





MASTERS IN FINANCE EQUITY RESEARCH

BANCO BPI

COMPANY REPORT

BANKING SECTOR

06 MAY 2011

ANALYST: JAIME MARQUES

Banco BPI

Portuguese financial institution still underpriced

Basel III with crucial impact on capital structure decisions, creating a need for higher Core Tier One Capital in 2012 (10%).

This has caused the bank to decide to incorporate reserves, in order to increase its capital adequacy ratios next period.

No distribution of dividends in 2010YE appearing to be a good decision - impact on Core Tier One seems enough, and the bank does not look like needing a Capital Increase

International exposure representing 38,1% of the BPI's valuation.

Level of banking in Angola with sustainable growth only 4 branches per 100 thousand habitants, but still losing market share in both loans and deposits in the last periods by approximately 1 p.p. per year.

Angola and Portugal Country specific risks incorporated in the Valuation Model accounting for several p.p. of the discount rates,

Is Portugal really that risky?

Competition for Loans and Deposits Volume pressuring financial margins and commission incomes on the next years. Zero ECB dependence shown in 2011Q1 results as a consequence of the Deleveraging process in which BPI seems to be the Portuguese financial institution in best shape.

Basel III with higher "punishments" to insurance holdings, Should the bank concentrate on its bancassurance operations and sell the rest of the insurance business?

Recommendation:	BUY
Vs Previous Recommendation	HOLD
Price Target FY11:	1.47 €
Vs Previous Price Target	1.20€
Price (as of 6-Jun-11)	1.12 €

Bloomberg: 1.12 €

52-week range (€)	1.627-1.060
Market Cap (€m)	1.108,800
Outstanding Shares (m)	900.000

Source: Bloomberg.



Source: Bloomberg.

(Values in € millions)	2010	2011E	2012F
Revenues	1.165	1.097	1.142
Net Profit	175	190	194
EPS	0.19	0.21	0.22
P/E	10.9	6.6	6.6

Source: Bloomberg

Company description

Being listed on the Stock Exchange since 1986, Banco BPI is the central entity of a multi-specialised financial group that provides a wide range of commercial and corporate finance services and products. Its business area accounts for very strong presences in Portugal and Angola. It also counts with several branches and representation offices in other countries.

THIS DOCUMENT IS NOT AN INVESTMENT RECOMMENDATION AND SHALL BE USED EXCLUSIVELY FOR ACADEMIC PURPOSES (SEE DISCLOSURES AND DISCLAIMERS AT END OF DOCUMENT)



Table of Contents

EXECUTIVE SUMMARY	. 3
MACROECONOMY Strong Fundamentals	
COMPANY OVERVIEW	4
DOMESTIC ACTIVITY	5 5
MACROECONOMIC CONDITIONS	. /
PortugalAngola	
THE SECTOR	10
THE BANKING SECTOR THE PORTUGUESE BANKING SECTOR ANGOLA'S BANKING SECTOR PEER GROUP MARKET MULTIPLES VALUATION	11 12 14
METHODOLOGY THE COST OF EQUITY FINAL RESULTS AND SENSIBILITIES	18
KEY RATIOS	22
APPENDIX	23
FINANCIAL STATEMENTS	23
DISCLOSURES AND DISCLAIMER	26
RESEARCH RECOMMENDATIONS	26

BANCO BPI COMPANY REPORT



THIS DOCUMENT IS NOT AN INVESTMENT RECOMMENDATION AND SHALL BE USED EXCLUSIVELY FOR ACADEMIC PURPOSES (SEE DISCLOSURES AND DISCLAIMERS AT END OF DOCUMENT)

Executive summary

This report aims at drawing a picture of what is the current situation lived by Portuguese banks nowadays. Banco BPI is living difficult times in what concerns the disclosure of the next few years, as the whole country has been downgraded to one level higher than "junk".

Having operations in emerging markets has yielded a very solid part of the institution's returns in the past 2-3 years that has held the bank through the current global financial crisis.

Macroeconomy

The main events are covered in the report in what concerns the Sovereign Debt Crisis, and its implications to financial institutions, global trends and correlations are studied, in order to project the geographies' growths in the following periods.

Strong Fundamentals

The report ends up with a description of the techniques used and assumptions made in a complex and robust Discounted Cash Flow model, where a price target is introduced, and some of the critical parts of the model are scrutinized and presented as well as some sensitivities to critical variables that were also made to help and support the discussion.

BANCO BPI COMPANY REPORT

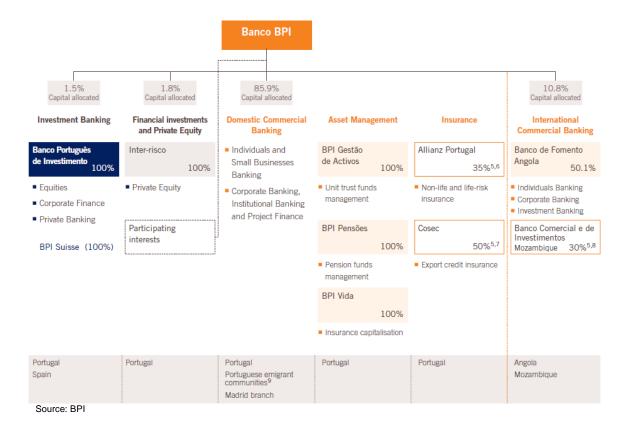


THIS DOCUMENT IS NOT AN INVESTMENT RECOMMENDATION AND SHALL BE USED EXCLUSIVELY FOR ACADEMIC PURPOSES (SEE DISCLOSURES AND DISCLAIMERS AT END OF DOCUMENT)

Company overview

Being listed on the Stock Exchange since 1986, Banco BPI is the central entity of a multi-specialised financial group that provides a wide range of commercial and corporate finance services and products. Its business area accounts for very strong presences in Portugal and Angola. It also counts with several branches and representation offices in other countries.

The capital allocation of Banco BPI is as follows:



Domestic Activity

The domestic activities comprehend Commercial Banking, Investment Banking, Insurance products and what the bank calls Capital Participations and other banking services that include mainly Private Equity operations, offered to national clients, including emigrants and Portuguese companies' international subsidiaries.

Banco BPI domestic operations have seen a decrease its Return on Equity – "ROE" from 21,2% in 2006 to 6,1% in 2010.



The perception of risk associated with these operations has changed dramatically with the current downgrades to the Portuguese Republic and its financial institutions, but nonetheless BPI seems to be one of the best capitalized banks in the country. It is the third largest private bank in Portugal with market share of approximately 11% in credit and deposits and 1.6 Million customers¹.

Also the last proposed document by Basel III had some changes that should matter for BPI in what concerns its activity. As Solvency II shall come into place, higher capital requirements in the insurance sector will appear, turning the activity less attractive. In what concerns Core Tier 1 it can only include insurance investments up to 10% of the bank's Core Tier 1. These combined with other measures have created a few waves within the markets where banks are now selling their insurance stakes, just keeping the bancassurance business as it corresponds to the core activity of banks, and some are just keeping distribution contracts for the insurance business.

Basically the new rules of Basel III shall, on one hand increase that risk weighted assets and, on the other, reduce what is considered to be core capital.

International Activity

The scenario in Angola has been slightly different as its banking activities are still in a developing stage, and there is plenty of room for growth in the sector. What we observe when looking at the last 3 to 5 years, is that the overall sector has been growing a lot, having 2009 as an exception, since the previously mentioned worldwide financial crisis has affected the whole Angolan economy through the decrease in Oil prices, that has decreased the national reserves of international currency, creating room for fears and instability and so causing a deceleration of the economic growth. Nonetheless even in that year, we could see customer resources and loans growing in the country's banks' balance sheets.

There is an enormous potential for growth in the region that has accounted for 53% of BPI's consolidated Net Income in 2010.

The international activities correspond mainly to the operations of Banco Fomento de Angola – "BFA" in Angola. There is also a 30% participation in Banco Comercial e de Investimentos – "BCI" in Mozambique that is held through a partnership with the Insurance Group Allianz that only accounting for 4% of the international Net Income, and 0,4% of the international Total Assets.

Shareholder structure

The main Shareholders of Banco BPI are the Spanish La Caixa Group, the Brazilian Itáu Group and the Angolan Santoro Finance, controlled by Isabel dos Santos. The German Allianz Group and HVF SGPS, S.A. from Espinho

1	R	P
	ப	

.

BANCO BPI

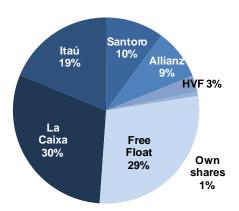




THIS DOCUMENT IS NOT AN INVESTMENT RECOMMENDATION AND SHALL BE USED EXCLUSIVELY FOR ACADEMIC PURPOSES (SEE DISCLOSURES AND DISCLAIMERS AT END OF DOCUMENT)

municipality, also owns a portion of BPI's equity. The remaining capital is traded freely on the Euronext.

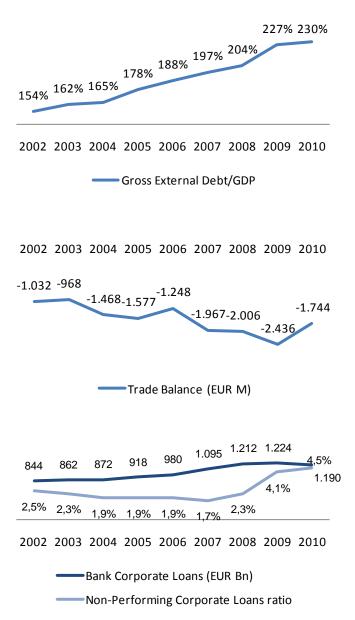
At December 31st 2010 there were 21.196 shareholders, being 20.736 individuals (13,7% of capital held) and 460 institutional and corporate investors (86,3% of capital held).





Macroeconomic Conditions

Portugal



The Portuguese Government Deficit has risen 4,9% CAGR from 1996 to 2010 combined with a CAGR, for the same period, of 27,0% aggravation in the trade balance. Not only the Public Administration has increased its leverage levels, the households and corporate clients of banks in Portugal have followed the same path.

This kind of leverage was only possible given the banking system that provided liquidity to both Public administration, Corporations and Households and it did not have the expected effect on the Portuguese economy as its GDP has only grown 4,5% CAGR since 1996. Banks' impairments and consequently returns were severely affected as people started to fail their loan payments and Credit Losses went to higher levels. The country's sovereign debt yields show very clearly how markets' perceptions evolved around this issue, as Portugal's problem started to look a lot like the Greek's.

As consequence there were Ratings' reviews that downgraded the Government Debt Securities and consequently to the Nation's Banks, that had considerable amounts of Portuguese Bonds within their portfolios.

The Portuguese Republic has thus recently asked for financial aid in order to cover for its external deficit that was answered by the European Commission – "EC", the European Central Bank – "ECB" and the International Monetary Fund – "IMF". This resulted in the signing of a

Memorandum of Understanding (or the "Troika package") where the Portuguese Government agrees to establish a set of reforms in public spending, working laws, pension payments and also to sell its stakes on a determined group of state-owned companies so that its economy becomes more competitive comparing to other EU economies and that future debt repayments can be met. With the external aid Portugal is going to receive in several quarterly tranches the amount of € 78 Billion.



The Troika package also covers the Portuguese Financial institutions' regulation and allows the intervention by the Government, in order to fulfil harder capital requirements or in case of the occurrence of extreme events, e.g. a "haircut" by Greece or Ireland in their debt obligations to which the larger banks in Portugal are exposed again through their trading portfolios.

It's main objectives concerning the sector are to assure the stability within the financial sector by strengthening its regulation and supervision, provide guarantees in case they are needed, mitigating liquidity risks and an adequate process of deleveraging of the system.

Issuance of Government guaranteed bank bonds is allowed up to EUR 35 billion, having already some of the institutions, e.g. BES, made use of this instrument to reinforce their capital positions.

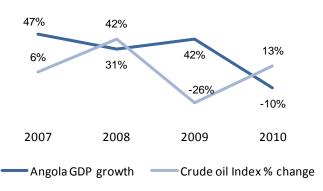
Mandatory medium-term individual funding plans shall be quarterly revised by the EC and the IMF with the aim of achieving targeted leverage ratios, to be indicated by BdP and the ECB.

By the end of 2011 the core Tier 1 capital ratio of all Portuguese banks regulated by BdP shall reach 9% and by the end of 2012 it is targeted at 10%. There is an amount of EUR 12 billion that shall be used in casa some of the institutions are not able to comply with these requirements on time.

It is than forecasted² that, given those reforms and the high amount of debt to repay in the following years, a recession shall occur in the following year.

Angola

Angola is an economy pretty much based on Crude Oil and Natural Gas production and distribution that was one of the world's fastest growing economies in the world before the second semester of 2008 when the price per barrel of the Brent dropped 61,4% from USD 145.24 in July 2008 to USD 56.01 in February 2009. This made the nominal GDP growth rate actually contract 39,2%, from 35,7% to 16,4%¹.



It is still a developing country that needs infrastructure investments in order to sustain its growth potential and this has contributed for the higher growth of the Non-Oil sector comparing to the Oil sector³.

Notwithstanding its economic growth prospects, it is still an emerging country with all of the risks associated with it, i.e. the Government intervention in the economy is still on very high levels which creates incentives for

corruption, as a few people control basically every investment decision within the country.

² IMF

³ OECD – Angola Economic Outlook



In 2009 Crude Oil exports accounted for 94.4% of the Angolan total exports but it also has other important resources as diamonds, coffee and steel.

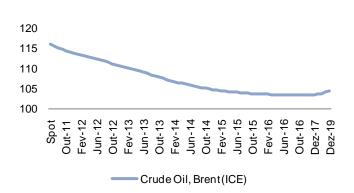
By following Crude Oil prices we can observe a positive correlation with the country's lagged GDP, which may be explained by the fact that the Crude Oil market mainly works through futures contracts, which means that producers sell the barrel at a previously arranged price, and only get affected by price changes in following transactions.

Being driven by commodity prices it normally experiences better economic periods when their prices rise. In 2009 we could see how poorly the Angolan economy did and the correlation with the Crude Oil price. As the price dropped sharply in that year Angola's GDP growth actually rose given previous positive changes in Oil prices, but we can see the effect on 2010, as the high growth emerging country's GDP fell.

For the following years a 35 analyst estimates' mean suggest that prices shall stabilize in the following 3 years and increase again by 2014.

Crude Oil Estimates (USD/Barrel)	2011 E	2012 E	2013 E	2014 E
Median	108,0	107,0	107,5	115,0
Mean	103,7	104,5	104,3	110,1
High	121,0	125,0	125,0	130,0
Low	71,8	72,0	78,0	90,0

Source: Bloomberg



As for ICE, the Brent futures' market prices have implied an immediate drop in Oil prices which indicates some probability of modest growth for Angola in the following years.

BANCO BPI COMPANY REPORT



THIS DOCUMENT IS NOT AN INVESTMENT RECOMMENDATION AND SHALL BE USED EXCLUSIVELY FOR ACADEMIC PURPOSES (SEE DISCLOSURES AND DISCLAIMERS AT END OF DOCUMENT)

The Sector

The Banking Sector

The banking sector has been consolidating over the past decade, where Multi-business Universal banks have emerged offering all kinds of services, namely investment banking, insurance contracts, private equity, asset management to complement the classical retail and wholesale banking.

The sources of revenues for different banks may differ in numerous ways and their business areas may be totally different, despite all being called "Banks".

Before starting with the overview of what the sector is and how it has behaved in the past it is worth mentioning the end of the Glass-Steagal Act by the Clinton Administration in the United States that prohibited commercial banks to have investment banking services within their scope. This Act made it impossible for investment strategies to be pursued with commercial banking funds, mitigating the risk of liquidity in the system as the equity markets tend to be much more volatile than the bond and retail and wholesale loan markets.

The high consolidation observed and the elimination of the previously mentioned law has leaded these institutions to become much more aggressive and sophisticated in what concerns the products sold, marketing and communication, employees and this was ultimately one of the causes of the so-called *sub-prime* crisis as the competition for return in the industry went to such extreme levels that, in order to "survive", banks and basically the whole economy created a distortion in incentives as the measure for success became solely return and no longer return concerning the risk taken.

Banks were forced to beat the financial markets in a consistent basis, or else investors would put their money elsewhere. This resulted in a global scale crisis and in distrust in the financial markets and its institutions as people all over the world started to redeem their funds and investing in much lower risk assets. Financial institutions that had invested in "toxic" assets, that were no more than AAA rated securitized pools of different risk mortgage loans, had to face huge losses on those, combined with the fact that they, by collecting the collaterals, now owned real estate which is much less "liquid" than the mortgage loans. The suspicion on the market lived on those days (2008) made depositors run for their funds, aggravating even more the liquidity problem. Banks started to sell the houses at huge discounts and the Real Estate market prices dropped as it was never seen before.

It is important to notice that within this context some malpractices were revealed by some financial entities, namely rating agencies and hedge funds that are not in the scope of this report and that turned the effects of this crisis even worse.

BANCO BPI COMPANY REPORT



THIS DOCUMENT IS NOT AN INVESTMENT RECOMMENDATION AND SHALL BE USED EXCLUSIVELY FOR ACADEMIC PURPOSES (SEE DISCLOSURES AND DISCLAIMERS AT END OF DOCUMENT)

We can still see the effects of those events nowadays as Basel III is being finalized and regulators are forcing banks the increase their capital ratios, create capital buffers and to have stricter criteria in what concerns the placement of loans, specially mortgage loans, so that the banking system stays sound. In Portugal we can actually see that all the banks selling houses at a discount, but the prices on the market have not changed that much in the past years, indicating that there is not an asset bubble in the country.

Another event already mentioned is the current Sovereign Debt crisis that some economies are living nowadays. The European economies that joined the Euro and are affected by this crisis are mainly Greece, Ireland, Portugal and Spain. These countries Governments have consistently grown their deficits, and other economies and banks all over the world, the "lenders" are concerned that they will not be able to pay these debt obligations. These problems are not yet solved but intervention as been undertaken in the first three economies by the EC, the ECB and the IMF. Greece seems to be the worst case as intervention as been taken first and the country's economy is not working as it was expected. Manifestations by the Greeks have been non-stop as the workers are facing lower security on their jobs, the opposition party is calling for a restructuring of the country's external debt, and some even stand for leaving the Euro so that currency devaluation can take place and artificial competitiveness can be achieved. This Greek problem is immediately linked to Portuguese financial institutions as they hold their debt securities. BPI for instance in 2010YE held EUR 480 billion face value of Greek debt maturing in 2019, and also EUR 355 billion on Irish debt with average maturity also in 2019. Sensitivities to possible "haircuts" in these assets have been made and also to a Portuguese Default.

The last 5 to 10 years the Portuguese banking sector have been characterized by compromised operations in what concerns interest margins and commissions as banks have been fighting over deposits and loans and, although being able to innovate their products, the main consequence as been the reduction of spreads, and commission fees, in order to grow its customer bases. Comparing to other European Banks the Portuguese sector has been one of the poorest performing. It has also been severely affected by the current financial crisis with its impairments going to very high levels in the year of 2008, reflecting a great amount of losses in its trading portfolio.

The Portuguese Banking Sector

The last 5 to 10 years the Portuguese banking sector have been characterized by compromised operations in what concerns interest margins and commissions as banks have been fighting over deposits and loans and, although being able to innovate their products, the main consequence as been the reduction of spreads, and commission fees, in order to grow its customer bases. Comparing to other European Banks the Portuguese sector has been one of the poorest performing. It has also been severely affected by the current financial crisis with its impairments going to very high levels in the year of 2008, reflecting a great amount of losses in its trading portfolio.

BANCO BPI COMPANY REPORT



THIS DOCUMENT IS NOT AN INVESTMENT RECOMMENDATION AND SHALL BE USED EXCLUSIVELY FOR ACADEMIC PURPOSES (SEE DISCLOSURES AND DISCLAIMERS AT END OF DOCUMENT)

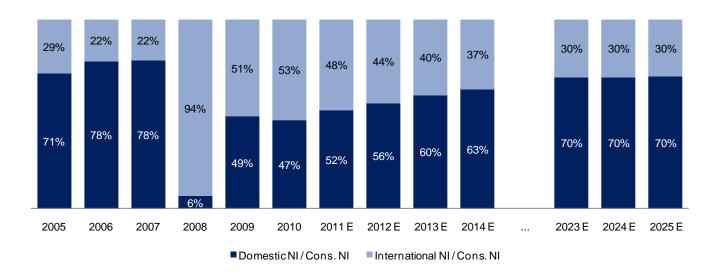
In Portugal banks are regulated by Banco de Portugal - "BdP" and respecting the consolidation trends observed worldwide, there are as main players BPI, BES, BANIF, BCP and the state-owned CGD that account for almost all of the banking activity in Portugal.

Angola's Banking Sector

The profits coming from Angola have benefited in the last years from very high spreads and still low levels of banking activity within the country, having only 4 branches per 100 thousand habitants⁴.

There are numerous financial institutions that have investments in the area through participations in national banks as is the case of BPI.

In 2010 YE the international net income of the financial institution accounted for 53% of the consolidated net income.



BPI is present there, as mentioned before, by its 50,1% stake in BFA that currently stands in the top 5 banks in Angola.

⁴ BPI



Rank 2009	Customer Loans	Total Assets	Customer Resources	Shareholders' Equity
1	BAI	BAI	BAI	BAI
2	BPC	BESA	BPC	BFA
3	BESA	BFA	BFA	BPC
4	BIC	BPC	BIC	BIC
5	BFA	BIC	BESA	BESA
6	BPA	BSOL	BSOL	BCGTA
7	BMA	BPA	MF	BMA
8	BSOL	MF	BCI	BSOL
9	BCI	BMA	BMA	BCI
10	MF	BCI	BCGTA	BPA
11	KEVE	BCGTA	BPA	KEVE
12	BCGTA	KEVE	KEVE	MF
13	BCA	BCA	BCA	BCA
14	BANC	BANC	BNI	BANC
15	BNI	BNI	BANC	BNI
16	BAI	BAI	BAI	BAI

Source: Deloitte

Despite the country's sector great profitability, competition is expected to continue increasing and market share or margins shall drop accordingly,

We can see that in the last few years this phenomenon is already taking place within BPI's subsidiary.



Rank 2009	Cost to Income (%)	Rank 2008	Cost to Income (%)
BCGTA	23,1%	BAI	28,3%
BAI	23,5%	BFA	29,6%
BIC	24,3%	BCGTA	31,1%
BESA	24,9%	BIC	32,0%
BFA	29,0%	BESA	33,0%
FNB	32,8%	BNI	33,8%
BNI	41,9%	KEVE	41,5%
BPC	45,7%	BCI	45,1%
KEVE	46,5%	BPC	47,2%
BSol	50,6%	BSol	49,6%
BPA	51,5%	BPA	59,5%
BANC	57,7%	BMA	70,3%
BMA	62,5%	BAI BMF	85,9%
BCI	62,9%	BCA	95,8%
BCA	67,0%	FNB	115,9%
BAI BMF	80,7%	BANC	135,7%

Source: Deloitte

Angola maybe yielding above average returns comparing to other financial institutions in other countries, but these can be viewed as short-term returns, as in a medium longer horizon if margins can keep up these levels more and more banks shall enter this market causing them to decrease.

Peer Group Market Multiples

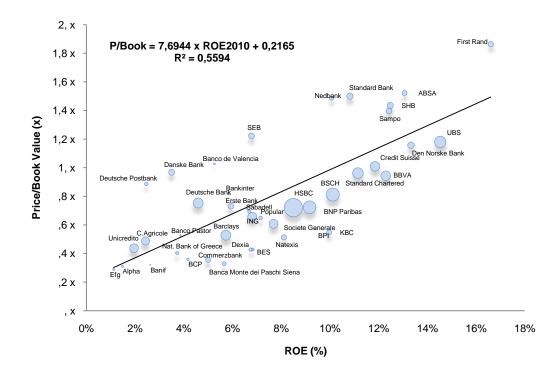
To complement the bank's DCF valuation trading multiples concerning listed financial institutions from all over the world were also studied. The analysis based on industry players aims at testing the reasonableness of both the assumptions and the results yielded from the DCF valuation.

Multiples are frequently misunderstood and more often misapplied. In fact the characteristics exhibited by Banco BPI in terms of fundamentals (e.g. ROE; Ratio of transformation; Cost to Income) and strategy (e.g. geographic mix; diversification degree) are not present in other listed companies. Thus additional caution should be given when considering the employment of ratios and other industry analysis.

Starting with a sample of 48 banks a multiple linear regression analysis was performed in order to get a feeling of the explanatory power of Return on Equity (latest) on the multiples observed in the market nowadays.

As we can see in the following Chart this value driver explains almost 56% of the multiples implied in the different quotes:





The sample was reduced as Greek and Irish banks were considered as outliers, as their ROEs were negative or very close to zero.

The simple and weighted by market capitalization averages of P/B, P/E, P/TA, P/Deposits and P/Loans were taken from the same sample:



Market Multiples Valuation					
Linear Regression	R²	2010	2011 E	Price 2010	Price 2011
P/B	55,9%	1,08 x	,98 x	1,58	1,37
P/E	28,7%	8,99 x	10,13 x	1,68	1,84
P/TA	23,4%	,08 x	,07 x	3,87	3,34
P/Deposits	13,8%	,45 x	,64 x	10,46	15,49
P/Loans	14,2%	,31 x	,43 x	9,40	12,54

Simple Average	2010	2011 E	Price 2010	Price 2011
P/B	,86 x	n.a	1,25	#VALUE!
P/E	8,28 x	11,68 x	1,55	2,12
Р/ТА	,04 x	n.a	1,72	n.a
P/Deposits	,07 x	n.a	1,73	n.a
P/Loans	,06 x	n.a	1,79	n.a

Weighted Average	2010	2011 E	Price 2010	Price 2011
P/B	,98 x	n.a	1,44	n.a
P/E	5,19 x	11,39 x	0,97	2,07
Р/ТА	,04 x	n.a	1,95	n.a
P/Deposits	,09 x	n.a	2,20	n.a
P/Loans	,09 x	n.a	2,69	n.a

Note: Average Weighted by Market Capitalization

Source: Bloomberg



Valuation

Methodology

The Valuation was performed through a conservative Discounted Cash Flow – "DCF" framework since it allows for a good degree of accuracy, robustness and flexibility in the model and, at the same time, incorporates a wide range of available information. This was applied to both, domestic and international activities since they correspond to different business units that most certainly have distinctive value drivers and taking into account the degree of detail in the publicly available information. Thus it seems reasonable to analyze them separately, and then by the sum of the parts - "SOTP" approach we can get to a fair estimate of value for the whole bank.

To distinguish domestic from the international operations a set of distinct financial statements, for each segment, was computed in order to get the different contributions to the consolidated accounts published by BPI on its annual reports. This is obviously a simplification, in the way that these two sets of financial statements represent two theoretical institutions that do not exist, but when summed correspond to the consolidated institution. Nonetheless it allows for the study of how these two different segments, being the most important value components of the institution, have evolved and contributed to the whole business.

Historically it proved to make sense to start with this division as these business areas have been growing at very different paces, and actually represent different business models, that meaning that domestically, the bank is what it is considered today to be an universal bank, offering all kinds of financial products and services, from investment banking services to insurance, private equity, asset management and also retail and wholesale banking, that contrasts with the international operations that are mainly constituted by the participations on BFA and BCI corresponding both to commercial banks, offering only the classic retail and wholesale banking services, and actually growing at a much higher pace.

The method used was the Flow to Equity – "FTE", as it allows for a simplification very much needed when valuing financial institutions, to keep track of the banks' operations and understand how they work and create value. To understand the choice of method it is important to note that when analyzing financial institutions' accounts and financial maps we immediately arrive at serious difficulties in splitting up what are the operations of the bank from its financing activities, that meaning, that financial institutions operate with high degrees of leverage, receiving funds from depositors, and credit holders and then lending these funds or investing them in order to get higher returns comparing to the costs they carry, making it almost impossible to scrutinize from the banks' accounts what is the financial debt of the bank.

The FTE emerges then, as the method that allows for a more clear and confident valuation process as it consists on arriving at a Free Cash Flow after all operations, debt and reinvestment needs have been met,

BANCO BPI COMPANY REPORT



THIS DOCUMENT IS NOT AN INVESTMENT RECOMMENDATION AND SHALL BE USED EXCLUSIVELY FOR ACADEMIC PURPOSES (SEE DISCLOSURES AND DISCLAIMERS AT END OF DOCUMENT)

and then discounts this cash flows at the Cost of Equity – "Ke" that immediately incorporates the risks of the whole business bared by the equity holders.

The Cost of Equity

The Cost of Equity is by definition the return that an investor would demand to invest in Banco BPI's equity, and was computed using as main framework the Capital Asset Pricing Model – "CAPM" and then a few adjustments were made so that Country Risk Premium – "CRP" was taken into account⁵.

The fact that the different geographies were modelled separately demanded different discount rates as the cash flows for the Portuguese operations were projected in Euros and the international in the Angolan Kwanza and then converted to American Dollars as Angola's economic trades are mainly based in the latter.

For the discount rate in EUR the risk free was computed by a geometric average of the differential between the German 10 year government bond and its respective Credit Default Swap – "CDS", (as German's CDS for the 10 year Bond is different from zero this is assumed to be the very small, but existent, default risk by the German Government) of the last 6 years, yielding a risk free of 3,3%. The Equity Risk Premium – "ERP" was calculated using again the geometric average for the same period of the differential between of the returns on the EUROSTOXX 600 that is considered to be a very well diversified European Index, and the previously computed risk free. The ERP in Euros considered is 5,1%.

To estimate the CRP for Portugal it was simply to get the spread of the Portuguese 10 year Treasury Bond index against the risk free asset and, as expected this spread is very high, approximately 4,8 p.p., as the Country is living the, previously mentioned sovereign debt crisis. This spread seems unrealistic as Portugal is not a "true" emerging country, so in 2016 it is assumed that it shall drop to half, remaining at 2,4 p.p. onwards. Historically this spread has been, on average 1,4 p.p., and according to Damodaran, without his adjustment of 1,5x it was on January 2011 0,9 p.p., so the assumption is that although it is considered to be too high, it shall not return to the previously observed levels.

The beta for the Portuguese assets was assumed to be the average of the listed Portuguese banks adjusted⁶ daily betas against the local index, PSI 20 yielding a beta of 1,2. As there are no listed banks with Portuguese operations only this input was one of the variables accounted in the sensibilities.

For the international activity another discount rate was estimated, using as risk free the geometric mean of the 10 year U.S. Government Bond yield minus its CDS, following the same rationale as before, and using the same timeframe. The risk free in USD resulted in 3,8%.

⁶ Adjustment made by Blommberg where:

⁵

^{: - -}



For the CRP, as there are no listed Angola Government Bonds the EMBI+ index by J.P. Morgan was used, although not accounting for Angola's Sovereign Debt, it has a spread of 4,48 p.p. for Ukraine's Government Bonds, and since both countries have the same rating by S&P, B+, they are assumed to be comparable thus having the same CRP. As for Damodaran in January the published CRP was of 4 p.p. and so the arithmetic average of these two, 4,24 p.p. was the value chosen for the discount rate.

The ERP was calculated by the same method applied to the discount rate in EUR, but the inputs used were the S&P 500 daily returns of the last 6 years and the already explained risk free in USD.

For the international beta a sample of South African banks was assumed as comparable, and these banks returns against the local index JALSH were computed. The average of those betas yielded a beta of 0,91 which is the value used for the beta of the Angolan assets.

Nowadays investors are demanding a higher return on a Portuguese asset than they do on an Angolan one. This seems highly unlikely to continue in the future given that Portugal is not a developing country, in the way that it has an educated population and higher standards of living. From 2014 on the Portuguese CRP was reduced to 2,4 p.p.

Cost of Equity	Acronym	Domestic	International
		2.20/	
Risk-free rate	R_{F}	3,3%	3,8%
Country risk premium	CRP	4,8 p.p.	4,2 p.p.
Market risk premium	MRP	5,1%	5,0%
Asset beta	bl	1,20	0,91
Cost of Equity	K _E	14,2%	12,6%

Final Results and Sensibilities

For the 31st December 2011 the price target is €1.47 per share that reflects an equity value of € 857 million for the domestic operations and a value for the stake on the international operations of € 492 million.

It is crucial for the projections to be realistic that a set of conditions are met within the next years mainly, the economic growth of the different geographies where the bank operates, and the new Basel III capital adequacy requirements. Also the events of high impairment losses given the Sovereign Credit Defaults or restructuring possibilities are key factors to consider.



The main assumptions concerning these elements were the following:

		REAL		Explicit Forecast Period					
Macro	2008	2009	2010	2011 E	2012 E	2013 E		2024 E	2025 E
GDP real growth (Portug	gal)								
Base case	0,0%	-2,5%	1,4%	-1,5%	-0,5%	0,9%		1,2%	1,2%
Alternative scenario			Recessor						
GDP real growth (Angol	a)								
Base case	13,8%	2,4%	1,6%	7,8%	10,5%	6,5%		5,8%	5,8%
Alternative scenario			Boosso						
Inflation (CPI - Portugal)	1								
Base case	0,8%	-0,1%	2,4%	1,4%	2,1%	1,3%		1,9%	1,9%
Alternative scenario			Восевои	000000000000000000000000000000000000000		20000000000000000000000000000000000000			
Inflation (CPI - Angola)									
Base case	13,2%	14,0%	15,3%	13,0%	11,2%	7,0%		4,5%	4,5%
Alternative scenario			Bossos						

Source: I	MF
-----------	----

		REAL			Е	xplicit Forecas	t Period		
Other inflation rates	2008	2009	2010	2011 E	2012 E	2013 E		2024 E	2025 E
			g.0000000						
EUR	1,6%	0,9%	2,2%	2,1%	1,7%	1,8%		1,9%	1,9%
USD	0,7%	1,9%	1,4%	2,1%	1,4%	1,5%		2,0%	2,0%

Source: IMF

The remaining different geographies where the bank operates were, for simplification reasons, considered to be part of Angola as well, since they only account for 4% of the international Net Income, and 0,4% of the international Total Assets.

COMPANY REPORT



THIS DOCUMENT IS NOT AN INVESTMENT RECOMMENDATION AND SHALL BE USED EXCLUSIVELY FOR ACADEMIC PURPOSES (SEE DISCLOSURES AND DISCLAIMERS AT END OF DOCUMENT)

In order to have a sense of what shall happen if some of the, considered to be key variables, projections are not met sensibility analysis were performed:

Perpetual Growth (Domestic)

Perpetual Growth (International)

	1,25%	1,75%	2,25%	2,75%	3,25%
3,0%	1,49	1,49	1,49	1,49	1,49
4,5%	1,50	1,50	1,50	1,50	1,50
6,0%	1,51	1,51	1,51	1,51	1,52
7,5%	1,53	1,53	1,54	1,54	1,54
9,0%	1,58	1,58	1,58	1,58	1,58

Greece default

Ireland default

	0%	10%	20%	30%	40%
0%	1,51	1,49	1,46	1,44	1,41
10%	1,49	1,47	1,44	1,42	1,39
20%	1,47	1,44	1,42	1,40	1,37
30%	1,45	1,42	1,40	1,37	1,35
40%	1,43	1,40	1,38	1,35	1,33

Beta Domestic

Beta International

	0,4	0,8	1,2	1,6	2
0,11	2,63	2,19	1,96	1,81	1,72
0,51	2,31	1,87	1,64	1,50	1,40
0,91	2,19	1,75	1,51	1,37	1,28
1,31	2,12	1,68	1,44	1,30	1,20
1,71	2,07	1,63	1,40	1,25	1,16



Key Ratios

		REAL				Explicit Forecast F	erioa		
Ratios	2008	2009	2010	2011 E	2012 E	2013 E		2024 E	2025 E
Growth									
Net interest income	5,7%	-9,1%	7,2%	0,1%	3,0%	-1,0%		2,9%	2,9%
Net commissions	-10,8%	1,9%	0,8%	2,3%	2,3%	1,7%		2,8%	2,8%
Operating income	6,9%	6,6%	-45,3%	-2,5%	-3,8%	-2,3%		0,3%	0,3%
Operating expenses	3,3%	15,5%	34,0%	-1,6%	-0,9%	0,6%		1,1%	1,1%
Operating profit	-2,8%	-1,4%	-5,7%	0,3%	1,9%	-0,3%		2,6%	2,6%
Profit before tax	-51,5%	37,0%	-15,1%	19,9%	13,1%	4,7%		3,0%	3,0%
Net attributable income	-57,7%	16,5%	5,6%	1,5%	14,1%	7,1%		2,8%	2,8%
Total assets	6,1%	10,3%	-3,8%	-2,0%	-0,5%	-1,5%		2,6%	2,6%
Customer loans (gross)	7,5%	2,3%	0,3%	-4,8%	-4,5%	-5,9%		2,9%	2,9%
Customer deposits	24,3%	-11,8%	2,8%	2,5%	3,0%	2,4%		2,9%	2,9%
Shareholders' equity	-8,4%	23,3%	-21,7%	-4,7%	14,5%	-3,9%		3,5%	3,4%
RWAs	0,9%	13,4%	-3,5%	-2,3%	-1,6%	-2,5%		2,5%	2,5%
Balance sheet ratios									
Customer loans (net)/total assets	68,1%	63,1%	65,8%	63,9%	61,4%	58,6%		62,2%	62,4%
Customer deposits/total liabilities + equ	59,6%	47,7%	50,9%	53,2%	55,1%	57,2%		60,6%	60,8%
Interbank deposits/total liabilities + equ	4,7%	9,9%	10,4%	11,6%	11,7%	11,8%		9,2%	9,0%
Customer loans (gross)/customer dep	114,2%	132,4%	129,3%	120,2%	111,4%	102,4%		102,7%	102,7%
Net interest income/operating income	54,4%	50,2%	57,0%	56,9%	57,5%	57,1%		56,4%	56,5%
PBT/Average total assets	0,5%	0,7%	0,5%	0,7%	0,8%	0,8%		0,8%	0,8%
Profitability									
Net interest margin	20,8%	26,0% n.	a.	31,5%	32,8%	30,3%		23,0%	23,0%
Net commissions/ATA	0,7%	0,7%	0,7%	0,7%	0,7%	0,8%		0,8%	0,8%
Net commissions/operating income	25,9%	26,7%	28,6%	29,1%	29,2%	29,8%		32,6%	32,7%
Tax/PBT	23,4%	15,1%	-2,3%	17,4%	17,1%	16,8%		15,9%	15,9%
ROAA	0,4%	0,4%	0,4%	0,4%	0,5%	0,5%		0,5%	0,5%
ROAE	7,8%	8,2%	8,7%	9,8%	10,7%	11,0%		11,7%	11,6%
Payout ratio	n.a. n.	a. n.	а.	200,3%	10,3%	155,8%		102,7%	102,8%
Asset quality									
NPL ratio		1,8%	1,9%	1,7%	1,4%	1,1%		0,8%	0,8%
NPL coverage		16,2%	19,0%	20,2%	24,1%	30,5%		40,9%	40,9%
Loan loss provision/average gross loa	ns	0,3%	0,4%	0,3%	0,3%	0,3%		0,4%	0,4%
Efficiency									
Cost to income ratio	59,0%	58,0%	64,5%	60,1%	59,4%	59,5%		61,4%	61,3%
Operating expenses/average total ass	1,7%	1,5%	1,6%	1,5%	1,6%	1,6%		1,6%	1,6%
Capitalisation									
Equity/Total Assets	4,6%	4,9%	4,3%	4,2%	4,8%	4,7%		4,5%	4,5%
Equity/RWA	8,3%	8,6%		7,4%	8,5%				8,0%



Appendix

Financial Statements

Income Statement	2008	2009	2010	2011 E	2012 E	2013 E	2024 E	2025 E
Interest income	3.089.636	2.245.815	-	1.994.452	1.970.894	2.109.363	3.356.176	3.443.979
Interest expense	2.446.711	1.661.502	-	1.367.171	1.324.687	1.469.673	2.584.723	2.650.253
Financial margin (narrow sense)	642.925	584.313	626.391	627.280	646.208	639.690	771.453	793.726
Gross margin on unit links	6.535	3.251	4.136	4.073	4.054	4.091	4.655	4.711
Income from equity instruments	5.582	4.912	3.733	3.167	3.237	3.328	4.102	4.185
Net comission related to amortised cost	21.159	24.666	30.266	29.808	29.666	29.933	34.063	34.472
Financial margin	676.201	617.142	664.526	664.329	683.165	677.042	814.274	837.094
Technical result of insurance contracts	(12.183)	11.802	16.081	15.838	15.762	15.904	18.098	18.316
Comissions received	294.277	297.519	309.646	318.365	327.921	335.067	454.494	467.494
Comissions paid	(40.894)	(41.656)	(47.694)	(48.191)	(48.394)	(48.534)	(51.504)	(51.815)
Other income, net	52.138	55.555	51.928	50.815	48.693	47.334	43.327	43.075
Net comission income	305.521	311.418	313.880	320.990	328.220	333.867	446.317	458.754
Gain and loss on operations at fair value	41.903	172.837	93.075	90.112	85.283	82.180	79.058	79.053
Gain and loss on assets available for sale	(57.804)	46.121	13.885	13.885	13.884	13.883	13.882	13.882
Interest and financial gain and loss with pensions	36.556	(3.929)	12.197	12.013	11.955	12.063	13.727	13.892
Net income on financial operations	20.655	215.029	119.157	116.009	111.122	108.126	106.668	106.827
Operating income	211.823	32.801	16.445	16.180	16.056	16.159	18.234	18.443
Operating expenses	(15.418)	(18.427)	(25.165)	(24.756)	(24.556)	(24.706)	(27.846)	(28.163)
Other taxes/costs	(4.826)	(4.952)	(6.163)	(6.057)	(5.991)	(6.012)	(6.719)	(6.792)
Net operating expenses	191.579	9.422	(14.883)	(14.633)	(14.491)	(14.558)	(16.331)	(16.512)
Operating income from banking activity	1.181.773	1.164.813	1.098.761	1.102.533	1.123.779	1.120.381	1.369.026	1.404.479
Personnel costs	(419.369)	(400.286)	(431.515)	(388.948)	(392.822)	(393.124)	(502.382)	(514.959)
General administrative costs	(225.865)	(222.012)	(232.148)	(227.941)	(228.713)	(227.949)	(285.015)	(291.698)
Depreciation and amortization	(52.419)	(52.716)	(45.183)	(45.486)	(45.460)	(45.744)	(52.994)	(53.734)
Overhead costs	(697.653)	(675.014)	(708.846)	(662.375)	(666.996)	(666.817)	(840.390)	(860.391)
Recovery of loans, interests and expenses	25.878	21.178	15.870	21.761	21.612	21.196	27.115	27.808
Impairment losses and provisions for loans and guarante	(143.673)	(166.358)	(121.116)	(104.725)	(81.364)	(62.415)	(64.486)	(66.335)
Impairment losses and other provisions, net	(146.637)	(43.586)	(29.122)	(50.818)	(50.634)	(49.775)	(63.851)	(65.499)
Net income before income tax	219.688	301.033	255.547	306.377	346.398	362.570	427.414	440.063
Income tax	(51.351)	(45.387)	5.850	(53.380)	(59.324)	(60.863)	(67.975)	(69.973)
Earnings of associated companies	9.714	18.254	29.131	28.551	28.021	27.927	30.484	30.764
Global consolidated net income	178.051	273.900	290.528	281.548	315.096	329.633	389.923	400.855
Income attributable to minority interest	27.746	98.866	105.732	94.055	101.231	100.496	101.930	104.773
·								
Consolidated net income of the BPI Group	150.305	175.034	184.796	187.493	213.864	229.136	287.993	296.082

COMPANY REPORT



THIS DOCUMENT IS NOT AN INVESTMENT RECOMMENDATION AND SHALL BE USED EXCLUSIVELY FOR ACADEMIC PURPOSES (SEE DISCLOSURES AND DISCLAIMERS AT END OF DOCUMENT)

Balance Sheet	2008	2009	2010	2011 E	2012 E	2013 E	2024 E	2025 E
Assets								
Cash and deposits at central banks	1.088.339	1.443.315	1.328.222	1.405.633	1.422.901	1.438.378	1.960.484	2.016.855
Loans and advances to other credit institutions	227.081	296.744	359.566	187.641	1.076.548	1.856.486	1.538.518	1.617.908
Financial assets held for trading and at fair value throug	2.853.579	1.791.149	1.241.651	1.259.086	1.285.111	1.302.170	1.587.884	1.617.436
Financial assets available for sale	3.262.603	8.934.978	8.156.321	8.282.340	8.447.580	8.567.282	10.466.245	10.662.088
Loans and advances to credit institutions	3.504.198	2.347.750	1.439.145	1.917.870	1.926.120	1.934.757	2.049.395	2.061.090
Loans and advances to customers	29.275.182	29.955.585	30.055.006	28.620.115	27.336.122	25.730.296	35.029.140	36.030.761
Held to maturity investments	407.654	803.124	1.043.584	1.027.805	1.022.913	1.032.119	1.174.509	1.188.603
Hedging derivatives	484.428	316.455	250.263	252.768	257.256	260.477	314.945	320.564
Other tangible assets	331.654	253.603	252.077	252.451	253.845	257.173	303.977	308.696
Intangible assets	15.364	9.714	6.378	6.304	6.288	6.350	7.287	7.380
Investment in associated companies and jointly controlle	137.875	158.909	194.221	192.099	191.689	193.618	222.532	225.411
Tax assets	250.375	213.502	430.610	430.610	422.477	416.721	521.666	535.089
Other assets	1.165.067	924.351	902.769	924.226	907.484	895.753	1.122.953	1.151.895
Total Assets	43.003.399	47.449.179	45.659.813	44.758.948	44.556.334	43.891.578	56.299.533	57.743.776
Liabilities								
Resources of central banks	-	2.773.383	1.245.537	-	-	-	-	-
Financial liabilities held for trading	258.452	318.852	261.493	257.539	256.313	258.620	294.299	297.831
Resources of other credit institutions	2.007.412	4.702.677	4.726.084	5.208.844	5.203.184	5.200.215	5.185.022	5.183.968
Resources of customers and other debts	25.633.620	22.617.852	23.240.863	23.816.480	24.532.276	25.115.101	34.122.934	35.099.868
Debt securities	6.417.808	9.083.621	7.782.274	7.394.693	6.514.484	5.615.997	7.644.251	7.862.723
Financial liabilities relating to transferred assets	2.070.779	1.764.610	1.570.418	1.610.878	1.570.418	1.493.820	1.702.506	1.749.035
Hedging derivatives	596.537	423.811	499.444	508.946	519.834	527.308	673.657	690.017
Provisions	77.565	89.676	110.573	102.506	94.354	90.310	122.766	126.283
Technical provisions	2.246.427	2.139.437	2.991.907	3.068.990	2.991.907	2.845.976	3.243.557	3.332.202
Tax liabilities	62.812	61.153	37.728	37.959	37.616	37.435	47.709	48.962
Participating bonds	28.682	11.792	7.167	3.400	1.617	758	1.032	1.061
Subordinated debt	767.628	652.408	640.389	303.799	144.524	67.713	92.167	94.802
Other liabilities	874.147	507.217	581.988	574.958	573.319	578.920	663.576	671.992
Total liabilities	41.041.869	45.146.489	43.695.865	42.888.992	42.439.847	41.832.173	53.793.475	55.158.744
Shareholders' equity attributable to the sharehold	1.498.103	1.847.032	1.446.576	1.378.377	1.578.912	1.517.591	1.866.403	1.930.622
Minority interest	463.427	455.658	517.372	491.578	537.576	541.814	639.655	654.409
Total shareholders' equity	1.961.530	2.302.690	1.963.948	1.869.955	2.116.488	2.059.405	2.506.058	2.585.031
Total liabilities and shareholders' equity	43.003.399	47.449.179	45.659.813	44.758.948	44.556.334	43.891.578	56.299.533	57.743.776

COMPANY REPORT



THIS DOCUMENT IS NOT AN INVESTMENT RECOMMENDATION AND SHALL BE USED EXCLUSIVELY FOR ACADEMIC PURPOSES (SEE DISCLOSURES AND DISCLAIMERS AT END OF DOCUMENT)

Cash Flow Statement	2008	2009	2010	2011 E	2012 E	2013 E	2024 E	2025 E
Global consolidated net income	178.051	273.900	290.528	281.548	315.096	329.633	389.923	400.855
Operating cash flow:								
Consolidated banking income	1.181.773	1.164.813	1.098.761	1.102.533	1.123.779	1.120.381	1.369.026	1.404.479
Staff and other administrative expenses	-645.234	-622.298	-663.663	-616.889	-621.536	-621.073	-787.396	-806.657
Other income/expenses	25.878	21.178	15.870	21.761	21.612	21.196	27.115	27.808
Equity in net income of affiliates	9.714	18.254	29.131	28.551	28.021	27.927	30.484	30.764
Provisions for banking risks	-290.310	-209.944	-150.238	-155.543	-131.997	-112.190	-128.336	-131.834
Income taxes on operating activities	-51.351	-45.387	5.850	-53.380	-59.324	-60.863	-67.975	-69.973
Funds Generated from Operations	230.470	326.616	335.711	327.034	360.556	375.376	442.917	454.589
Investing activities:								
Additions to intangible assets	89	5.650	3.336	74	16	(62)	(92)	(93)
Additions to tangible assets	(14.729)	78.051	1.526	(374)	(1.394)	(3.328)	(4.643)	(4.719)
Depreciation	(52.419)	(52.716)	(45.183)	(45.486)	(45.460)	(45.744)	(52.994)	(53.734)
Income taxes on depreciations	-	-	-	-	-	-	-	-
Investments	13.085	(21.034)	(35.312)	2.122	409	(1.928)	(2.841)	(2.879)
Funds used in investing activities	(53.974)	9.951	(75.633)	(43.663)	(46.429)	(51.062)	(60.569)	(61.425)
Banking activities:								
Increase/(decrease) cash Deposits Central Banks	-	2.773.383	(1.527.846)	(1.245.537)	-	-	-	-
Increase/(decrease) cash Loans Central Banks	38.057	(354.976)	115.093	(77.411)	(17.268)	(15.477)	(54.795)	(56.371)
Increase/(decrease) corp. loans	(1.963.298)	1.156.448	908.605	(478.725)	(8.250)	(8.637)	(11.476)	(11.695)
Increase/(decrease) retail loans	(2.044.669)	(680.403)	(99.421)	1.434.891	1.283.993	1.605.827	(973.777)	(1.001.621)
Increase/(decrease) securities	1.187.032	(4.855.714)	1.076.604	(106.948)	(232.951)	(211.052)	(172.532)	(175.335)
Increase/(decrease) client deposits	5.011.754	(3.015.768)	623.011	575.617	715.796	582.825	949.743	976.935
Increase/(decrease) debt securities	506.506	2.138.233	(1.558.451)	(712.159)	(1.036.374)	(985.364)	201.065	207.042
Increase/decrease in other assets	(424.391)	408.689	87.774	(23.962)	12.254	8.510	(33.658)	(34.562)
Increase/decrease in other liabilities	(489)	(539.656)	150.404	2.472	9.249	13.075	24.213	24.776
Increase/decrease in prepayments & accruals	(171.471)	35.214	(240.533)	231	7.789	5.576	(11.832)	(12.170)
Capital increase/(decrease)	(121.980)	67.260	(629.270)	-	(46.499)	(29.780)	(17.084)	(17.505)
Dividends	-	-	-	(375.541)	(22.064)	(356.935)	(295.913)	(304.376)
Provisions, depreciations and others adjustments	(523.448)	(94.879)	873.367	69.016	(85.235)	(149.975)	89.602	92.163
Net financial cash flow	1.493.603	(2.962.169)	(220.663)	(938.056)	580.439	458.592	(306.443)	(312.719)
Increase/(decrease) interbank deposits/loans	1.670.099	(2.625.602)	39.415	(654.685)	894.566	782.907	75.905	80.445



Disclosures and Disclaimer

Research Recommendations

Buy	Expected total return (including dividends) of more than 15% over a 12-month period.
Hold	Expected total return (including dividends) between 0% and 15% over a 12-month period.
Sell	Expected negative total return (including dividends) over a 12-month period.

This report was prepared by a Masters of Finance student, following the Equity Research – Field Lab Work Project, exclusively for academic purposes. Thus, the author, which is a Masters in Finance student, is the sole responsible for the information and estimates contained herein and for the opinions expressed, which reflect exclusively his/her own personal judgement. All opinions and estimates are subject to change without notice. NOVA SBE or its faculty accepts no responsibility whatsoever for the content of this report nor for any consequences of its use.

The information contained herein has been compiled by students from public sources believed to be reliable, but NOVA SBE or the students make no representation that it is accurate or complete, and accept no liability whatsoever for any direct or indirect loss resulting from the use of this report or its content.

The author hereby certifies that the views expressed in this report accurately reflect his/her personal opinion about the subject company and its securities. He/she has not received or been promised any direct or indirect compensation for expressing the opinions or recommendation included in this report.

The author of this report may have a position, or otherwise be interested, in transactions in securities which are directly or indirectly the subject of this report.

NOVA SBE may have received compensation from the subject company during the last 12 months related to its fund raising program. Nevertheless, no compensation eventually received by NOVA SBE is in any way related to or dependent on the opinions expressed in this report.

The NOVA School of Business and Economics does not deal for or otherwise offers any investment or intermediation services to market counterparties, private or intermediate customers.

This report is not an investment recommendation as defined by Article 12.0-A of the Código do Mercado de Valores Mobiliários. The students of NOVA School of Business and Economics are not registered with Comissão do Mercado de Valores Mobiliários as financial analysts, financial intermediaries or entities or persons offering any services of financial intermediation, to which Regulamento 3.0/2010 of CMVM would be applicable.

This report may not be reproduced, distributed or published without the explicit previous consent of its author, unless when used by NOVA SBE for academic purposes only. At any time, NOVA SBE may decide to suspend this report reproduction or distribution without further notice.