

Financial assets at fair value through profit and loss and Financial assets at fair value through other comprehensive income

These financial instruments are measured at fair value for the Angolan public debt securities. Fair value is based on market prices (BODIVA), whenever these are available. Otherwise, fair value is estimated through numerical models based on cash flow discounting techniques, using the interest rate curve adjusted for factors associated, predominantly the credit risk and liquidity risk, determined in accordance with the market conditions and time frame.

Interest rates are determined based on information disseminated by financial content providers and BNA. Interest rates for specific periods of the cash flows are determined by appropriate interpolation methods. The same interest rate curves are also used in the projection of the non-deterministic cash flows, such as indexes.

For investment funds, the best fair value estimate considered is the financial statements of these bodies at the Bank's balance sheet date and, where possible, with the Auditor's Report.

Financial assets at amortised cost

The fair value of these instruments is based on market prices, whenever these are available. Otherwise, fair value is estimated through the update of expected cash flows of future capital and interest for these instruments.

For disclosure purposes, Treasury Bills have short-term residual maturities and Treasury Bonds in foreign currency bear interest rates in line with the comparable market rates in force, and therefore their carrying amount represents substantially the fair value of these assets.

Loans and advances to Customers

The fair value of loans and advances to Customers is calculated based on the update of expected principal and interest future cash flows, considering that the payments of the instalments occur in the contractually defined dates. The expected future cash flows of homogeneous credit portfolios, such as mortgage loans, are estimated on a portfolio basis. The discount rates used are the current rates charged for loans with similar characteristics.

Deposits from central banks and other credit institutions

The fair value of loans and advances to Customers is calculated based on the update of expected principal and interest future cash flows, considering that the payments of the instalments occur in the contractually defined dates.

Deposits from Customers

The fair value of these financial instruments is calculated based on the expected principal and interest future cash flows. The discount rate used reflects the rates charged for deposits with similar characteristics at the balance sheet date. Considering that the applicable interest rates are renewed for periods of less than one year, there are no material differences in their fair value.

Exchange rates

Concerning the exchange rates, the Bank uses in its valuation models the spot rate observed in the market at the time of the valuation.

Note 35. Risk Management

Main risk categories

Credit – Credit risk is the uncertainty of recovery of an investment and its return, due to the debtor's (or guardian, if applicable) inability to fulfil its financial commitments to the Bank, causing a financial loss to the creditor. Credit risk is reflected in debt securities or other receivables.

Market – Market risk reflects the potential loss that can be registered by a given portfolio as a result of changes in rates (interest and exchange rates) and/or the prices of the different financial instruments that comprise it, considering both the correlations between them and the respective volatilities. Therefore, Market Risk encompasses the risk of interest rate, exchange rate and other price risks.

Liquidity – Liquidity risk reflects the inability of the Bank to meet its liabilities associated with financial liabilities on each maturity date without incurring significant losses as a result of a deterioration in the conditions of access to financing (financing risk) and/or sale of its assets for amounts lower than the amounts usually practiced in the market (market liquidity risk).

Real Estate - Real estate risk is the probability of negative impacts on income and/or capital due to unfavourable changes in the market price.

Operating – Operating risk is the probability of failures or inappropriateness of internal procedures, information systems, human behaviour or external events.

Risk Assessment

Credit Risk

Credit risk models play a key role in the credit decision process. Therefore, the loan portfolio's decision-making process is based on a set of policies, through scoring models for Private and Business Customers' portfolios and rating for the corporate segment.

Credit decisions depend on risk classifications and compliance with several rules on the financial standing and behaviour of the proposers. There are relative scoring models for the main credit portfolios of private Customers, namely mortgage loans and individual loans, including the necessary segmentation between Customers and non-Customers (or recent Customers).

The main goals of credit risk management are:

- Define the provisioning rules/impairment calculations;
- Define the process of risk analysis;
- Analyse the sectorial and geographical risks;
- Analyse the non-diversification risks;
- Define and monitoring the internal boundaries for counter parties
- Monitoring the implementation of risks cutback plans, through a follow-up of the overdue credit portfolio.

In order to mitigate the credit risk, the portfolio analysis includes the following criteria:

- Customer's background, to seek the existence of credit defaults, pledges or debts;
- Exposure limits to credit risk, where, in accordance with the counterparties' credit capacity, it is established an internal rating, as well as the definition of maximum limits to counterparties;
- Default risk, where the Customers with ratings of high default probability are rejected;
- Personal or real guarantees at the credit conception, in order to mitigate the Bank's exposure to the respective counterparty.

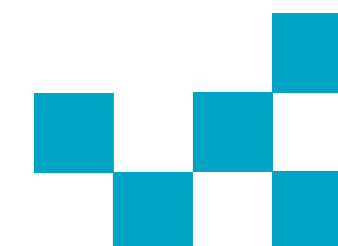
The Bank's exposure to credit risk is presented as follows:

(AOA thousand)

	31.12.2019		
	Gross book value	Impairment	Net book value
Balance sheet items			
Cash and deposits at central banks	174,871,434	-	174,871,434
Loans and advances to credit institutions repayable on demand	24,428,190	-	24,428,190
Financial assets at fair value through profit or loss	69,425,364	-	69,425,364
Financial assets at fair value through other comprehensive income	34,178,458	-	34,178,458
Financial assets at amortised cost			
Loans and advances to Customers	551,959,725	(109,258,712)	442,701,013
Debt securities	537,580,900	(8,278,494)	529,302,406
Other loans and advances to credit institutions	17,012,282	-	17,012,282
Debtors from promissory purchase contracts	56,124,841	(3,680,572)	52,444,269
Other debtors	35,352,664	(3,374,377)	31,978,287
	1,500,933,858	(124,592,155)	1,376,341,703
Off-balance sheet items			
Documentary credit	58,380,008	(692,846)	57,687,162
Guarantees provided	11,018,155	(149,797)	10,868,358
	69,398,163	(842,643)	68,555,520
Total	1,570,332,021	(125,434,798)	1,444,897,223

(AOA thousand)

	31.12.2018		
	Gross book value	Impairment	Net book value
Balance sheet items			
Cash and deposits at central banks	148,165,613	-	148,165,613
Loans and advances to credit institutions repayable on demand	26,739,729	-	26,739,729
Financial assets at fair value through profit or loss	26,620,444	-	26,620,444
Financial assets at fair value through other comprehensive income	198,119,726	-	198,119,726
Financial assets at amortised cost			
Loans and advances to Customers	499,216,620	(78,952,043)	420,264,577
Debt securities	275,647,419	(678,703)	274,968,716
Other loans and advances to credit institutions	13,312,565	-	13,312,565
Debtors from promissory purchase contracts	41,521,330	(3,970,210)	37,551,120
Other debtors	22,436,954	(3,042,601)	19,394,353
	1,251,780,400	(86,643,557)	1,165,136,843
Off-balance sheet items			
Documentary credit	89,789,769	(640,932)	89,148,837
Guarantees provided	18,007,873	(350,612)	17,657,261
	107,797,642	(991,544)	106,806,098
Total	1,359,578,042	(87,635,101)	1,271,942,941



As at 31 December 2019 and 2018, the Bank's exposure to credit risk, by sector of activity, is presented as follows:

(AOA thousand)

	31.12.2019					
	Loans to Customers		Guarantees provided and credit letters	Total exposure	Impairment	
	Due	Past due			Amount	Impairment/Total exposure
Real Estate	89,423,829	30,202,963	106,068	119,732,860	30,671,234	26%
Wholesale and retail trading	65,537,408	16,762,035	34,227,738	116,527,181	13,724,781	12%
Buildings and construction	107,501,342	9,425,787	7,042,093	123,969,222	25,015,058	20%
Manufacturing industry	62,515,043	15,256,065	8,395,001	86,166,109	16,356,160	19%
Private	34,146,754	4,573,104	831,506	39,551,364	16,139,204	41%
Institutional	626,581	104	-	626,685	44,432	7%
Others	40,482,834	6,187,894	18,795,757	65,466,486	8,150,486	12%
Total	400,233,791	82,407,953	69,398,163	552,039,907	110,101,355	137%

(AOA thousand)

	31.12.2018					
	Loans to Customers		Guarantees provided and credit letters	Total exposure	Impairment	
	Due	Past due			Amount	Impairment/Total exposure
Real Estate	159,166,414	14,186,515	334,745	173,687,674	26,141,631	15%
Wholesale and retail trading	50,217,274	10,130,436	69,979,330	130,327,040	8,544,084	7%
Buildings and construction	75,873,357	10,440,061	16,529,084	102,842,502	18,964,480	18%
Manufacturing industry	77,491,412	9,651,797	8,224,582	95,367,791	10,245,759	11%
Private	29,974,706	3,757,510	48,540	33,780,756	10,717,410	32%
Institutional	8,599,537	102	-	8,599,639	59,435	1%
Others	41,745,323	7,982,176	12,681,361	62,408,860	5,270,789	8%
Total	443,068,023	56,148,597	107,797,642	607,014,262	79,943,588	92%

As at 31 December 2019 and 2018, the geographical concentration of credit risk is presented as follows:

(AOA thousand)

	31.12.2019			
	Geographical area			
	Angola	Portugal	Other	Total
Loans and advances to Customers	548,188,470	2,767,797	1,003,458	551,959,725
Guarantees provided and credit letters	68,994,388	-	299,831	69,294,219
Total	617,182,858	2,767,797	1,303,289	621,253,944

(AOA thousand)

	31.12.2018			
	Geographical area			
	Angola	Portugal	Other	Total
Loans and advances to Customers	496,688,334	2,507,712	20,574	499,216,620
Guarantees provided and credit letters	107,502,974	-	294,668	107,797,642
Total	604,191,308	2,507,712	315,242	607,014,262

Real estate guarantees and financial collaterals, which allow a direct reduction in the position value, are important for credit risk mitigation. Personal protection guarantees, with a substitution effect in the position at risk, are also considered.

Credit operations collateralised by financial guarantees are considered for direct reductions, namely, deposits, Angolan state bonds and other similar guarantees.

Regarding real mortgage guarantees, the valuation of assets are performed by independent appraisers. The revaluation of the assets is performed through assessments on-the-site, performed by a technical appraiser, in accordance with best market practices.

The Bank's Calculation Model of Impairment Losses of the Loans Portfolio has been in production since 2018 and is governed by the general principles defined in IFRS 9, as well as by the guidelines and iterations for the implementation of IAS/IFRS with Banco Nacional de Angola, in order to align the calculation process with the best international practices.

The Bank's impairment model begins with the segmentation of the credit portfolio Customers into separate groups, according to their stage and depending on the existence of signs of impairment (which include internal and external information) and the size of the set of exposures of each economic/customer group:

Individually Significant: Customers or Economic Groups that meet at least one of the following requirements are subject to an individual analysis.

For each one of the Customers/active loans, a set of impairment signs is verified, which includes internal and external information. This information increases impairment values, since these represent an increase in the risk of default.

It should be noted that a restructured loan is a sign of impairment and, therefore, the loan portfolio marked as restructured is included in the loans with signs of impairment.

In the group of homogeneous populations, customer exposures are subject to collective analysis.

Impairment value for Individually Significant Customers is determined through the discounted cash flows method. Essentially, the impairment value corresponds to the difference between the credit value and the sum of the expected cash flows for the several operations of the customer, which are updated according to the interest rates of each operation.

Market Risk

Market Risk is controlled, in a short and long-term vision, for the bank portfolio. The main actors in the daily management of Market and Liquidity Risk are the Treasury and Markets Department and the Risk Department.

The Treasury and Markets Department is responsible for the selection and performance of market operations and for liquidity management, considering the limits defined in the Bank's risk profile.

The Risk Department is responsible for the identification, measurement and monitoring of risks, always ensuring that the defined limits are met.

The Bank also complies with Notice No. 08/2016 of 16 May, regarding the Interest Rate Risk in the banking portfolio (financial instruments not held in the portfolio of financial assets at fair value through profit and loss).

The investment portfolio is mainly concentrated in National Treasury bonds and, by 31 December 2019, it represented 90.3% (31 December 2018: 99.99%) of the total portfolio of financial assets at fair value through other comprehensive income and at amortised cost.

The assessment of the interest rate risk originated by operations from the banking portfolio is made by risk sensitivity analysis.

Based on the financial characteristics of each contract, cash flows are projected according to the dates of rate re-establishment and possible behavioural assumptions considered.

The aggregation of the expected cash flows, at each time frame, for each of the currencies analysed, allows the determination of the interest rate gaps by refixing periods.

Following the recommendations of Instruction No. 06/2016 of 8 August of Banco Nacional de Angola, the Bank calculates its exposure to the balance sheet interest rate risk based on the methodology defined in the Instruction.

As at 31 December 2019 and 2018, the Bank's assets and liabilities by type of rate, are analysed as follows:

(AOA thousand)

	31.12.2019				Total
	Exposure to		Not subject to risk of interest rate	Derivatives	
	Fixed rate	Variable rate			
Assets					
Cash and deposits at central banks	-	-	190,988,448	-	190,988,448
Loans and advances to credit institutions repayable on demand	-	-	24,428,190	-	24,428,190
Financial assets at fair value through profit or loss	-	12,711,039	56,701,261	13,064	69,425,364
Financial assets at fair value through other comprehensive income	31,748,255	2,084,520	345,683	-	34,178,458
Financial assets at amortised cost					
Debt securities	529,302,406	-	-	-	529,302,406
Loans and advances to Customers	57,958,616	494,001,109	-	-	551,959,725
Other loans and advances to credit institutions	17,012,282	-	-	-	17,012,282
	636,021,559	508,796,668	272,463,582	13,064	1,417,294,873
Liabilities					
Deposits from central banks and other credit institutions	126,932,534	49,561,104	-	-	176,493,638
Deposits from Customers and other deposits	754,878,167	-	480,107,421	-	1,234,985,588
Total	881,810,701	49,561,104	480,107,421	-	1,411,479,226

(AOA thousand)

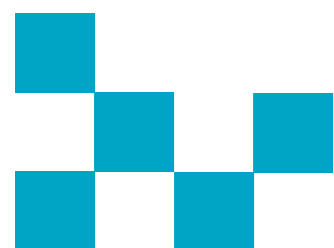
	31.12.2018				
	Exposure to		Not subject to risk of interest rate	Derivatives	Total
	Fixed rate	Variable rate			
Assets					
Cash and deposits at central banks	-	-	159,372,252	-	159,372,252
Loans and advances to credit institutions repayable on demand	-	-	26,739,729	-	26,739,729
Financial assets at fair value through profit or loss	-	10,183,491	16,387,405	49,548	26,620,444
Financial assets at fair value through other comprehensive income	196,311,431	1,470,513	337,782	-	198,119,726
Financial assets at amortised cost					
Debt securities	274,968,716	-	-	-	274,968,716
Loans and advances to Customers	42,361,333	456,855,287	-	-	499,216,620
Other loans and advances to credit institutions	13,312,565	-	-	-	13,312,565
	526,954,045	468,509,291	202,837,168	49,548	1,198,350,052
Liabilities					
Deposits from central banks and other credit institutions	86,112,479	73,942,101	-	-	160,054,580
Deposits from Customers and other deposits	617,908,895	-	425,015,653	-	1,042,924,548
Total	704,021,374	73,942,101	425,015,653	-	1,202,979,128

The following table presents the average interest rates for the major categories of the Bank's financial assets and liabilities for the period ended on 31 December 2019 and 2018, as well as the respective average balances and income and expenses for the period:

(AOA thousand)

	31.12.2019			31.12.2018		
	Average balance for the period	Interest for the period	Average Interest rate	Average balance for the period	Interest for the period	Average interest rate
Investments						
Cash	28,095,286	-	0.00%	17,164,087	-	0.00%
Financial assets at amortised cost						
Loans and advances to Customers	431,379,790	77,542,704	17.98%	423,380,954	82,445,042	19.47%
Debt securities	452,073,608	26,729,347	5.91%	284,170,006	23,201,761	8.16%
Other loans and advances to credit institutions	19,340,883	597,400	3.09%	19,366,401	342,623	1.77%
Interest from financial assets at fair value through comprehensive income	109,514,321	14,041,621	12.82%	182,132,045	12,431,476	6.83%
Interest from financial assets at fair value through profit and loss	45,065,378	702,373	1.56%	26,602,446	32,063	0.12%
Total Investments	1,085,469,266	119,613,445	-	952,815,940	118,452,965	-
Resources						
Deposits from Customers	1,191,157,255	38,065,653	3.20%	1,008,058,404	34,351,133	3.41%
Interbank resources	161,765,720	13,309,407	8.23%	171,600,104	16,872,213	9.83%
Leases interest	6,953,282	1,880,272	27.04%	-	-	-
Financial liabilities	1,359,876,257	53,255,332	-	1,179,658,508	51,223,346	-
Net interest income	-	66,358,113	-	-	67,229,619	-

The sensitivity to the balance sheet interest rate risk, by currency, is calculated through the difference between the present value of the interest rate mismatch, discounted at market interest rates in force, and the discounted value of the same cash flows simulating parallel shifts of the market interest rate yield curve.



As at 31 December 2019 and 2018 and according to the information reported to BNA, the financial instruments sensitivity analysis to interest rate changes are as follows:

(AOA thousand)

Exposure by maturity intervals or rate re-adjustment - impact in equity							
Time gap	Assets	Liabilities	Dec. 2019		Position	Equity	
			Off-balance sheet items			Weighting factor	Weighted position
			(+)	(-)			
At sight - 1 month	257,110,181	404,206,900	24,616,121	24,519,175	(146,999,773)	0.08%	(117,600)
1 - 3 months	102,071,497	245,376,730	-	-	(143,305,233)	0.32%	(458,577)
3 - 6 months	70,748,857	201,073,768	-	-	(130,324,911)	0.72%	(938,339)
6 - 12 months	190,110,934	266,815,666	-	-	(76,704,732)	1.43%	(1,096,878)
1 - 2 years	104,787,007	33,891,791	-	-	70,895,216	2.77%	1,963,797
2 - 3 years	188,624,622	32,926,558	-	-	155,698,064	4.49%	6,990,843
3 - 4 years	58,491,060	32,123,836	-	-	26,367,224	6.14%	1,618,948
4 - 5 years	133,542,350	32,123,836	-	-	101,418,514	7.71%	7,819,367
5 - 7 years	60,047,733	32,123,836	-	-	27,923,897	10.15%	2,834,276
7 - 10 years	41,543,507	32,123,836	-	-	9,419,671	13.26%	1,249,048
10 - 15 years	17,926,871	32,123,836	-	-	(14,196,965)	18.84%	(2,674,708)
15 - 20 years	15,293,838	32,123,836	-	-	(16,829,998)	22.43%	(3,774,969)
> 20 years	14,329,234	32,123,836	-	-	(17,794,602)	26.03%	(4,631,935)
Total							8,783,274
Accumulated impact of instruments sensitive to interest rate							8,783,274
Regulatory own funds							110,657,159
Impact on economic value/own funds							7.94%

(AOA thousand)

Exposure by maturity intervals or rate re-adjustment - impact in equity							
Time gap	Assets	Liabilities	Dec. 2018		Position	Equity	
			Off-balance sheet items			Weighting factor	Weighted position
			(+)	(-)			
At sight - 1 month	255,877,587	320,571,769	18,468,420	32,651,899	(78,877,660)	0.08%	(63,102)
1 - 3 months	109,556,714	259,214,138	-	-	(149,657,423)	0.32%	(478,904)
3 - 6 months	92,127,127	168,149,498	-	-	(76,022,370)	0.72%	(547,361)
6 - 12 months	72,554,994	169,707,927	14,203,965	27,828	(82,976,796)	1.43%	(1,186,568)
1 - 2 years	124,456,408	55,370,405	-	-	69,086,003	2.77%	1,913,682
2 - 3 years	121,651,187	30,503,241	-	-	91,147,946	4.49%	4,092,543
3 - 4 years	121,706,197	28,851,696	-	-	92,854,501	6.14%	5,701,266
4 - 5 years	38,006,301	28,335,351	-	-	9,670,950	7.71%	745,630
5 - 7 years	113,557,868	28,335,351	-	-	85,222,517	10.15%	8,650,085
7 - 10 years	37,658,608	28,335,351	-	-	9,323,257	13.26%	1,236,264
10 - 15 years	13,176,281	28,335,351	-	-	(15,159,070)	18.84%	(2,855,969)
15 - 20 years	13,357,566	28,335,351	-	-	(14,977,785)	22.43%	(3,359,517)
> 20 years	16,580,106	28,335,351	-	-	(11,755,245)	26.03%	(3,059,890)
Total							10,788,160
Accumulated impact of instruments sensitive to interest rate							10,788,160
Regulatory own funds							101,138,615
Impact on economic value/own funds							10.67%

According to Article 6 of Notice No. 08/2016 of 16 May, the Bank shall inform Banco Nacional de Angola whenever there is a potential decrease in economic value in its banking portfolio equal or higher than 20% of regulatory own funds. During 2019 and 2018, the Bank complied with this requirement.

As at 31 December 2019 and 2018, the breakdown of assets and liabilities, by currency, is analysed as follows:

(AOA thousand)

	31.12.2019					
	Kwanzas	Kwanzas indexed at American dollars	American dollars	Euro	Other currencies	Total
Assets						
Cash and deposits at central banks	98,294,369	-	90,743,585	1,399,185	551,309	190,988,448
Loans and advances to credit institutions repayable on demand	504,495	-	2,529,825	20,284,756	1,109,114	24,428,190
Financial assets at fair value through profit or loss	55,850,206	-	1,004,832	12,570,326	-	69,425,364
Financial assets at fair value through other comprehensive income	-	32,093,132	2,085,326	-	-	34,178,458
Financial assets at amortised cost	-	-	-	-	-	-
Debt securities	21,748,999	274,824,002	232,729,405	-	-	529,302,406
Loans and advances to Customers	351,506,676	34,075,923	53,754,564	3,363,842	8	442,701,013
Other loans and advances to credit institutions	12,515,024	-	3,280,301	1,216,957	-	17,012,282
Other tangible assets	61,282,073	-	-	-	-	61,282,073
Intangible assets	35,981,690	-	-	-	-	35,981,690
Non-current assets held for sale	88,628,779	-	-	-	-	88,628,779
Current tax assets	2,056,239	-	-	-	-	2,056,239
Deferred tax assets	2,288,990	-	-	-	-	2,288,990
Other assets	29,721,102	5,989,804	61,573,608	5,857,748	62,878	103,205,140
	760,378,642	346,982,861	447,701,446	44,692,814	1,723,309	1,601,479,072
Liabilities						
Deposits from central banks and other credit institutions	52,818,310	-	114,989,257	8,686,071	-	176,493,638
Deposits from Customers and other deposits	507,681,101	39,290,772	622,004,964	64,885,207	1,123,544	1,234,985,588
Financial assets at fair value through profit or loss	207,095	-	-	-	-	207,095
Current tax assets	-	-	-	-	-	-
Deferred tax liabilities	-	33,486	35,116	-	-	68,602
Provisions	236,796	5,786,724	75,587	2,282,646	265	8,382,018
Other liabilities	15,173,747	-	917,914	1,892,667	40,215	18,024,543
	576,117,049	45,110,982	738,022,838	77,746,591	1,164,024	1,438,161,484
Total	184,261,593	301,871,879	(290,321,392)	(33,053,777)	559,285	163,317,588

(AOA thousand)

	31.12.2018					
	Kwanzas	Kwanzas indexed at American dollars	American dollars	Euro	Other currencies	Total
Assets						
Cash and deposits at central banks	95,665,319	-	62,242,504	1,121,223	343,206	159,372,252
Loans and advances to credit institutions repayable on demand	407,181	-	7,673,129	17,877,926	781,493	26,739,729
Financial assets at fair value through profit or loss	26,620,444	-	-	-	-	26,620,444
Financial assets at fair value through other comprehensive income	82,146,938	73,654,676	42,318,112	-	-	198,119,726
Financial assets at amortised cost	-	-	-	-	-	-
Debt securities	15,351,265	190,561,375	69,056,076	-	-	274,968,716
Loans and advances to Customers	318,910,000	19,249,412	71,612,644	10,492,518	3	420,264,577
Other loans and advances to credit institutions	-	-	10,645,977	2,666,588	-	13,312,565
Other tangible assets	65,709,104	-	-	-	-	65,709,104
Intangible assets	32,625,573	-	-	-	-	32,625,573
Non-current assets held for sale	65,790,661	-	-	-	-	65,790,661
Current tax assets	1,419,014	-	299,444	-	-	1,718,458
Deferred tax assets	1,832,945	-	-	-	-	1,832,945
Other assets	31,370,086	-	36,791,267	3,496,676	39,188	71,697,217
	737,848,530	283,465,463	300,639,153	35,654,931	1,163,890	1,358,771,967
Liabilities						
Deposits from central banks and other credit institutions	70,575,290	-	89,088,605	390,685	-	160,054,580
Deposits from Customers and other deposits	492,386,131	50,935,880	457,729,474	41,159,474	713,589	1,042,924,548
Financial assets at fair value through profit or loss	50,510	-	-	-	-	50,510
Current tax assets	-	-	-	-	-	-
Deferred tax liabilities	490,164	-	371,848	-	-	862,012
Provisions	540,410	2,777,463	356,042	1,487,177	9	5,161,101
Other liabilities	5,129,315	11,046,598	(2,615,673)	1,022,593	96,893	14,679,726
	569,171,820	64,759,941	544,930,296	44,059,929	810,491	1,223,732,477
Total	168,676,710	218,705,522	(244,291,143)	(8,404,998)	353,399	135,039,490

The sensitivity analysis of the book value of financial instruments to changes in exchange rates, as at 31 December 2019 and 2018 is presented as follows:

(AOA thousand)

Currency	31.12.2019					
	-20%	-10%	-5%	5%	10%	20%
American dollars	58,064,278	29,032,139	14,516,070	(14,516,070)	(29,032,139)	58,064,278
Kwanzas indexed at American dollars	(60,374,376)	(30,187,188)	(15,093,594)	15,093,594	30,187,188	(60,374,376)
Euro	6,610,755	3,305,378	1,652,689	(1,652,689)	(3,305,378)	6,610,755
Other currencies	(111,858)	(55,929)	(27,964)	27,964	55,929	(111,857)
Total	4,188,800	2,094,401	1,047,200	(1,047,200)	(2,094,401)	4,188,801

(AOA thousand)

Currency	31.12.2018					
	-20%	-10%	-5%	5%	10%	20%
American dollars	48,858,229	24,429,114	12,214,557	(12,214,557)	(24,429,114)	48,858,229
Kwanzas indexed at American dollars	(43,741,104)	(21,870,552)	(10,935,276)	10,935,276	21,870,552	(43,741,104)
Euro	1,681,000	840,500	420,250	(420,250)	(840,500)	1,681,000
Other currencies	(70,681)	(35,340)	(17,670)	17,670	35,340	(70,680)
Total	6,727,443	3,363,722	1,681,861	(1,681,861)	(3,363,722)	6,727,444

The result of the presented stress test corresponds to the expected impact (before taxes) on shareholders' equity, due to a 20% valuation in the exchange rate of each currency against the kwanza.

Liquidity Risk

The assessment of the liquidity risk is made using internal metrics, defined by the Bank's management, namely, exposure limits. This control is reinforced with monthly execution of stress tests, in order to characterize the Bank's risk profile and ensure that fulfils its obligations in a liquidity crisis scenario.

The purpose of liquidity management is to maintain adequate liquidity levels to meet short, medium and long term funding needs. Liquidity risk is monitored on a daily basis and several reports are prepared for control, monitor and support to the decision-making process of the Risk Committee.

The evolution of the liquidity situation is performed based particularly on future cash flows estimated for various time horizons, considering the Bank's balance sheet. To the calculated values is added the analysis day's liquidity position and the amount of assets considered highly liquid in the portfolio of uncommitted assets, determining the cumulative liquidity gap for different time horizons. Additionally, it is also performed a follow-up of liquidity positions of a prudential point of view, calculated under the rules required by Banco Nacional de Angola (Instruction No. 06/2016 of 8 August).

As at 31 December 2019 and 2018, the residual maturities of the Bank's financial assets and liabilities had the following structure:

(AOA thousand)

	31.12.2019						Total
	Maturity dates						
	On demand	Within 3 months	3 to 12 months	1 to 5 years	Above 5 years	Undetermined	
Assets							
Cash and deposits at central banks	190,988,448	-	-	-	-	-	190,988,448
Loans and advances to credit institutions repayable on demand	24,428,190	-	-	-	-	-	24,428,190
Financial assets at fair value through profit or loss	-	12,603,632	-	13,896	106,575	56,701,261	69,425,364
Financial assets at fair value through other comprehensive income	-	804,772	4,406,114	28,621,889	-	345,683	34,178,458
Financial assets at amortised cost							
Debt securities	-	27,660,108	88,201,058	358,677,914	63,041,820	-	537,580,900
Loans and advances to Customers	-	25,791,809	37,208,996	131,788,088	205,444,897	82,407,953	482,641,743
Other loans and advances to credit institutions	-	16,517,468	405,748	-	-	-	16,923,216
	215,416,638	83,377,789	130,221,916	519,101,787	268,593,292	139,454,897	1,356,166,319
Liabilities							
Deposits from central banks and other credit institutions	-	152,643,646	-	-	-	-	152,643,646
Deposits from Customers and other deposits	480,107,421	181,766,299	564,903,344	-	-	-	1,226,777,064
Financial liabilities at fair value through profit or loss	-	207,095	-	-	-	-	207,095
	480,107,421	334,617,040	564,903,344	-	-	-	1,379,627,805
Net exposure	(264,690,783)	(251,239,251)	(434,681,428)	519,101,787	268,593,292	139,454,897	(23,461,486)

(AOA thousand)

	31.12.2018						
	Maturity dates						Total
	On demand	Within 3 months	3 to 12 months	1 to 5 years	Above 5 years	Undetermined	
Assets							
Cash and deposits at central banks	159,372,252	-	-	-	-	-	159,372,252
Loans and advances to credit institutions repayable on demand	26,739,729	-	-	-	-	-	26,739,729
Financial assets at fair value through profit or loss	-	128,968	9,697,278	87,441	319,352	16,387,405	26,620,444
Financial assets at fair value through other comprehensive income	-	2,145,799	16,203,746	103,384,303	76,048,096	337,782	198,119,726
Financial assets at amortised cost							
Debt securities	-	14,579,248	22,851,970	193,744,246	44,471,955	-	275,647,419
Loans and advances to Customers	-	89,661,510	37,311,736	77,379,572	194,311,965	56,148,597	454,813,380
Other loans and advances to credit institutions	-	10,690,531	2,582,766	-	-	-	13,273,297
	186,111,981	117,206,056	88,647,496	374,595,562	315,151,368	72,873,784	1,154,586,247
Liabilities							
Deposits from central banks and other credit institutions	-	146,195,840	10,000,000	-	-	-	156,195,840
Deposits from Customers and other deposits	425,015,653	324,866,543	284,669,722	-	-	-	1,034,551,918
Financial liabilities at fair value through profit or loss	-	50,510	-	-	-	-	50,510
	425,015,653	471,112,893	294,669,722	-	-	-	1,190,798,268
Net exposure	(238,903,672)	(353,906,837)	(206,022,226)	374,595,562	315,151,368	72,873,784	(36,212,021)

The Bank already calculates the Liquidity Ratio in accordance with Instruction 19/2016 of 30 August. This Instruction defines, as a minimum, a 100% ratio in kwanzas and 150% for the exposure in foreign currency.

Real Estate Risk

As at 31 December 2019 and 2018, exposure to real estate and investments real estate fund units presented the following values:

(AOA thousand)

	31.12.2019	31.12.2018
Real estate received as loan guarantee	90,246,647	64,784,882
Real estate reclassified from property and equipment	2,056,814	2,983,181
Total	92,303,461	67,768,063

Operating Risk

The Bank's Risk Department performs the corporate operational risk management function of the Bank, which is supported by the existence of counterparts in different organizational units that ensure the adequate implementation of operational risk management in the Bank.

The Bank has initiated a set of guidelines and actions aimed at better alignment of systems, human resources and processes in order to allow an effective continuous mitigation of Operating Risk, making a continuous investment to be in line with the best international practices.

ATLANTICO's operating risk management is based on a process-based organizational model that allows the Bank to adopt an end-to-end perspective of the value chain of products and services in Operating Risk management, involving the whole organization and enhancing cross-responsibility.

The identification of events that might generate Operating Risk and respective assessment is performed at the level of the organic units by the process owners of the different Operating Risk processes.

Operating Risk management is performed using three instruments:

- actions performed by Departments;
- Risk self-assessment meetings organized by those responsible for each process and which allow the Bank to take a qualitative approach to identifying potential risks through a structured analysis from a procedural perspective;
- Identification and quantification of Key Risk Indicators (KRI) or, in other words, metrics that identify changes in the risk profile or in the processes controls effectiveness, allowing the preventive implementation of corrective actions.

Capital Management and Solvency Ratio

The Bank's own funds are calculated in accordance with the applicable regulatory standards, namely with Notice no. 02/2016 of 28 April and Instruction no. 18/2016 of 08 August. The solvency ratio reflects the ratio of regulatory own funds and the sum of the value of regulatory own funds requirements for credit risk and counterparty credit risk (Notice No. 3/2016), own funds requirements for market risk and credit risk of counterparties in the trading portfolio (Notice 04/2016) and own funds requirements for operational risk (Notice no. 05/2016).

Angolan financial institutions shall maintain a level of own funds compatible with the nature and scale of operations, duly weighted by the risks inherent to the operations, with a minimum regulatory Solvency Ratio of 10%.

Regulatory Own Funds comprise:

1. Original Own Fund – comprise: (i) paid-up share capital; (ii) share premiums relating to elements included in the previous paragraph; (iii) reserve for monetary adjustments of paid-up share capital; (iv) positive retained earnings from previous periods; (v) legal, statutory and other reserves resulting from undistributed income/profit, or incorporated for capital increase and (vi) positive net income of the previous period; (vii) provisional positive net income of the current period; (viii) portion of the reserve and net income related to deferred tax assets, provided that they relate to losses containing as a negative element original own funds, and (ix) instruments whose issuance conditions were previously approved by Banco Nacional de Angola.

Negative elements of the Original Own Funds – comprise: (i) own shares in the portfolio, at the book value in the balance sheet; (ii) negative income, retained from previous periods; (iii) negative net income from the previous period; (iv) negative latent income relating to revaluation of securities; (v) negative latent income relating to the revaluation of available-for-sale securities and cash flow hedges and investments abroad; (vi) provisional negative net income for the current period; (vii) intangible assets net of depreciations; (viii) deferred costs relating to pension liabilities; (ix) portion of the reserve and net income related to deferred tax liabilities, provided that they relate to gains containing as a positive element original own funds; (x) positive revaluation differences resulting from the application of the equity method; (xi) lack of provisions under the provisions of Notice 12/2014, of 17 December, on the constitution of provisions; and (xii) actuarial losses not recognised in profit and loss.

2. Additional Own Funds – comprise: fixed-term preferred shares; (ii) generic funds and provisions; (iii) reserves resulting from real estate for own use; (iv) subordinated debt, in the form of loans or bonds issued, whose issuance conditions were previously approved by Banco Nacional de Angola; (v) positive latent income relating to the revaluation of available-for-sale securities and cash flow hedges and investments abroad, up to 45% (forty five percent) of their value (by the amount of the net effect of the hedge) before taxes; (vi) other instruments whose issuance conditions have been previously approved by Banco Nacional de Angola.

3. Deductions – comprise: (i) instruments issued or obtained by other financial institutions, of which the Institutions are holders, provided for in Article 5 (2) (a) and (i) and Article 7 (2) (a), (d) and (f), both of Notice 02/2016. This deduction should consider the book value in the balance sheet, net of provisions, and should met the following conditions:

- a) If the Institution has a participation above 10% (ten percent) of the investee's share capital, all of the aforementioned instruments shall be deducted, or
 - b) If the Institution has a participation below or equal to 10% (ten percent) of the investee's share capital, and if above ten 10% (ten percent) of the investor's share capital, all of the aforementioned instruments shall be deducted, except 10% (ten percent) of the investor's own funds, determined before this deduction;
- (ii) the surplus against the limits established in Notice 9/2016, on prudential limits to large exposures.

Positive income referred to in the previous points may only be considered when certified by the chartered accountant, member of the supervisory board or statutory auditor and by the external auditor.

An overview of the Bank's capital requirements calculations for 31 December 2019 is as follows:

(AOA thousand)

31.12.2019		
Regulatory Own Funds Requirements		
Credit and counterparty risk		59,016,619
Operating risk		13,639,753
Market risk and counterparty credit risk in the trading portfolio		3,458,533
	A	76,114,905
Regulatory Own Funds		
Original own funds		127,398,142
Additional own funds		103,263
Discounts from basic and complementary own funds		(16,844,246)
	B	110,657,159
Regulatory solvency ratio	C=B/A*10%	14.54%

(AOA thousand)

31.12.2018		
Regulatory Own Funds Requirements		
Credit and counterparty risk		46,996,166
Operating risk		13,686,072
Market risk and counterparty credit risk in the trading portfolio		2,798,783
	A	63,481,021
Regulatory Own Funds		
Original own funds		99,629,575
Additional own funds		1,509,040
	B	101,138,615
Regulatory solvency ratio	C=B/A*10%	15.93%

