUR	PLN	USD
<b>Placed in the institutional market</b>						
Subordinated	5.53%	0.14%	—	5.05%	—	—
Senior	1.57%	—	—	0.04%	—	—
Covered bonds	-0.03%	—	—	-0.01%	—	—
<b>Placed in retail</b>						
Subordinated	1.90%	—	—	3.88%	—	—
Senior and collateralised	-0.10%	0.84%	0.00%	0.10%	1.99%	2.37%

For debt securities, the fair value calculation focused on all the components of these instruments, as a result the difference determined is a positive amount of Euros 20,513,000 (31 December 2019: a positive amount of Euros 29,017,000) and includes a payable amount of Euros 4,426,000 (31 December 2019: a payable amount of Euros 13,726,000) which reflects the fair value of embedded derivatives and are recorded in financial assets and liabilities held for trading (note 23 and 36).

The following table presents the interest rates used in the definition of the interest rate curves of main currencies, namely EUR, USD, GBP and PLN used to determine the fair value of the financial assets and liabilities of the Group:

	2020				2019			
	EUR	USD	GBP	PLN	EUR	USD	GBP	PLN
1 day	-0.55%	0.33%	0.09%	0.04%	-0.47%	1.73%	0.73%	1.45%
7 days	-0.54%	0.34%	0.09%	0.04%	-0.47%	1.70%	0.74%	1.45%
1 month	-0.54%	0.31%	0.11%	0.10%	-0.47%	1.75%	0.75%	1.53%
2 months	-0.53%	0.30%	0.11%	0.10%	-0.44%	1.79%	0.80%	1.57%
3 months	-0.52%	0.30%	0.12%	0.11%	-0.43%	1.81%	0.83%	1.61%
6 months	-0.49%	0.32%	0.15%	0.15%	-0.38%	1.84%	0.90%	1.69%
9 months	-0.47%	0.34%	0.17%	0.15%	-0.35%	1.86%	0.93%	1.70%
1 year	-0.52%	0.19%	0.18%	0.14%	-0.32%	1.75%	0.97%	1.70%
2 years	-0.52%	0.20%	0.03%	0.21%	-0.29%	1.67%	0.80%	1.75%
3 years	-0.51%	0.24%	0.09%	0.32%	-0.24%	1.65%	0.82%	1.75%
5 years	-0.46%	0.43%	0.19%	0.61%	-0.12%	1.70%	0.88%	1.79%
7 years	-0.38%	0.65%	0.28%	0.83%	0.02%	1.76%	0.94%	1.82%
10 years	-0.27%	0.92%	0.40%	1.09%	0.21%	1.86%	1.02%	1.87%
15 years	-0.07%	1.18%	0.52%	1.47%	0.47%	1.97%	1.10%	1.98%
20 years	0.01%	1.31%	0.57%	1.57%	0.60%	2.02%	1.12%	2.07%
30 years	-0.03%	1.40%	0.57%	1.57%	0.63%	2.05%	1.11%	2.07%

The following table shows the fair value of financial assets and liabilities of the Group, as at 31 December 2020:

(Thousands of euros)					
2020					
	Fair value through profit or loss	Fair value through other comprehensive income	Amortised cost	Book value	Fair value
<b>Assets</b>					
Cash and deposits at Central Banks	–	–	5,303,864	5,303,864	5,303,864
Loans and advances to credit institutions repayable on demand	–	–	262,395	262,395	262,395
Financial assets at amortised cost					
Loans and advances to credit institutions	–	–	1,015,087	1,015,087	1,006,561
Loans and advances to customers (i)	–	–	52,120,815	52,120,815	51,616,636
Debt securities	–	–	6,234,545	6,234,545	6,320,581
Financial assets at fair value through profit or loss					
Financial assets held for trading	1,031,201	–	–	1,031,201	1,031,201
Financial assets not held for trading mandatorily at fair value through profit or loss	1,315,467	–	–	1,315,467	1,315,467
Financial assets designated at fair value through profit or loss					
Financial assets at fair value through other comprehensive income	–	12,140,392	–	12,140,392	12,140,392
Hedging derivatives (ii)	91,249	–	–	91,249	91,249
	2,437,917	12,140,392	64,936,706	79,515,015	79,088,346
<b>Liabilities</b>					
Financial liabilities at amortised cost					
Resources from credit institutions	–	–	8,898,759	8,898,759	8,899,871
Resources from customers (i)	–	–	63,000,829	63,000,829	63,008,920
Non subordinated debt securities issued (i)	–	–	1,388,849	1,388,849	1,409,362
Subordinated debt (i)	–	–	1,405,172	1,405,172	1,419,565
Financial liabilities at fair value through profit or loss					
Financial liabilities held for trading	278,851	–	–	278,851	278,851
Financial liabilities designated at fair value through profit or loss	1,599,405	–	–	1,599,405	1,599,405
Hedging derivatives (ii)	285,766	–	–	285,766	285,766
	2,164,022	–	74,693,609	76,857,631	76,901,740

(i) - The book value includes the effect of the adjustments resulting from the application of hedge accounting;

(ii) - Includes a portion that is recognised in reserves in the application of accounting cash flow hedge.

The following table shows the fair value of financial assets and liabilities of the Group, as at 31 December 2019:

	(Thousands of euros)				
	2019				
	Fair value through profit or loss	Fair value through other comprehensive income	Amortised cost	Book value	Fair value
<b>Assets</b>					
Cash and deposits at Central Banks	–	–	5,166,551	5,166,551	5,166,551
Loans and advances to credit institutions repayable on demand	–	–	320,857	320,857	320,857
Financial assets at amortised cost					
Loans and advances to credit institutions	–	–	892,995	892,995	881,873
Loans and advances to customers (i)	–	–	49,847,829	49,847,829	49,421,513
Debt securities	–	–	3,185,876	3,185,876	3,199,965
Financial assets at fair value through profit or loss					
Financial assets held for trading	878,334	–	–	878,334	878,334
Financial assets not held for trading mandatorily at fair value through profit or loss	1,405,513	–	–	1,405,513	1,405,513
Financial assets designated at fair value through profit or loss	31,496	–	–	31,496	31,496
Financial assets at fair value through other comprehensive income	–	13,216,701	–	13,216,701	13,216,701
Hedging derivatives (ii)	45,141	–	–	45,141	45,141
	2,360,484	13,216,701	59,414,108	74,991,293	74,567,944
<b>Liabilities</b>					
Financial liabilities at amortised cost					
Resources from credit institutions	–	–	6,366,958	6,366,958	6,353,655
Resources from customers (i)	–	–	59,127,005	59,127,005	59,134,647
Non subordinated debt securities issued (i)	–	–	1,594,724	1,594,724	1,623,741
Subordinated debt (i)	–	–	1,577,706	1,577,706	1,685,810
Financial liabilities at fair value through profit or loss					
Financial liabilities held for trading	343,933	–	–	343,933	343,933
Financial liabilities designated at fair value through profit or loss	3,201,309	–	–	3,201,309	3,201,309
Hedging derivatives (ii)	229,923	–	–	229,923	229,923
	3,775,165	–	68,666,393	72,441,558	72,573,018

(i) - The book value includes the effect of the adjustments resulting from the application of hedge accounting;

(ii) - Includes a portion that is recognised in reserves in the application of accounting cash flow hedge.

The Group classified the financial instruments recorded in the balance sheet at fair value in accordance with the hierarchy established in IFRS 13. The fair value of financial instruments is determined using quotations recorded in active and liquid markets, considering that a market is active and liquid whenever its stakeholders conduct transactions on a regular basis giving liquidity to the instruments traded. When it is verified that there are no transactions that regularly provide liquidity to the traded instruments, valuation methods and techniques are used to determine the fair value of the financial instruments.

## Level 1 - With quotation in active market

In this category are included, in addition to financial instruments traded on a regulated market, bonds and units of investment funds valued based on the prices disclosed through trading systems.

The classification of the fair value of level 1 is used when:

- i) - There is a firm daily enforceable quotation for the financial instruments concerned, or;
- ii) - There is a quotation available in market information systems that aggregate multiple prices of various stakeholders, or;
- iii) - Financial instruments have been classified in level 1, at least 90% of trading days in the year (at the valuation date).

## Level 2 - Valuation methods and techniques based on market data

Financial instruments, when there are no regular transactions in the active and liquid markets (level 1), are classified in level 2, according to the following rules:

- i) - Failure to comply with the rules defined for level 1, or;
- ii) - They are valued based on valuation methods and techniques that use mostly observable market data (interest rate or exchange rate curves, credit curves, etc.).

Level 2 includes over-the-counter derivative financial instruments contracted with counterparties with which the Bank maintains collateral agreements (ISDAs with Credit Support Annex (CSA)), in particular with MTA (Minimum Transfer Amount) which contributes to the mitigation of the counterparty credit risk, so that the CVA (Credit Value Adjustment) component is not significant. In addition, derivative financial instruments traded in the over-the-counter market, which, despite not having CSA agreements, the non-observable market data component (i.e. internal ratings, default probabilities determined by internal models, etc.) incorporated in valuation of CVA is not significant in the value of the derivative as a whole. In order to assess the significance of this component, the Bank defined a quantitative relevance criterion and performed a qualitative sensitivity analysis on the valuation component that includes unobservable market data.

## Level 3 - Valuation methods and techniques based on data not observable in the market

If the level 1 or level 2 criteria are not met, financial instruments should be classified in level 3, as well as in situations where the fair value of financial instruments results from the use of information not observable in the market, such as:

- financial instruments which are not classified as level 1 and which are valued using evaluation methods and techniques without being known or where there is consensus on the criteria to be used, namely:
  - i) - They are valued using comparative price analysis of financial instruments with risk and return profile, typology, seniority or other similar factors, observable in the active and liquid markets;
  - ii) - They are valued based on performance of impairment tests, using performance indicators of the underlying transactions (e.g. default probability rates of the underlying assets, delinquency rates, evolution of the ratings, etc.);
  - iii) - They are valued based on NAV (Net Asset Value) disclosed by the management entities of securities/real estate/other investment funds not listed on a regulated market.

Level 3 includes over-the-counter derivative financial instruments that have been contracted with counterparties with which the Bank does not maintain collateral exchange agreements (CSAs), and whose unobservable market data component incorporated in the valuation of CVA is significant in the value of the derivative as a whole. In order to assess the significance of this component, the Bank defined a quantitative relevance criterion and performed a qualitative sensitivity analysis on the valuation component that includes unobservable market data.

The following table shows, by valuation levels, the fair value of financial assets and liabilities of the Group as at 31 December 2020:

	(Thousands of euros)			
	2020			
	Level 1	Level 2	Level 3	Total
<b>Assets</b>				
Cash and deposits at Central Banks	5,303,864	–	–	5,303,864
Loans and advances to credit institutions repayable on demand	262,395	–	–	262,395
Financial assets at amortised cost				
Loans and advances to credit institutions	–	–	1,006,561	1,006,561
Loans and advances to customers	–	–	51,616,636	51,616,636
Debt securities	3,852,938	475,237	1,992,406	6,320,581
Financial assets at fair value through profit or loss				
Financial assets held for trading	481,107	258,821	291,273	1,031,201
Financial assets not held for trading mandatorily at fair value through profit or loss	–	–	1,315,467	1,315,467
Financial assets at fair value through other comprehensive income	11,764,197	215,818	160,377	12,140,392
Hedging derivatives	–	91,249	–	91,249
	21,664,501	1,041,125	56,382,720	79,088,346
<b>Liabilities</b>				
Financial liabilities at amortised cost				
Resources from credit institutions	–	–	8,899,871	8,899,871
Resources from customers	–	–	63,008,920	63,008,920
Non subordinated debt securities issued	–	–	1,409,362	1,409,362
Subordinated debt	–	–	1,419,565	1,419,565
Financial liabilities at fair value through profit or loss				
Financial liabilities held for trading	218	257,275	21,358	278,851
Financial liabilities designated at fair value through profit or loss	678,860	–	920,545	1,599,405
Hedging derivatives	–	285,766	–	285,766
	679,078	543,041	75,679,621	76,901,740



The following table shows, by valuation levels, the fair value of financial assets and liabilities of the Group as at 31 December 2019:

	(Thousands of euros)			
	2019			
	Level 1	Level 2	Level 3	Total
<b>Assets</b>				
Cash and deposits at Central Banks	5,166,551	–	–	5,166,551
Loans and advances to credit institutions repayable on demand	320,857	–	–	320,857
Financial assets at amortised cost				
Loans and advances to credit institutions	–	–	881,873	881,873
Loans and advances to customers	–	–	49,421,513	49,421,513
Debt securities	123,300	703,248	2,373,417	3,199,965
Financial assets at fair value through profit or loss				
Financial assets held for trading	252,683	317,689	307,962	878,334
Financial assets not held for trading mandatorily at fair value through profit or loss	–	–	1,405,513	1,405,513
Financial assets designated at fair value through profit or loss	31,496	–	–	31,496
Financial assets at fair value through other comprehensive income	12,643,402	464,728	108,571	13,216,701
Hedging derivatives	–	45,141	–	45,141
	18,538,289	1,530,806	54,498,849	74,567,944
<b>Liabilities</b>				
Financial liabilities at amortised cost				
Resources from credit institutions	–	–	6,353,655	6,353,655
Resources from customers	–	–	59,134,647	59,134,647
Non subordinated debt securities issued	–	–	1,623,741	1,623,741
Subordinated debt	–	–	1,685,810	1,685,810
Financial liabilities at fair value through profit or loss				
Financial liabilities held for trading	67	280,944	62,922	343,933
Financial liabilities designated at fair value through profit or loss	745,390	–	2,455,919	3,201,309
Hedging derivatives	–	229,923	–	229,923
	745,457	510,867	71,316,694	72,573,018

For financial assets classified at level 3 recorded in the balance sheet at fair value, the movement occurred during 2020 is presented as follows:

(Thousands of euros)

	2020			
	Financial assets			
	Held for trading	Not held for trading mandatorily at fair value through profit or loss	At fair value through other comprehensive income	Financial liabilities held for trading (*)
<b>Balance as at 1 January</b>	307,962	1,405,513	108,571	15,350
Gains / (losses) recognised in profit or loss				
Results on financial operations	(1,493)	(72,884)	–	(10,362)
Net interest income	–	15,690	–	–
Transfers between levels	151	–	7,073	2,763
Purchases / (Sales, repayments or amortisations)	(15,347)	(5,766)	52,391	(598)
Gains / (losses) recognised in reserves	–	–	(7,155)	–
Exchange differences	–	(27,086)	(844)	–
Accruals of interest	–	–	341	–
<b>Balance as at 31 December</b>	291,273	1,315,467	160,377	7,153

(\*) Do not include short sales in the amount of Euros 14,205,000 (note 36).

For financial assets classified at level 3 recorded in the balance sheet at fair value, the movement occurred during 2019 is presented as follows:

(Thousands of euros)

	2019			
	Financial assets			
	Held for trading	Not held for trading mandatorily at fair value through profit or loss	At fair value through other comprehensive income	Financial liabilities held for trading (*)
<b>Balance as at 1 January</b>	308,153	1,404,684	27,786	8,900
Gains / (losses) recognised in profit or loss				
Results on financial operations	2,210	(13,620)	–	6,428
Net interest income	–	26,968	–	–
Transfers between portfolios	(4,059)	–	–	–
Transfers between levels	(3,378)	–	83,815	(14)
Purchases / (Sales, repayments or amortisations)	5,036	(15,743)	(6,733)	36
Gains / (losses) recognised in reserves	–	–	3,519	–
Exchange differences	–	3,224	82	–
Accruals of interest	–	–	102	–
<b>Balance as at 31 December</b>	307,962	1,405,513	108,571	15,350

(\*) Do not include short sales in the amount of Euros 47,572,000 (note 36).