

44. 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	0.84%	2.54%	1.81%	2.23%	-0.18%	0.25%	-0.17%	-0.07%
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.	n.a.	n.a.	n.a.	n.a.	-0.37%	-0.35%
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	0.45%	n.a.	3.19%	3.88%	n.a.	n.a.	0.28%	1.01%
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%
NOK	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.79%	2.08%
PLN	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.42%	1.84%
SEK	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.29%	0.44%
USD	0.62%	2.10%	1.26%	2.83%	0.58%	1.91%	0.51%	2.05%
ZAR	n.a.	7.25%	n.a.	n.a.	n.a.	n.a.	6.28%	7.16%

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 instruments

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 instruments remunerated 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 Bank.

As original reference, the Bank 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 Bank, 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 reference yield curve obtained from market prices in Euros and used in the calculation of the fair value of subordinated issues placed in the institutional market was 5.68% (31 December, 2019: 5.23%). Regarding the subordinated issues placed on the retail market it was determined a discount rate of 1.90% (31 December, 2019: 3.88%). For senior and collateralised securities placed on the retail market, the average discount rate was -0.10% (31 December 2019: 0.10%).

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 287,000 (31 December 2019: a positive amount of Euros 22,994,000), and includes a payable amount of Euros 137,000 (31 December 2019: a receivable amount of Euros 610,000) which reflects the fair value of embedded derivatives and are recorded in financial assets and liabilities held for trading.

As at 31 December 2020 and 2019, 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 assets and liabilities of the Bank:

	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 Bank, as at 31 December 2020:

(Thousands of euros)					
	2020				
	Fair value through profit or loss	Fair value through reserves	Amortised cost	Book value	Fair value
Assets					
Cash and deposits at Central Banks	–	–	4,650,772	4,650,772	4,650,772
Loans and advances to credit institutions repayable on demand	–	–	101,809	101,809	101,809
Financial assets at amortised cost					
Loans and advances to credit institutions	–	–	350,896	350,896	350,415
Loans and advances to customers (i)	–	–	35,029,071	35,029,071	35,081,003
Debt instruments	–	–	5,577,875	5,577,875	5,665,739
Financial assets at fair value through profit or loss					
Financial assets held for trading	945,317	–	–	945,317	945,317
Financial assets not held for trading mandatorily at fair value through profit or loss	1,277,826	–	–	1,277,826	1,277,826
Financial assets at fair value through other comprehensive income					
	–	8,085,669	–	8,085,669	8,085,669
Hedging derivatives (ii)	74,704	–	–	74,704	74,704
	2,297,847	8,085,669	45,710,423	56,093,939	56,233,254
Liabilities					
Financial liabilities at amortised cost					
Resources from credit institutions	–	–	10,960,177	10,960,177	11,042,050
Resources from customers (i)	–	–	41,380,458	41,380,458	41,385,408
Non subordinated debt securities issued (i)	–	–	1,814,653	1,814,653	1,814,940
Subordinated debt (i)	–	–	976,882	976,882	972,121
Financial liabilities at fair value through profit or loss					
Financial liabilities held for trading	243,934	–	–	243,934	243,934
Financial liabilities designated at fair value through profit or loss					
	1,599,405	–	–	1,599,405	1,599,405
Hedging derivatives (ii)	121,559	–	–	121,559	121,559
	1,964,898	–	55,132,170	57,097,068	57,179,417

(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 Bank, as at 31 December 2019:

(Thousands of euros)					
	2019				
	Fair value through profit or loss	Fair value through reserves	Amortised cost	Book value	Fair value
Assets					
Cash and deposits at Central Banks	–	–	4,049,676	4,049,676	4,049,676
Loans and advances to credit institutions repayable on demand	–	–	126,050	126,050	126,050
Financial assets at amortised cost					
Loans and advances to credit institutions	–	–	514,309	514,309	513,367
Loans and advances to customers (i)	–	–	32,386,351	32,386,351	32,459,652
Debt instruments	–	–	2,448,401	2,448,401	2,462,053
Financial assets at fair value through profit or loss					
Financial assets held for trading	642,358	–	–	642,358	642,358
Financial assets not held for trading mandatorily					
at fair value through profit or loss	1,444,772	–	–	1,444,772	1,444,772
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					
	–	8,078,870	–	8,078,870	8,078,870
Hedging derivatives (ii)	34,990	–	–	34,990	34,990
	2,153,616	8,078,870	39,524,787	49,757,273	49,843,284
Liabilities					
Financial liabilities at amortised cost					
Resources from credit institutions	–	–	8,181,865	8,181,865	8,216,520
Resources from customers (i)	–	–	36,492,065	36,492,065	36,501,585
Non subordinated debt securities issued (i)	–	–	1,496,508	1,496,508	1,519,502
Subordinated debt (i)	–	–	1,125,053	1,125,053	1,196,452
Financial liabilities at fair value through profit or loss					
Financial liabilities held for trading	269,166	–	–	269,166	269,166
Financial liabilities designated					
at fair value through profit or loss	3,201,310	–	–	3,201,310	3,201,310
Hedging derivatives (ii)	121,474	–	–	121,474	121,474
	3,591,950	–	47,295,491	50,887,441	51,026,009

(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 Bank 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 on the basis of 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 Bank, as at 31 December 2020:

	(Thousands of euros)			
	2020			
	Level 1	Level 2	Level 3	Total
Assets				
Cash and deposits at Central Banks	4,650,772	–	–	4,650,772
Loans and advances to credit institutions repayable on demand	101,809	–	–	101,809
Financial assets at amortised cost				
Loans and advances to credit institutions	–	–	350,415	350,415
Loans and advances to customers	–	–	35,081,003	35,081,003
Debt instruments	3,796,492	229,830	1,639,417	5,665,739
Financial assets at fair value through profit or loss				
Financial assets held for trading	421,754	238,513	285,050	945,317
Financial assets not held for trading mandatorily at fair value through profit or loss	–	–	1,277,826	1,277,826
Financial assets at fair value through other comprehensive income	7,717,765	169,116	198,788	8,085,669
Hedging derivatives	–	74,704	–	74,704
	16,688,592	712,163	38,832,499	56,233,254
Liabilities				
Financial liabilities at amortised cost				
Resources from credit institutions	–	–	11,042,050	11,042,050
Resources from customers	–	–	41,385,408	41,385,408
Non subordinated debt securities issued	–	–	1,814,940	1,814,940
Subordinated debt	–	–	972,121	972,121
Financial liabilities at fair value through profit or loss				
Financial liabilities held for trading	–	241,171	2,763	243,934
Financial liabilities designated at fair value through profit or loss	678,860	–	920,545	1,599,405
Hedging derivatives	–	121,559	–	121,559
	678,860	362,730	56,137,827	57,179,417

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

	(Thousands of euros)			
	2019			
	Level 1	Level 2	Level 3	Total
Assets				
Cash and deposits at Central Banks	4,049,676	–	–	4,049,676
Loans and advances to credit institutions repayable on demand	126,050	–	–	126,050
Financial assets at amortised cost				
Loans and advances to credit institutions	–	–	513,367	513,367
Loans and advances to customers	–	–	32,459,652	32,459,652
Debt instruments	123,300	235,606	2,103,147	2,462,053
Financial assets at fair value through profit or loss				
Financial assets held for trading	46,703	303,933	291,722	642,358
Financial assets not held for trading mandatorily at fair value through profit or loss				
Financial assets designated at fair value through profit or loss	–	–	1,444,772	1,444,772
Financial assets at fair value through other comprehensive income	31,496	–	–	31,496
Hedging derivatives	7,718,032	152,712	208,126	8,078,870
	–	34,990	–	34,990
	12,095,257	727,241	37,020,786	49,843,284
Liabilities				
Financial liabilities at amortised cost				
Resources from credit institutions	–	–	8,216,520	8,216,520
Resources from customers	–	–	36,501,585	36,501,585
Non subordinated debt securities issued	–	–	1,519,502	1,519,502
Subordinated debt	–	–	1,196,452	1,196,452
Financial liabilities at fair value through profit or loss				
Financial liabilities held for trading	–	269,166	–	269,166
Financial liabilities designated at fair value through profit or loss	745,390	–	2,455,920	3,201,310
Hedging derivatives	–	121,474	–	121,474
	745,390	390,640	49,889,979	51,026,009

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

(Thousands of euros)

	2020			
	Financial assets			Financial liabilities held for trading
	held for trading	not held for trading mandatorily at fair value through profit or loss	at fair value through other comprehensive income	
Balance on 1 January	291,722	1,444,772	208,126	–
Gains / (losses) recognised in:				
Results on financial operations	(452)	(101,402)	–	–
Net interest income	22	–	1,234	–
Transfers between levels	151	–	7,003	2,763
Increase / (reduction) share capital	–	(1,500)	–	–
Purchases	(6,393)	(64,044)	(4,682)	–
Gains / (losses) recognised in reserves	–	–	(12,829)	–
Accruals of interest	–	–	(64)	–
Balance as at 31 December	285,050	1,277,826	198,788	2,763

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

(Thousands of euros)

	2019			
	Financial assets			Financial liabilities held for trading
	held for trading	not held for trading mandatorily at fair value through profit or loss	at fair value through other comprehensive income	
Balance on 1 January	293,968	1,589,899	153,968	18
Gains / (losses) recognised in:				
Results on financial operations	519	(43,002)	–	–
Net interest income	16	–	586	–
Transfers between levels	(3,378)	–	83,815	(14)
Purchases	597	(102,125)	(26,676)	(4)
Gains / (losses) recognised in reserves	–	–	(3,743)	–
Accruals of interest	–	–	176	–
Balance as at 31 December	291,722	1,444,772	208,126	–