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 unfavorable changes in the market price.

Operating – Operating risk is the probability of failures or inappropriateness of internal procedures, information systems, human behavior 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 clients' portfolios and rating for the corporate segment.

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

The main goals of credit risk management are:

- Define the provisioning rules/impairment calculations;
- Define the process of risk analysis;
- Analyze the sectorial and geographical risks;
- Analyze 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 clients 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:

(Thousands of AOA)

	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
Valores a receber	55,237,056	(3,060,860)	52,176,196
Other debtors	17,955,911	(1,501,605)	16,454,306
	1,261,015,083	(84,193,211)	1,176,821,872
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
	1,368,812,725	(85,184,755)	1,283,627,970

(Thousands of AOA)

	31.12.2017		
	Gross book value	Impairment	Net book value
Balance sheet items			
Cash and deposits at central banks	121,955,978		121,955,978
Loans and advances to credit institutions repayable on demand	4,510,199	-	4,510,199
Other loans and advances to central banks and credit institutions	31,234,743	-	31,234,743
Financial assets at fair value through profit or loss	3,716,472	-	3,716,472
Financial assets available for sale	82,963,601	-	82,963,601
Held-to-maturity investments	219,034,443	-	219,034,443
Loans and advances to customers	438,769,862	(43,057,000)	395,712,862
Other receivables	35,924,049	(1,133,351)	34,790,698
Other debtors	6,112,763	(523,006)	5,589,757
	944,222,110	(44,713,357)	899,508,753
Off-balance sheet items			
Documentary credit	47,547,389	(178,228)	47,369,161
Guarantees provided	13,917,640	(195,040)	13,722,600
	61,465,029	(373,268)	61,091,761
	1,005,687,139	(45,086,625)	960,600,514

As at 31 December 2018 and 2017, the Bank's exposure to credit risk, by sector of activity, is presented as follows:

(Thousands of AOA)

	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%

(Thousands of AOA)

	31.12.2017					
	Loans to customers		Guarantees provided and credit letters	Total exposure	Impairment	
	Due	Past due			Amount	Impairment/ Total exposure
Real Estate	138.559.371	16.960	360.882	138.937.213	10.474.943	8%
Wholesale and retail trading	55.465.696	7.182.176	38.034.516	100.682.388	5.758.977	6%
Buildings and construction	76.306.906	7.521.090	11.413.000	95.240.996	10.131.388	11%
Manufacturing industry	60.045.161	6.979.128	5.418.934	72.443.223	6.468.206	9%
Private	20.288.849	2.068.552	71.126	22.428.527	3.997.579	18%
Institutional	13.823.875	-	-	13.823.875	40.104	0%
Others	42.443.182	8.068.916	6.166.571	56.678.669	6.559.071	12%
Total	406.933.040	31.836.822	61.465.029	500.234.891	43.430.268	63%

As at 31 December 2018 and 2017, the geographical concentration of credit risk is presented as follows:

(Thousands of AOA)

	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

(Thousands of AOA)

	31.12.2017			
	Geographical area			
	Angola	Portugal	Other	Total
Loans and advances to customers	431,656,643	7,096,666	16,553	438,769,862
Guarantees provided and credit letters	61,205,290	-	259,739	61,465,029
Total	492,861,933	7,096,666	276,292	500,234,891

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 Angola Central Bank, 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, client exposures are subject to collective analysis.

Impairment value for Individually Significant Customers is determined through the discounted cash-flows method. Basically, 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 client, 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 2018, it represented 99.9% (31 December 2017: n/a) 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 behavioral 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 Angola Central Bank, the Bank calculates its exposure to the balance sheet interest rate risk based on the methodology defined in the Instruction.

As at 31 December 2018 and 2017, the Bank's assets and liabilities by type of rate, are analysed as follows:

(Thousands of AOA)

	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
	704,021,374	73,942,101	425,015,653	-	1,202,979,128

(Thousands of AOA)

	31.12.2017				
	Exposure to		Not subject to risk of interest rate	Derivatives	Total
	Fixed rate	Variable rate			
Assets					
Cash and deposits at central banks	-	-	133,610,160	-	133,610,160
Loans and advances to credit institutions repayable on demand	-	-	4,510,199	-	4,510,199
Other loans and advances to central banks and credit institutions	31,234,743	-	-	-	31,234,743
Financial assets at fair value through profit or loss	772,702	-	-	2,943,770	3,716,472
Financial assets available for sale	79,373,734	3,589,867	15,220,405	-	98,184,006
Held-to-maturity investments	219,034,443	-	-	-	219,034,443
Loans and advances to customers	126,444,640	312,325,222	-	-	438,769,862
	456,860,262	315,915,089	153,340,764	2,943,770	929,059,885
Liabilities					
Deposits from central banks and other credit institutions	59,739,725	57,441,639	-	-	117,181,364
Deposits from customers and other deposits	426,091,900	-	375,273,810	-	801,365,710
	485,831,625	57,441,639	375,273,810	-	918,547,074

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 2018 and 2017, as well as the respective average balances and income and expenses for the period:

(Thousands of AOA)

	31.12.2018			31.12.2017		
	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	17,164,087	-	0.00%	10,179,034	-	0.00%
Financial assets at amortised cost						
Loans and advances to customers	423,380,954	82,445,042	19.47%	495,210,456	73,231,588	14.79%
Debt securities (2017: Held-to-maturity investments)	284,170,006	23,201,761	8.16%	180,040,718	13,161,968	7.31%
Other loans and advances to credit institutions	19,366,401	342,623	1.77%	25,322,251	204,869	0.81%
Interest from financial assets at fair value through comprehensive income (2017: Interest from financial assets available for sale)	182,132,045	12,431,476	6.83%	102,943,463	6,556,215	6.37%
Interest from financial assets at fair value through profit and loss	26,602,446	32,063	0.12%	4,102,088	106,685	2.60%
Total Investments	952,815,940	118,452,965		817,798,010	93,261,325	
Resources						
Deposits from customers	1,008,058,404	34,351,133	3.41%	767,221,777	19,878,483	2.59%
Interbank resources	171,600,104	16,872,213	9.83%	87,220,688	5,948,352	6.82%
Other resources	-	-	-	105,871	88,750	-
Financial liabilities	1,179,658,508	51,223,346		854,548,336	25,915,585	
Net interest income		67,229,619			67,345,740	

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 2018 and 2017 and according to the information reported to BNA, the financial instruments sensitivity analysis to interest rate changes are as follows:

(Thousands of AOA)

Exposure by maturity intervals or rate re-adjustment – impact in Equity							
Dec. 18							
Time gap	Assets	Liabilities	Off-balance sheet items (+)	Off-balance sheet items (-)	Position	Equity Weighting factor	Equity 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%

(Thousands of AOA)

Exposure by maturity intervals or rate re-adjustment – impact in Equity							
Dec. 17							
Time gap	Assets	Liabilities	Off-balance sheet items (+)	Off-balance sheet items (-)	Position	Equity Weighting factor	Equity Weighted position
At sight – 1 month	245,769,952	233,383,890	12,896,788	-	25,282,850	0.08%	20,226
1 – 3 months	89,710,368	161,109,842	12,285,131	2,876,608	(61,990,951)	0.32%	(198,371)
3 – 6 months	125,044,011	142,390,389	3,224,197	-	(14,122,181)	0.72%	(101,680)
6 – 12 months	59,882,959	142,703,853	3,224,197	-	(79,596,696)	1.43%	(1,138,233)
1 – 2 years	82,752,055	35,145,550	4,298,929	-	51,905,434	2.77%	1,437,781
2 – 3 years	46,337,342	25,806,813	4,298,929	-	24,829,458	4.49%	1,114,843
3 – 4 years	61,708,423	25,407,529	4,298,929	-	40,599,823	6.14%	2,492,829
4 – 5 years	29,519,055	25,007,192	4,298,929	-	8,810,792	7.71%	679,312
5 – 7 years	67,079,980	25,007,192	4,298,929	-	46,371,717	10.15%	4,706,729
7 – 10 years	39,234,505	25,007,192	4,298,929	-	18,526,242	13.26%	2,456,580
10 – 15 years	12,803,431	25,007,192	4,298,929	-	(7,904,831)	18.84%	(1,489,270)
15 – 20 years	11,212,757	25,007,192	4,298,929	-	(9,495,506)	22.43%	(2,129,842)
> 20 years	10,731,726	25,307,468	4,298,929	-	(10,276,814)	26.03%	(2,675,055)
						Total	5,175,849
						Accumulated impact of instruments sensitive to interest rate	5,175,849
						Regulatory own funds	72,968,365
						Impact on economic value / own funds	7.09%

According to Article 6 of Notice No. 08/2016 of 16 May, the Bank shall inform Angola Central Bank whenever there is a potential decrease in economic value in its banking portfolio equal or higher than 20% of regulatory own funds. During 2018 and 2017, the Bank complied with this requirement.

As at 31 December 2018 and 2017, the breakdown of assets and liabilities, by currency, is analyzed as follows:

(Thousands of AOA)

	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 assets	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
	168,676,710	218,705,522	(244,291,143)	(8,404,998)	353,399	135,039,490

(Thousands of AOA)

	31.12.2017					
	Kwanzas	Kwanzas indexed at American dollars	American dollars	Euro	Other currencies	Total
Assets						
Cash and deposits at central banks	95,286,143	-	37,833,892	271,139	218,986	133,610,160
Loans and advances to credit institutions repayable on demand	98,477	-	1,700,148	2,425,610	285,964	4,510,199
Other loans and advances to central banks and credit institutions	-	-	26,230,966	5,003,777	-	31,234,743
Financial assets at fair value through profit or loss	2,750,642	772,844	3,069,594	(2,876,608)	-	3,716,472
Financial assets for sale	14,049,661	68,833,042	15,272,408	-	-	98,155,111
Held-to-maturity investments	16,603,151	135,599,986	66,831,306	-	-	219,034,443
Loans and advances to customers	333,679,347	11,843,344	43,540,620	6,649,551	-	395,712,862
Non-current assets held for sale	43,544,500	-	-	-	-	43,544,500
Other tangible assets	62,746,419	-	-	-	-	62,746,419
Intangible assets	30,204,743	-	-	-	-	30,204,743
Current tax assets	1,584,392	-	-	-	-	1,584,392
Deferred tax assets	157,246	-	-	-	-	157,246
Other assets	22,278,183	-	21,056,284	2,009,040	106,546	45,450,053
	622,982,904	217,049,216	215,535,218	13,482,509	611,496	1,069,661,343
Liabilities						
Deposits from central banks and other credit institutions	55,903,736	-	46,149,923	15,028,999	98,706	117,181,364
Deposits from customers and other deposits	476,602,184	32,513,021	268,516,971	22,745,127	988,407	801,365,710
Provisions	1,851,658	-	-	602,543	-	2,454,201
Current tax liabilities	2,178,122	-	-	-	-	2,178,122
Deferred tax liabilities	746,113	-	-	-	-	746,113
Subordinated debt	-	-	-	-	-	-
Other liabilities	3,452,568	-	8,771,431	4,972,777	17	17,196,793
	540,734,381	32,513,021	323,438,325	43,349,446	1,087,130	941,122,303
	82,248,523	184,536,195	(107,903,107)	(29,866,937)	(475,634)	128,539,040

The sensitivity analysis of the book value of financial instruments to changes in exchange rates, as at 31 December 2018 and 2017 is presented as follows:

(Thousands of AOA)

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)
Euros	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)
	6,727,443	3,363,722	1,681,861	(1,681,861)	(3,363,722)	6,727,444

(Thousands of AOA)

Currency	31.12.2017					
	-20%	-10%	-5%	5%	10%	20%
American dollars	21,580,621	10,790,311	5,395,155	(5,395,155)	(10,790,311)	(21,580,621)
Kwanzas indexed at American dollars	(36,907,239)	(18,453,620)	(9,226,810)	9,226,810	18,453,620	36,907,239
Euros	5,973,387	2,986,694	1,493,347	(1,493,347)	(2,986,694)	(5,973,387)
Other currencies	95,127	47,563	23,782	(23,782)	(47,563)	(95,127)
	(9,258,104)	(4,629,052)	(2,314,526)	2,314,526	4,629,052	9,258,104

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 fulfills 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 Angola Central Bank (Instruction No. 06/2016 of 8 August).

As at 31 December 2018 and 2017, the residual maturities of the Bank's financial assets and liabilities had the following structure:

(Thousands of AOA)

	31.12.2018						
	Maturity dates						
	On demand	Within 3 months	3 to 12 months	1 to 5 years	Above 5 years	Undetermined	Total
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 and 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 and 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)

(Thousands of AOA)

	31.12.2017						
	Maturity dates						
	On demand	Within 3 months	3 to 12 months	1 to 5 years	Above 5 years	Undeter-mined	Total
Assets							
Cash and deposits at central banks	133,610,160	-	-	-	-	-	133,610,160
Loans and advances to credit institutions repayable on demand	4,510,199	-	-	-	-	-	4,510,199
Other loans and advances to central banks and credit institutions	-	25,425,083	5,780,579	-	-	-	31,205,662
Financial assets and liabilities at fair value through profit or loss		192,986	2,757,598	765,888			3,716,472
Financial assets available for sale	-	4,370,437	3,926,824	58,004,747	16,661,593	15,191,510	98,155,111
Held-to-maturity investments	-	23,352,878	32,003,810	113,096,248	50,581,507	-	219,034,443
Loans and advances to customers	-	67,063,005	60,587,367	91,034,052	153,253,323	31,836,822	403,774,569
	138,120,359	120,404,389	105,056,178	262,900,935	220,496,423	47,028,332	894,006,616
Liabilities							
Deposits from central banks and other credit institutions	-	98,811,892	15,000,000	-	-	-	113,811,892
Deposits from customers and other deposits	375,273,810	180,416,190	240,101,284	-	-	-	795,791,284
	375,273,810	279,228,082	255,101,284	-	-	-	909,603,176
Net exposure	(237,153,451)	(158,823,693)	(150,045,106)	262,900,935	220,496,423	47,028,332	(15,596,560)

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 2018 and 2017, exposure to real estate and investments real estate fund units presented the following values:

(Thousands of AOA)

	31.12.2018	31.12.2017
Real estate received as loan guarantee	64,784,882	41,500,044
Real estate reclassified from property and equipment	2,983,181	2,751,778
	67,768,063	44,251,822

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:

- Identification of events of losses resulting from Operating Risks and respective mitigation 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 Funds – 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 Angola Central Bank.

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 (i) 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 Angola Central Bank; (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 Angola Central Bank.

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 2018 and 2017 is as follows:

(Thousands of AOA)

		31.12.2018
Regulatory Own Funds Requirements		
Credit 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%

NOTE 36.
Transition to IFRS 9 – Financial instruments

In 2014, the International Accounting Standards Board ("IASB") issued the final version of IFRS 9 – Financial Instruments ("IFRS 9"). This new standard is effective for periods beginning on or after 1 January 2018 and replaces IAS 39 – Financial Instruments: Recognition and Measurement ("IAS 39"). As allowed by the transitional provisions of IFRS 9, the Bank did not restate the comparative values in its financial statements arising from the application of IFRS 9. The impacts on the Bank's financial statements were recognised under Retained earnings and, therefore, in the regulatory capital reported.

IFRS 9 incorporates significant changes to IAS 39 essentially at three levels:
i) new rules for the classification, recognition and measurement of financial assets in accordance with the Group's business model and the characteristics of the contractual cash flows of these assets;
ii) new methodology concepts and measurement of impairment for financial assets, calculated on an expected credit loss basis ("ECL"); and
iii) new hedge accounting requirements more aligned with the entities' risk management practices. The Bank adopted IFRS 9 "Financial Instruments" for the first time on 1 January 2018. This situation led to changes in the classification and valuation of certain financial assets. The impacts on the financial statements arising from the adoption of this new standard were estimated on 1 January 2018, based on the information available to date and on a set of assumptions. Building on these estimates, the adoption of IFRS 9 resulted in a reduction of the Bank's net position, as of 1 January 2018, of approximately AOA 3,861,664 thousand, as follows: