CATÓLICA LISBON

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Equity Research: Banco Espírito Santo Group

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Abstract

This investment advisory service is supported by some of the most adequate valuation frameworks discussed throughout the literature review, whose purpose is to break down the best quantitative assessment of the financial institutions' equity and come up with a final price target. Thereby, an insightful analysis is provided, in which the source of research is a listed financial institution in PSI20 index – Banco Espírito Santo, the largest capitalised bank in Portugal.

At the end of this dissertation, all the valuation metrics under analysis and the rational will be closely compared to Caixa Banco de Investimento's banking report published on December 13 2011, an up-to-date sector report of the Portuguese banks challenges.

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Preface

This dissertation is an ongoing process of hard work, whose success depends upon the people I have been relying on to obtain privileged information of the company under my coverage, even though it has not been enough to overcome the problem of information scarcity.

When facing the moments of incapacity to reach decisive values that could only be ascertained by the interns of the company, I would like to express my gratitude to Professor José Tudela Martins for his acceptance of other alternatives to fill the gap of no access to the original idea.

Also, the debates between me and Andreia Dias, a master student and close friend who has been carrying out an equity research of a non-financial institution company named Energias de Portugal, revealed to be critical to swing around some of the secretive areas, which have been evolving as the working process becomes tougher and tougher.

I would gladly express my gratitude to CaixaBI analyst André Rodrigues for sending his banking report and showing availability to discuss the most recent hot topics.

Last but not the least, I would recall all the family members who are my right hand and have been telling me words of hope, insofar the financial sector has been increasingly volatile, meaning that information gets easily outdated.

Executive Summary

As of March 30 2012, BES was the largest domestic financial institution listed in PSI20 index with a market capitalization of about € 2 bn, being placed in 4th by weight. The successful profile of BES group translates into the 2nd Portuguese private bank by total assets of € 80,2 bn with an average local market share of 19.3% in FY2011 and around 2.2 mn customers over the world (BES, Factsheet, 2012).

The bank operates in different segments such as Private Banking, Retail Banking, Corporate and Institutional Clients, Asset Management, Investment Banking and International Commercial Banking.

As a motivation to seek for long term profitability, BES Group has been showing a special concern on international expansion for what they call the strategic triangle: Angola, Brazil and Spain. The rationale behind it goes alongside with the need to augment the dynamics in emerging markets that reveal cultural and economic linkage with Portugal.

As for domestic businesses, the strategic moves go hand in hand not only with the need of intensifying customer funds, but also taking advantage of cross-selling insurance to foster banking income growth. The local core competences are corporate banking, trade finance, private banking and investment banking.

This equity research is concentrated on valuing BES by applying a bunch of valuation models that will signal buy or sell recommendations for the financial institutions in the form of price targets issued by the analyst.

BES group was evaluated by four different approaches: Dupont analysis, Excess return model – Damodaran, Equity free cash flow and finally relative valuation. The purpose of this research was to look at the bank's business and understand how each geographical area was creating value for its stakeholders. Hereby, I decided to split up the business into two different core areas: domestic and international.

Therefore, the final consideration is to stick to excess return model to determine the fair value of BES shares. It is the only model that punishes the inability of the bank to generate a positive return to its shareholders in the the domestic business. Nevertheless, it catches the growth opportunities in emerging markets.

The price target of BES was € 1.26, a buy recommendation to investors as it suggested a potential upside risk of 159%.

Moreover, a comparison between my results and those of Caixa BI's Portuguese banking sector was underway from a constructive point of view, putting on display and commenting accurate methodological differences.

Caixa BI's report of the Portuguese financial system published on December 13, 2011 did not take into account the 2011 capital increase of € 530 mn. The bank revised BES fair value per share to € 2.7, down from the previous price target of € 4. Besides that, according to ESN recommendation system, the investment bank maintained its buy recommendation as opposed to the closing price of € 1.13.

Introduction

This equity research is concentrated on valuing a company listed in PSI20 stock exchange by applying a bunch of valuation models that signal buy or sell recommendations for the financial institutions in the form of price targets issued by the analyst. Those frameworks are carefully built, as such stressing out the assumptions and adjustments behind the estimates for the foreseeable periods.

Moreover, a comparison between my results and those of Caixa BI's Portuguese banking sector will be underway from a constructive point of view, putting on display and commenting accurate methodological differences.

The global economic outlook and the sovereign debt crisis in Euro zone were inspirational to pick BES as the subject of research since the bank is a market maker of the Portuguese Republic debt. The constant volatility in the banking sector fostered by the need of pursuing strict capital standards and the systemic funding shortfalls to run the business were no less relevant to move forward with this theme.

Ruffling my dissertation, I intend to split it up into six core parts:

I. Chapter One: Literature review is the critical material to break down the most suitable valuation frameworks in order to better assess BES' value of equity. For a clear understanding, I decide to point out the main methodologies used for equity valuation, afterwards I go deep inside to demystify which ones would be particularly recommended for financial institutions.
II. Chapter Two: Banking industry outlook comprises both the European and Portuguese scenarios for two reasons: First, from a broad sense point of view BES belongs to the European banking list; Second, it is no less relevant to have a close look at the Portuguese banking system to check the latest trends of the sector.
III. Chapter Three: BES historical performance is covered to realize the strengths and weaknesses of the business, even though it does not offer any guarantees for the future of the company.
IV. Chapter Four: Valuation of BES is based on what was previously discussed in the literature review, plus my assumptions to compute it properly. Later on, I come up with a final target price that signals a buy or sell recommendation to the potential investors.
V. Chapter Five: Comparison with Caixa BI' equity research report, attempting to figure out the main differences among the methodologies used and clarify why I believe my procedures are superior at some point.
VI. Chapter Six: A final remark of the ongoing working process.

I. Literature Review

A. Valuation approaches at a glance

All valuation approaches express the same underlying model if the assumptions are consistent.

Damodaran (2006)[1] once said that "valuation lies at the heart of much of what we do in Finance", ranging from the most simplistic to the most sophisticated models. By realizing there is a wide spectrum of models, each one highlights its own specificities to reach a final value for the equity when reporting different fundamentals.

Despite that, we must recognize one thing: "every popular valuation approach is simply a different way of expressing the same underlying model" (Young, Sullivan, Nokhasteh, & Holt, 1999)[2]. This is, all valuation methods are equivalent mathematically speaking, which means that starting from one model we are able to derive any other. Unless there are major differences in the estimates caused by different assumptions, the models can be directly compared in a consistent basis.

In general terms, we know there are two methods to evaluate equity: direct or indirect. As the name suggests, direct method is straightforward as it achieves automatically the value of equity, whereas the latter one we value the whole company – broad picture, i.e., net debt is deducted from the enterprise value in order to reach the value of the company shares.

Managing for value creation depends on long-term cash flows returns, rather than quarterly earnings per share. This is particularly interesting since on October 1, 1974, a paper from Wall Street Journal elucidated a special focus on earnings per share as an indicator of value, a contradiction to the discounted cash flow valuation concept (Rath & Sun, 2008)[3].

Managers thought they would fool the market by concentrating too much on reporting higher earnings per share each quarter – "Cash is King" phenomenon. This would be a good indication of no reliance to DCF concept.

Concerning Damodaran (2006) and Férnandez (2007)[4], there are four different valuation approaches:

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[1] Damodaran, A. (2006). *Valuation Approaches and Metrics: A Survey of the Theory and Evidence.* Stern School of Business.
[2] Young, M., Sullivan, P., Nokhasteh, A., & Holt, W. (1999). *All Roads Lead to Rome: An Integrated Approach to Valuation Models.* Goldman Sachs Investment Research.
[3] Rath, S., & Sun, L. (2008). The Development of Earnings Management Research. *International Review of Business Research Papers*, 265-277.
[4] Férnandez, P. (2007). *Company Valuation Methods. The Most Common Errors in Valuations.* IESE Business School.

Valuation Methods			
Discounted Cash Flow	**Relative Valuation**	**Residual Income Approach**	**Contingent Claim Valuation**
Free Cash Flow to the Firm (FCFF)	EV/EBITDA	Economic Value Added (EVA)	Option Theory
Free Cash Flow to the Equity (FCFE)	EV/Sales	Economic Profit (EP)	
Dividend Discount Model (DDM)	Price-to-Earnings (P/E)	Cash Value Added (CVA)	
Adjusted Present Value (APV)	EV/Sales	Dynamic ROE	
	Price-to-Book Value (P/BV)		
	Price-to-Cash Flow (P/CF)		
	Price-to-Sales (P/S)		

Exhibit 1 – Valuation Methods
Source: Damodaran (2006) & Férnandez (2007)

Over the years financial analysts have been using these methods to value companies whether they are creating or destroying value. However, as my dissertation is an equity research of a financial institution known as Banco Espírito Santo, my comments will encompass specific valuation models related to the financial services firms such as banks.

B. Cost of capital approach

This method is not the best to derive an equity valuation for financial firms.

By stating Damodaran (2001)[5] we ascertain that in the case of financial services such as banks and insurance companies, the cost of capital approach does not apply so smoothly. Indeed, for financial service companies interest coverage ratio[6] spreads must be calculated apart from those for the manufacturing companies in order to determine the ratings of the bonds.

First of all, the interest coverage ratio spreads derived for manufacturing firms will not only deflate the bond rating even for the trustful banks, but also lead to a minor optimal debt ratio. The problem is that there is no direct correlation between bond ratings and interest coverage ratios.

Secondly, given the difficulty in assessing debt due to a mix of short term borrowings, repos[7], deposits and other liabilities, a good solution would be by focusing on interest coverage ratios involving long run interest expenses.

At last, there is a conflict between optimal capital structure and capital adequacy standards launched by regulators, because most of the time seeking optimal debt ratio implies putting at risk mandatory capital ratios.

Copeland, Koller, & Murrin (2000) admit at least two reasons why it is roughly tough to value bank's equity stake by first computing the value of its assets (lending resources)[8]. One of

[5] Damodaran, A. (2001). *Corporate Finance: Theory and Practice.* John Wiley & Sons, Inc.
[6] EBITDA/Interest Expenses.
[7] Repurchase agreements.
[8] The present value of interest income less administrative costs discounted at weight average cost of capital (WACC) then subtracting the present value of interest expenses and consumer administrative costs by discounting at cost of debt (K_d).

the main sources of financing is non-interest bearing customer deposits raised in retail banking, thus its cost of capital dares to be difficult to valuate.

Moreover, another problem related with cost of capital approach is connected to the loans interest, where its spread between it and WACC is so little that it might lead to huge discrepancies in the bank's valuation due to bad estimation of WACC. (Copeland, Koller, & Murrin, 2000).

Income Statement	Balance Sheet	
	Sources	Uses
Interest income	Gross loans due	New loans
+ Fee income	- Provisions and unearned income	+ Increase in securities held
- Interest expense	= Net loans paid	+ Increase in accounts receivable
- Provision for credit losses	+ Increase in deposits	+ Increase in net tangible assets
+ Non-interest expenses	+ Increase in external debt	+ Increase in other assets
+ FX income	+ Increase in other liabilities	- Decrease in deposits
- Taxes	+ Increase in accounts payable	- Decrease in external debt
= Net income		
+ Extraordinary itmes		
+ Depreciation		

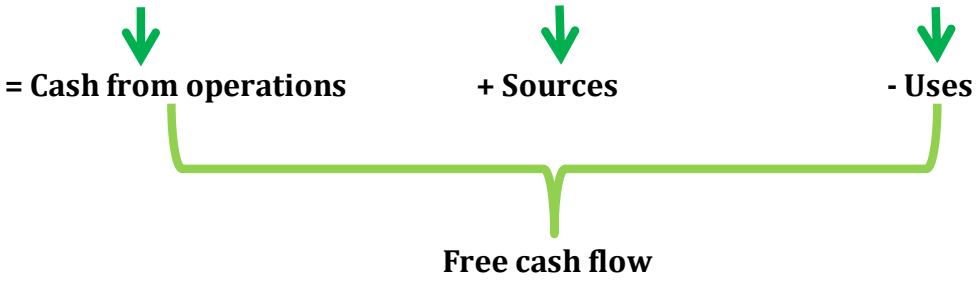

Exhibit 2 – Free cash flow to bank shareholders
Source: Copeland, Koller and Murrin (2000)

The above exhibit is a good example of free cash flow to bank shareholders, where it is represented the cash inflows and outflows. Starting from the income statement, our eyes should be focused on provisions for credit losses and depreciation which are not cash flows. Its only purpose is to reduce taxes and therefore they should be added. On the source side, cash in comes from the paid loans minus the provisions and unearned income (net loans), adding positive changes in deposits, external debt, equity issues, etc. On the contrary, loans, increases in cash reserves and securities held are the relevant cash outflows (Copeland, Koller, & Murrin, 2000).

As for Damodaran (2009)[9], the free cash flow to the equity in the specific case of a normal firms is:

$$Free\ cash\ flow\ to\ equity =$$
$$Net\ income - Net\ capital\ expenditures - Change\ in\ non - cash\ working\ capital -$$
$$(Debt\ repaid - New\ debt\ issued).$$

[9] Damodaran, A. (April 2009). Valuing Financial Service Firms. pp. 1-34.

Unfortunately, for financial institutions we cannot forecast non-cash working capital and depreciation. By mentioning this, the author comes up with three solutions:

- Suppose that dividends are the free cash flow to the equity holders;
- Deem an adjustment in free cash flow to the equity by heightening the regulatory capital in financial institutions[10];
- Value excess returns instead of earnings, dividends and growth rates[11].

C. Equity cash flow model

Granting permission for ECF model.

Albeit free cash flow model to the firm is the recommended approach to value companies, the equity approach is the most suitable for banks since it is easier to account for the creation of value by the liability side of the balance sheet (Copeland, Koller, & Murrin, 2000). This is, as an analyst it is more relevant "to estimate its (company) share of expected future cash flows and then discount those flows at an opportunity cost that compensates the company for the risk it is bearing" (Luehrman, 1997)[12].

Limitations of CAPM.

The share of company's risk in investors' equity portfolios can be directly compared with "its contribution to the risk of the portfolio of all outstanding equities – market portfolio" (Rosenberg & Rudd, 1986)[13]. The problem is lodged behind Richard Roll's critique: CAPM cannot be tested, simply because there is no way to reach the real market portfolio. As a matter of fact, one of the proxies used to represent market portfolio is, for instance, S&P 500, which is as inefficient portfolio since it bears diversifiable risk (McQueen, 1986)[14].

General approval of CAPM.

Thus, the beta, whose purpose is to measure systematic risk of a certain stock, will be biased by taking on risk of S&P 500 – the market proxy, in this particular case (McQueen, 1986). But, at the end of the day, the important thing to mention is that practitioners do use CAPM even with "the average-return anomalies of CAPM" (Fama & French, 1996)[15]. Whether they use single-index models or multi-index models, all of them rely on CAPM assumptions, agreeing that it is valid (Bodie, Kane, & Marcus, 2009).

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[10] $Free\ cash\ flow\ to\ equity = Net\ income - Reinvestment\ in\ regulatory\ capital.$

[11] $(ROE - K_e) \times Book\ value\ of\ equity + Book\ value\ of\ equity = Excess\ Equity\ Return.$

[12] Luehrman, T. A. (1997). What's it Worth? *Havard Business Review*, 132-141.

[13] Rosenberg, B., & Rudd, A. (1986). The Corporate Uses of Beta. *The Revolution in Corporate Finance*, 58-68.

[14] McQueen, J. (1986). Beta is Dead! Long Live Beta! *Revolution in Coporate Finance*, 52-68.

[15] Fama, E. F., & French, K. R. (1996). The CAPM is Wanted, Dead or Alive. *Journal of Finance*, 1947-1958.

The business cash flows must take into account fixed financial claims[16] and the discount rate must bear the risk inherent to those leveraged claims. The leverage property is of great importance when dealing with highly leveraged businesses, which is nothing more than banks' situation (Luehrman, 1997).

Historically, financial service firms have been using more debt as a source of capital than non-financial firms due to the predictability of earnings and less rigorous regulatory standards (Damodaran, 2009), which has been reversing lately as a consequence of new capital adequacy rations imposed by Basel III accord.

1. Saying no to the Use of Option-Pricing Theory

Going back to Luehrman (1997) reasoning, high leverage is viewed as if equity was a call option holded by shareholders. If the business is not on the rocks and managers act in the best interest of shareholders, they will "exercise the option" and pay bondholders what is owed. Unless it occurs that way, banks will default and be unable to provide bondholders their cash flows (periodic interest and redeemable principal at maturity).

Nonetheless, **option-pricing approach** is too complicated in pratical terms because everytime there is a financial claim for the bondholders, the firm has to see wether they are going to exercise or not the option, which is time-consuming. Therefore, levered equity shows up as a sequence of options and options. Saying that so, equity cash flow models beats up option-pricing model due to its feasibility.

D. Dividend Discount Model

A close look at the standard DDM – model attributed to Williams (1938).

Since equity valuation models are "build on the notion that the market value of a share is the discounted value of the expected future payoffs generated by the share" (Francis, Olsson, & Oswald, 2000)[17], dividend discount model (DDM) follows the same reasoning.

DDM was launched by Williams in 1938, in which he equals the value of the equity stake to the present value of all expected dividends until the end of the firm's lifecycle discounted at K_e . Therefore, a standard model would be:

$$Value\ of\ equity\ per\ share = \sum_{t=1}^{t=\infty} \frac{DPS_t}{(1+K_e)^t}$$

, where DPS_t = expected dividend per share in period t , K_e = cost of equity

[16] Interest, principal payments, etc.

[17] Francis, J., Olsson, P., & Oswald, D. R. (2000). Comparing the Accuracy and Explainability of Dividend, Free Cash Flow, and Abnormal Earnings Equity Value Estimates. *Journal of Accounting Research*, 45-70.

An extended DDM from Gordon (1962).

By deriving a special case of DDM, namely the Gordon Growth Model, it is assumed that companies' growth rates are stable over time. We should bear in mind that for this to be possible there are demanded two insights: dividend's growth rate are expected not to be higher than the economy nominal growth rate; earnings growth rate must be equal to that of dividends in order to be in conformity with the steady rate. Thus, the value of equity equals to (Gordon, 1962)[18]:

$$Value\ of\ equity\ in\ stable\ growth = \frac{DPS_1}{K_e - g}$$

, where, $DPS_1 =$ expected dividend per share one year after and $g =$ expected growth rate of dividends in perpetuity.

Some practitioners developed a two stage growth model where the value of a stock follows up a certain growth for the dividends during the explicit period and, thus for the terminal value it is considered a constant growth rate of dividends that will remain the same forever. Then, DDM is modified into (Damodaran, 2009):

$$Value\ of\ equity\ per\ share = \sum_{t=1}^{t=n} \frac{DPS_t}{(1+K_e)^t} + \frac{DPS_{n+1}}{(K_e - g)(1+K_e)^n}$$

, where $DPS_t =$ expected dividend per share in period t

$K_e =$ cost of equity capital

$g =$ dividend's expected growth rate in perpetuity

$\frac{DPS_{n+1}}{(K_e - g)(1+K_e)^n} =$ terminal value or Continuing value

DDM usage in practical terms.

DDM is specifically used in the banking sector, which is not prompted to change its capital structure regularly, preventing K_e to suffer drastic ups and downs. It is defined as the internal rate of return (IRR) that equals the discounted stream of expected dividends to the current market share price (Michaud & Davis, 1982)[19].

As the dividend discount model belongs to a vast list of equity valuation approaches, it highlights dividends as the true cash flow to the equity holders, meaning that when an equity

[18] Gordon, M. J. (1962). The Savings Investment and Valuation of a Corporation. *The Review of Economics and Statistics*, 37-51.
[19] Michaud, R. O., & Davis, P. L. (1982). Valuation Model Bias and the Scale Structure of Dividend Discount Returns. *Journal of Finance*, 563-573.

holder invests in a listed company, he/she receives a return for bearing business risk and is, thus, compensated by the pay out of the investment – dividends.

Nonetheless, companies do not always distribute dividends as part of them is retained for further investments, holding back on cash. As a result, if the equity value will be underweighted, the use of this method is restricted to the following conditions (Damodaran, 2009):

- Either by full payment of free cash flow to the equity holders as dividends due to the requirements coming from real estate investment trusts and the industry;
- Or in the cases of financial institutions where the cash flows cannot be easily forecasted from the financial statements, arising queries about the acknowledgment of debt and deposits, plus working capital and capital expenditures (CAPEX). Hereby, the underlying assumption to resort to this model by analysts is that it is thought of the total pay-out of earnings as dividends.

1. Measuring the advantages and disadvantages of DDM

The pros ...

DDM is simple, intuitive since it is the only cash flow paid to the investors. Likewise, the model does not need a bunch of assumptions – basically what is necessary is the dividend from previous year and an estimate for growth rate (g). Plus, dividends tend to remain stable over time and most of the time firms tend to pay-out the same share, in relative terms, of dividends, even when earnings are volatile.

(...) and cons.

DDM shows at least two limitations. First of all, most of the growth companies do not intend to pay out dividends amid the explicit period. Second, if the Modigliani-Miller Theorem is not rejected, dividend policy is at default non relevant. This is, whether companies own a cash pile or is positioned at lower limit threshold for financing policies, dividends does not add new information to valuation (Gode & Ohlson, 2006)[20].

Indeed, Penman (2011) say it right: "Dividends have to do with distribution of value, not the generation of value (…)".

Plus, Vernimmen, Quiry, Dallocchio, Fur, & Salvi (2009)[21] find DDM to be complex. One of the main variables of DDM is g and they say it looks like a random figure. There is a prominent

[20] Gode, D. K., & Ohlson, J. A. (2006). A Unified Valuation Framework for Dividends, Free Cash Flow, Residual Income, and Earnings Growth Based Models. *New York University*, 1-21.
[21] Vernimmen, P., Quiry, P., Dallocchio, M., Fur, Y. L., & Salvi, A. (2009). Corporate Finance: Theory and Practice. John Wiley & Sons, Ltd.

symptom it is not associated with its openers (margin rate of return, dividend pay-out ratio, financial leverage[22], etc.). In that sense, it may suggest that firms distribute profit randomly in spite of aligning dividends with their economic performance.

The Francis, Olsson and Oswald (2000)[23] paper admits that abnormal earnings model (see FOM) outperforms DCF and DDM by taking advantage of a low median absolute prediction error. This superiority can be explained by two factors: first, fewer distortions in accounting numbers than forecast errors when estimating growth and discount rates. Second, the predictability of the attributes confers more reliable estimates, minimizing the gap between the estimate and the realized value.

E. Equity Excess Return Model

1. The Feltham-Ohlson Model (FOM)

FOM is a linear information model that identifies a multi-period behaviour of abnormal earnings, i.e., the abnormal earnings can be forecasted with a regression analysis. Its purpose is to provide a framework for equity valuation by conjoining accounting variables (earnings and book values) with the introduction of information dynamics (Khodadad & Emami, 2010)[24].

The enthusiastic compliments of researchers have spread all over the world to the Feltham-Ohlson model (FOM). Lundholm (1995)[25] stated that "Ohlson and Feltham present us with a very crispy yet descriptive representation of the accounting and valuation process", i.e., create a connection between accounting numbers and valuation, reviving the residual income model when there was an easier access to analysts' forecasts and computers to implement it (Lo & Lys, 2000)[26].

Likewise, referring to Frankel & Lee (1996)[27], Ohlson model applies well to different accounting measures around the world and from a statistical point of view it has a good explanatory power when presenting high R^2 in comparison with other traditional approaches.

The information dynamics aimed at building bridges with the so-called dividend growth model created by a partnership between Gordon and Shapiro, albeit there is a particular

[22] Net debt/Equity.
[23] Francis, J., Olsson, P., & Oswald, D. R. (2000). Comparing the Accuracy and Explainability of Dividend, Free Cash Flow, and Abnormal Earnings Equity Value Estimates. Journal of Accounting Research, 45-70.
[24] Khodadad, V., & Emami, M. R. (2010). Comparative Assessment of Feltham-Ohlson Sign-Oriented & Traditional Models. *International Research Journal of Finance and Economics*, 1-17.
[25] Lundholm, R. J. (1995). A Tutorial on the Ohlson and Feltham/Ohlson Models:Answers to Some Frequently Asked Questions. *Contemporary Accounting Research*, 749-761.
[26] Lo, K., & Lys, T. (2000). The Ohlson Model: Contribution to Valuation Theory, Limitations, and Empirical Applications. *Journal of Accounting, Auditing & Finance*, 337-367.
[27] Frankel, R. M., & Lee, M. C. (1996). Accounting Diversity and International Valuation. *Working Paper. University of Michigan and Cornell University*.

difference among these two models. The Ohlson model takes into account Modigliani & Miller (1958)[28] perfect capital markets, which stresses out that:

- There are no taxes and asymmetric information in the markets where firms operate;
- Firms are able to raise both equity or debt from external financing sources without costs of issuance;
- There are no bankruptcy and agency costs, hence the management board acts in a way that adds value to the equity holders and the bondholders should not be concerned of wealth expropriation related to dividend policy and investment/financing activities.

The evidence of dividend irrelevancy for stock valuation is another indication that the model resorts to Miller & Modigliani (1961), notwithstanding it does not apply for Gordon-Shapiro reasoning. Besides this limitation, there is room for improvement as long as tax effects are incorporated, agency and bankruptcy costs, asymmetric information and so on to compensate for the market imperfections and turn the model more realistic.

Nonetheless, at the end of the day, the dividend growth model can be reformulated to find similarities with the Ohlson model, implying a final outcome that is nothing more than the summation of book value and a multiple of abnormal earnings (Lo & Lys, 2000).

Shedding some light on three different residual income approaches, Férnandez (2002)[29] states that Economic Profit, Economic Value Added (EVA), Cash Value Added (CVA) does not make any sense to compute the value creation throughout the explicit period, although it is useful to measure individual performance (managers, business units).

Tham (2001)[30], Lundholm & O'Keefe (2001)[31] and Férnandez (2002) show that Residual Income methods lead to the same result as the discounting cash flow (DCF) models. Young, Sullivan, Nokhasteh, & Holt (1999) refer that each traditional valuation is no more than a "different way of expressing the same underlying model" and that can be compared directly to check which assumptions promotes misleadings in the valuations' results.

[28] Modigliani, F., & Miller, M. H. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. *The American Economic Review*, 261-297.
[29] Férnandez, P. (2002). Three Residual Income Valuation Methods and Discounted Cash Flow Valuation. *IESE Business School*, 1-19.
[30] Tham, J. (2001). Equivalence between DCF and RI. *J.F.K. School of Government*, 1-18.
[31] Lundholm, R., & O'Keefe, T. (2001). Reconciling Value Estimates from the Discounted Cash Flow Model and the Residual Income Model. *Contemporary Accounting Research*, 311-335.

Penman & Sougiannis (1996)[32] reinforces the idea by claiming that "dividend, cash flow and earnings approaches are equivalent when the respective payoffs are predicted to infinity" and in the short run analysis "accrual earnings techniques dominate free cash flow and dividend discount approaches" after "truncating" the model to be readily implemented in practical terms – the emergence of the terminal value or continuing value.

Regarding Penman S. H. (2001)[33] reasoning, the difference between the accrual accounting and cash flow accounting is a matter of measurement and recognition, however Lundholm & O'Keefe (2001) counter attacks by saying that accrual accounting can be transformed into "Voodoo accounting" and thus can raise differences between accrual earnings techniques and discounted cash flow models.

Still on excess return models, Damodaran (2009) shows that there are two inputs to value stock: book value of equity and the present value of expected excess returns to equity holders, in which:

$$Equity\ Excess\ Return = (ROE - K_e) \times Equity\ Capital\ Invested.$$

The reason why book value of equity is a more reliable measure than for manufacturing firms lies behind on mark-to-market financial assets of the banks. Moreover, since depreciation is quite low and capital expenditures are little it is hard to estimate financial services cash flows as if they were non-financial businesses.

2. Problems associated with Residual Income Model

The conceptual framework that says RIV and PVED are equal is only truth if clean surplus[34] holds on a per share basis, where the number of shares outstanding automatically remains constant and the issue price is equivalent to the change in book value at a certain date.

Hence, from a dollar value perspective for RIV, the irrelevance of transactions (buy and issue shares) has to be set in accordance with Modigliani Miller theorem and GAAP should not violate clean surplus relation. Plus, any potentially dilutive securities should be crossed off (Ohlson, 2000)[35].

F. Relative Valuation

From Damodaran A. (2006) perspective, a firm's assets are valued based on similar tradable assets. Hereby, a potential investor gives a close look at the market price of similar

[32] Penman, S. H., & Sougiannis, T. (1996). A Comparison of Dividend, Cash Flow, and Earnings Approaches to Equity Valuation. *University of California and University of Illinois*.
[33] Penman, S. H. (2001). On Comparing Cash Flow and Accrual Accounting Models For Use in Equity Valuation. *Columbia University*, 1-21.
[34] The change in book value equals to the difference between earnings and dividends among two periods. Therefore: Net income – Dividends = Retained earnings.
[35] Ohlson, J. A. (2000). Residual Income Valuation: The Problems. *Stern School of Business*, 1-24.

assets in order to reach a final conclusion in its decision. A multiple is a ratio of the market price to a value driver (earnings, revenues, book values, etc).

Generally speaking, firms tend to concentrate too much on DCF approach, once they step forward with a project valuation and Goedhart, Koller, & Wessels (2005) advocates the careful use of Multiples to better assess the market value of a certain company. If the relative valuation is properly done, the main advantages consist of:

- Reliability on cash flows forecasts;
- Comparison of company's performance with any other competitor;
- Assessment of company's strategic position and value creation by keeping an eye on other players moves from the same sector.

Such favoritism of DCF, an almost straightforward method that involves forecasting cash flows and discounting them at an appropriate rate commensurated with the business and financial risks of the firm can be a double-eged sword. First, it is roughly tough to estimate company cash flows accurately and secondly if the discount rate chosen is pure nonsense that can give rise to huge swings in its valuation (Lie & Lie, 2002)[36].

When concentrating on multiples vauation, all practitioners should comply with the main four stages: in the first two stages consider the selection of the value driver and the identification of the comparable companies also known as peer group; in the third stage, after finding the comparable companies, a synthetic multiple should be computed; finally, in the fourth stage, to determine the value of the company we just have to multiply the synthetic multiple by the value drivers (Schreiner, 2006)[37].

The beauty of multiples analysis is that when carrying on the last stage of the valuation it is plenty useful to make a comparison between the value obtained from another methodolody and the one from multiples. Indeed, the bridge between these two valuations ease the discovery of any meaningful gap between the firm and the other competitors (Férnandez, 2001)[38].

According to Penman (2009), a multiple is nothing more than a ratio of the market price and a particular number of financial statements, varying from earnings, book values, sales and cash flows. Therefore, discoding this information into a simpler one, the so-called equity value multiples are: price-earnings ratio (P/E), price-to-book ratio (P/B), price-to-sales ratio (P/S) and, finally the price-to-cash flow ratio (P/CF).

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[36] Lie, E., & Lie, H. J. (2002). Multiples Used to Estimate Corporate Value. *Financial Analysts Journal*, 44-54.
[37] Schreiner, A. (2006). *Equity Valuation Using Multiples: An Empirical Investigation.* Roland Berger Strategy Consultants.
[38] Férnandez, P. (June 4 2011). Valuation Using Multiples. *How do Analysts Reach Their Conclusions?*, pp. 1-13.

Relative Valuation	Multiples
Enterprise Value Multiples	EV/EBITDA
	EV/EBIT
	EV/SALES
Equity Value Multiples	P/E
	P/CF
	P/BV

Exhibit 3 – Main multiples of the Relative Valuation
Source: Damodaran (2006)

Regarding a wide range of multiples that can be computed, P/E and P/B tend to stand out due to its popularity. When having a close look at the valuation approaches most widely used by Morgan Stanley Dean Witter's analysts in European companies, P/E ratio has no direct competition, occupying the first place, which represents, in relative terms, 50% of the analysts. In what concerns P/B ratio, it takes the sixth place corresponding to at least 15% of the analysts (Férnandez, 2001).

Férnandez (2011) also shows that the most popular multiple based on capitalization is P/E ratio and on company's value is EV/EBITDA, depending on the industry. For instance, in financial services Damodaran (2009) reveals the superiority of P/E and P/B ratios.

The first one equals to:

$$Price\ earnings\ ratio = \frac{Price\ per\ share}{Earnings\ per\ share} = \frac{Payout\ ratio\ \times (1+g)}{K_e - g}$$

When interpreting the assumptions behind the ratio we can figure out that P/E ratio is higher as long as financial institutions expect higher growth rates, payout ratios and lower costs of equity. One interesting aspect related to provisions for credit losses is whether a financial institution decides to give rise to it, the report income will shrink and, therefore a higher P/E ratio will persist and vice-versa.

The remaining one is equivalent to:

$$Price\ to\ book\ value\ ratio = \frac{Price\ per\ share}{Book\ value\ of\ equity\ per\ share} = \frac{ROE \times Payout\ ratio \times (1+g)}{K_e - g}$$

This ratio will be high if earnings' growth rates, pay-out of dividends and return on equity are expected to increase, *ceteris paribus*. As opposed to that, cost of equity must be low, otherwise major negative effects will reflect on the ratio.

There is linkage between P/B ratio and ROE: the most attractable shares are the ones whose P/B ratio is quite low and present medium-high levels of ROE (Wilcox, 1984)[39]. This is basically a issue of a buy signal, i.e., the stock is cheap in the eyes of the potential investors.

[39] Wilcox, J. J. (1984). The P/B-ROE Valuation Model. *Financial Analysts Journal*, 58-66.

G. Dupont Analysis for banks

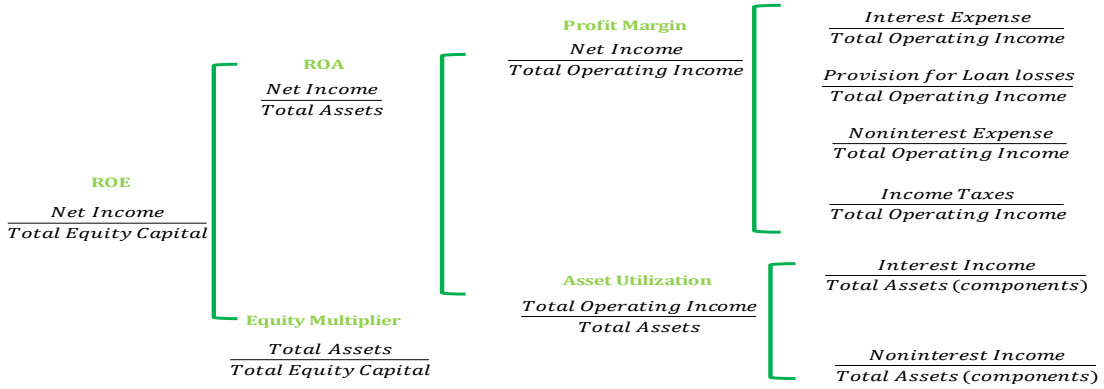

Exhibit 4 –Breakdown of ROE into various financial ratios
Source: Saunders & Cornett (2008)

Saunders & Cornett (2008)[40] specifies a model of financial statement analysis for financial institutions - Dupont system of financial analysis return on equity model. This model splits up ROE into three parts: asset turnover, net profit margin and equity multiplier. The first component analyzes the left side of the balance sheets, i.e., assets; the second one gauges the income statement and the last one looks at the right side of the balance sheet, i.e., liabilities and equity.

The purpose of using Dupont analysis is to carry out a comparative analysis amid individual banks and to observe not only the drivers of ROE, but also check earnings quality.

ROE (see the above exhibit) is a measure of the return to shareholders generated by equity, in relative terms, and incorporates leverage. Hence, ROE is:

$$ROE = \frac{Net\ Profit}{Equity} = \frac{Net\ Profit}{Assets} \times \frac{Assets}{Equity} = ROA \times Equity\ Multiplier$$

If the bank is making profits, a higher equity multiplier increases ROE. Nonetheless, if it is making losses, the equity multiplier increases the probability of default, heightening the risk of bankruptcy.

Although the equity multiplier is a key point to evaluate ROE it has its own limitations. Indeed, it does not consider all the risk related to the company's underlying assets. As a result, Core Tier I is used to compensate this shortcoming.

ROA is part of ROE and expresses the degree of profitability in relation to its assets. If we split ROA up and isolate its key factors we can order them by relevance (Lim, 2010)[41]:

- Net interest income (NII);

[40] Saunders, A., & Cornett, M. M. (2008). *Financial Institutions Management.* McGraw-Hill.
[41] Lim, A. (2010). *Pan-European Banks.* Matrix Group Research.

- Net non-interest income;
- Net non-operating income:
- Operating costs;
- Provisions for credit losses;
- Income taxes.

Another important factor to discriminate is the earnings quality. Of course that if a bank possesses a higher proportion of NII than volatile income and a small amount of provisions for credit losses, it is eventually an indicator of a better asset quality.

As mentioned before, NII is a key element of ROA. Splitting it up we obtain the following formula:

$$\frac{NII}{Assets} = \frac{NII}{Interest\ Earning\ Assets} \times \frac{Interest\ Earning\ Assets}{Assets}$$
$$= Net\ Interest\ Margin \times Earning\ Asset\ Ratio$$

ROA can be improved by increasing net interest margin (NIM) and interest-earnings assets. The latter one is not a differentiating factor as it has been stable over time amid banks. In fact, interest-earning assets represent about 85-89% of total assets (Lim, 2010). Over the financial crisis banks have been achieving a considerable share of deposits from retail banking, which is a cheaper cost of funding than the wholesale borrowing market.

1. Limitation of Dupont Analysis

Although Dupont Analysis disaggregates ROE into different parts, it does not comprehend capital adequacy, asset and liquidity quality. As a consequence, the model has to be complemented with other tools such as Core Tier I, transformation ratio[42] and non-performing coverage ratios.

H. Cross-border valuation

In the international outlook, a country's equity market premium – excess return of the market portfolio over the risk free rate[43] is not so straightforward to determine. The point is that investors usually require a premium for many other risks not considered in CAPM such as FOREX , sovereign, liquidity, industry risks, etc.

Obviously, the discount rate obtained from CAPM may oscillate widely whether it is applied in a domestic or an international context. The acquiring firm operating in a different market would use the same discount rate as the other bidding firm only if the world's stock

[42] Loans-to-deposit ratio.
[43] In Europe, German bunds are perceived to be risk free.

markets were fully integrated, i.e., the beta of the target company would be equal to both bidding companies in relation to the world index and the excess return would be a world-wide equity premium (Bodnar, Dumas, & Marston, 2003)[44].

Notwithstanding, the financial integration in stock markets is limited, which gives rise to three questions concerning country risk premium:

- Should we use the local premium?, i.e., the premium ascertained in the country where the target firm is operating;
- Should we use the domestic premium where the capital comes from?;
- Or, should we assume investors do not bear diversifiable risk?, therefore the best premium is the world-wide premium.

Damodaran (2009)[45] stresses out that practitioners are too much focused on where the firm is incorporated rather than paying attention to where the business is run. Saying that so, a Brazilian company that reports little share of their revenues in its home country than in developed countries will be crucified by Brazilian sovereign risk as the cost of equity will rise heavily.

Hereby, even if the company is less exposed to its home country by proceeding that way we will cut on its valuation, which is pure nonsense. The country risk premium can be estimated by three different ways: default spread for emerging market's government bonds, the standard deviation of the emerging market to the US market, and a default spread multiplied by the ratio of equity market volatility to the government bond volatility – **composite country risk premium**[46] (Damodaran, 2009).

The author founds the latter approach to be more realistic as it relies on three different variables as mentioned above.

In terms of the cost of equity capital computation, the guru of Finance promptly points out two methods:

- If an investor believes that the firms exposure to sovereign risk is proportional to its exposure to the systematic risk – **beta approach**, then:

$$Cost\ of\ equity = R_f + \beta \times (Mature\ Market\ Premium\ + Country\ Risk\ Premium)$$

- If an investors differentiate firm's exposure to country risk from the market risk – **lambda approach**, then:

[44] Bodnar, G. M., Dumas, B., & Marston, C. R. (2003). Cross Border Valuation: The International Cost of Equity Capital. *National Bureau of Economic Research*, 1-53.
[45] Damodaran, A. (2009). Volatility Rules: Valuing Emerging Market Companies. *Stern School of Business*.
[46] Country risk premium $=$ Country Default Spread $\times \frac{\sigma_{\text{Equity}}}{\sigma_{\text{Country Bond}}}$

$$Expected\ return = R_f + \beta \times\ Mature\ Market\ Premium + \lambda \times\ Country\ Risk\ Premium$$

, where $\lambda = \frac{\%\ of\ Revenue\ in\ company's\ country}{\%\ of\ Revenue\ in\ country_{Average\ Company\ in\ market}}$

In what concerns the discount of foreign currency cash flows, Kester & Froot (1997)[47] presents two different methods:

First, the parent company receives from the target company all the cash flows in foreign currency discounted at a consistent rate – **foreign currency discount rate**. After reaching a foreign currency NPV, this one is converted at spot exchange rate to get a home currency result.

Second, the foreign currency free cash flows are directly converted to home currency, discounted at the local currency. This concept is suitable especially if the NPV in home currency is expected to change on a frequenty basis due to its sensitivity to exchange rates. The home-foreign spot exchange rate is as follows throughout the years:

$$Factor = \left(\frac{1 + Government\ Bond\ Yield_{Home}}{1 + Government\ Bond\ Yield_{Foreign}}\right)^n$$

Goedhart & Haden (2003)[48] prefer to conceive two approaches in order to evaluate the emerging-markets risks: Cash Flow approach and Country Risk Premium approach.

In the first method, the cash flows of an emerging-market business are based on two scenarios: under adverse economic distress or in accordance with the business plan – normal scenario. The author assumes a 20% probability of distress for an emerging market context by stating that during a financial turmoil this business would not be worth zero.

Thus, expected cash flows would plunge more than a business from a developed country, but as this distress risk is diversifiable, cost of capital and beta remains the same. The risk would rather be reflected on the cash flows rather than in the cost of capital.

At last, concerning the second approach – country risk premium, the author adds additional risk to the cost of capital and this new discount rate is applied to the normal/usual cash flows for the business lifecycle.

I. Final Remarks

Throughout the literature review, it has hung in the air no single model is the best choice to value a financial institution. Bearing that in mind, I decided to value BES by four different

[47] Kester, C., & Froot, K. A. (1997). Cross-Border Valuation. *Harvard Business School*, 1-21.
[48] Goedhart, M. H., & Haden, P. (2003). Emerging Markets aren't as risky as you think. *McKinsey & Company*, 1-9.

models: Dupont analysis, Excess return model (Damodaran), free cash flow to the equity and relative valuation.

Hence, the final decision for BES fair value will depend on how the model works in two different contexts: domestic and international operations. The one that will reflect better the expansion strategy in emerging economies and the decreasing contribution of the national activity to the net income in the next two years will be chosen.

II. Banking Industry Outlook

A. International banking after the recent financial crisis

1. The Globalisation of Financial Markets

Financial markets have become global over the years ...

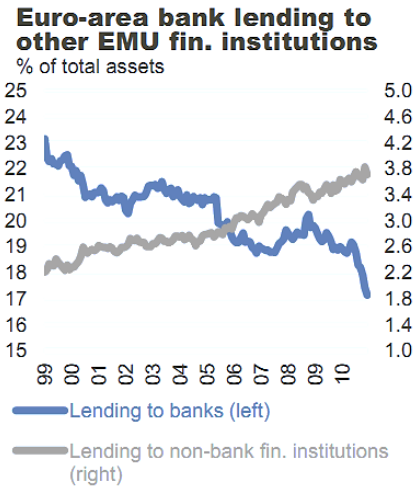

Exhibit 5 - Euro-area bank lending to other EMU financial institutions (% of total assets)
Source: ECB, DB Research

According to Schildbach[49], in a high degree of financial integration, the interbank relations share a significant proportion in the bank's operations, even though Euro-area interbank lending has declined in the years before the financial turmoil. Also, lending to non-bank financial institutions such as mutual & pension funds and insurance companies has grown but at lower rates.

Traditionally, bank lending to domestic players accounted for a significant proportion. This preference can be explained by three reasons (ECB, 2011)[50]:

- Macroeconomic slowdown was more expressive in foreign counterparts than in home countries;
- European banks complied with tighter capital standards reducing leverage in non-euro banks;
- National governments persuaded banks to increase their lending to real economy to mitigate the impact of the financial turbulence;
- State aid programmes played an important role to fill supranational/national capital requirements such as reduction, closure or sale of foreign business areas.

[49] Schildbach, J. (2011). *Home, sweet home? International banking after the crisis.* Deutsche Bank, Research, Frankfurt am Main.
[50] *ECB. (2011). Financial Integration in Europe.*

(…) leading not only to a high degree of international integration among the wholesale banking markets (…)

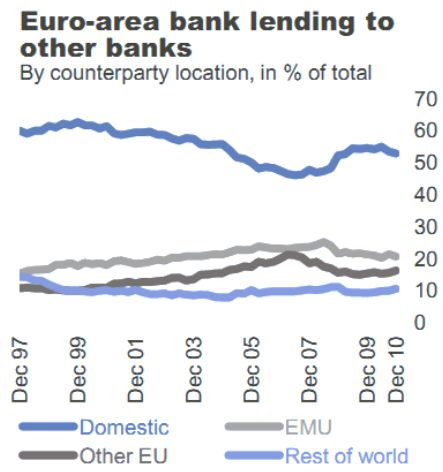

Exhibit 6 - Euro-area bank lending to other banks (By counterparty location, in % of total)
Source: ECB, DB Research

Nevertheless, the development of EMU and a strengthened financial integration in EU wholesale markets contributed to its major fall a decade before the financial meltdown (from 60% in YE97 to 46% in summer 2007). The euro-area bank lending to non-domestic markets rose to 23% and to other EU banks around 21%. In what concerns foreign lending there is evidence of a small exposure. Recently, other EU countries' banks represent approximately 37% of global interbank lending, which is an affluent share (Schildbach, 2011).

From a liability viewpoint – cross border interbank funding through loans and securities, Swiss and EU-15 banks together made up nearly 21% of their total assets, whereas for US banks it only accounted for 4%. After the peak in Spring 2008, American and Western European banks' aggregated funding across borders went downhill to 8.3%, on average, after reaching 11.7% (Schildbach, 2011).

In the aftermath of the financial crisis, when having a close look at euro money markets[51], banks' exposure in home countries for secured transactions increased from 32% in 2009 to 38% in 2010. On the other hand, regarding unsecured transactions, the exposure to national counterparties dropped 4p.p.[52] (from 33% to 29%)(ECB, 2011). This downward trend was also reflected for bank exposure to foreign counterparties both in secured and unsecured transactions.

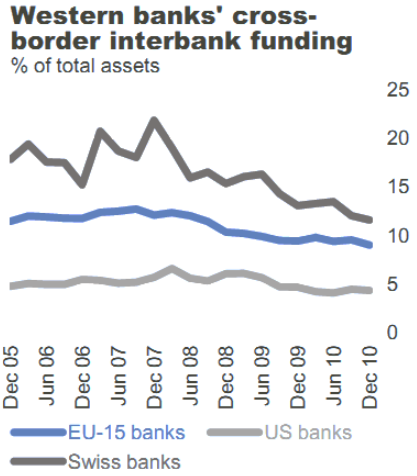

Exhibit 7 - Western banks' cross-border interbank funding (% of total assets)
Source: BIS, ECB, FDIC, SNB, DB

Generally speaking, there was evidence of decreasing unsecured transactions for (domestic, Euro area and Non-euro area), caused by a slump in lending to/borrowing from national and Euro-area counterparties, whereas in secured transactions, the rise in home countries and non-euro area counterparties was at the cost of diminishing exposure to foreign counterparties.

[51] Markets for instruments with short maturities.
[52] From 33% to 29%.

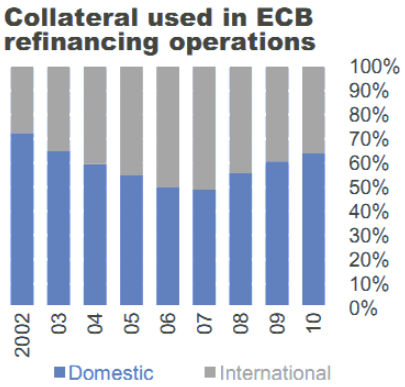

Exhibit 8 - Collateral used in ECB refinancing operations
Source: ECB, DB Research

In respect to refinancing operations within banks and central bank, the portion of domestic collateral used fell from 2002 to 2008, as banks preferred to exchange foreign assets for ECB funding. Interestingly, since the outbreak of euro sovereign debt crisis in 2010 followed by ongoing rating downgrades, cross-border collateral turned less appealing (Schildbach, 2011).

The Equity Research team of JP Morgan updated on September 13 the movements in the EUR interbank market. 3M EURIBOR did not follow the drop in 3M EONIA swap rate as the latter one plunged from 0.9% (August 30) to 0.7%.

Instead, the spread between EURIBOR and EONIA on a 3 month basis went up to 84bps in comparison with the 65 bps obtained in the preceding two weeks of this explicit period (Abouhossein, et al., 2011)[53].

In July 2011 two peripheral banks such as greek and irish increased their level of dependency on ECB: greek banks from 19.8% in the previous month to 20.5% and irish ones from 15% to 15.3%. In June 2011, the remaining polemical peripheral banks reduced reliance on ECB liquidity: Portugal from 8.2% in May to 7.7% and Spain from 1.6% to 1.3% (Steenis, Tondi, Antonucci, & Timperley, 2011)[54].

Peripheral Banks				
	Greece	Portugal	Ireland	Spain
May		8.2%		1.6%
June	19.8%	7.7%	15%	1.3%
July	20.5%		15.3%	

Exhibit 9 - Peripheral banks' reliance on ECB liquidity
Source: Morgan Stanley

(…)but also to a rise in international investment activity and cross-border banking relation with non-bank clients.

G20 countries[55] received the highest share of FDI inflows[56] accounting for at least 70% in 2010, in which emerging markets played a major role – China ($ 207 billion),

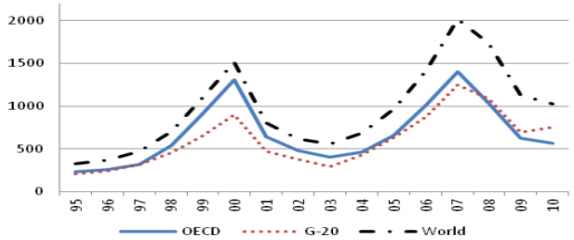

Exhibit 10 - FDI inflows in US$ billion
Source: OECD

[53] Abouhossein, K., Kot, J., Ranjan, A., Lee, D., Becerril, J., Cicconetti, E., et al. (September 13 2011). European Banks. *Funding and Liquidity Tracker*, p. 1.
[54] Steenis, v. H., Tondi, F., Antonucci, D., & Timperley, A. (29th July of 2011). European Banks. ECB survey highlights the challenge for bank lending, pp. 1-4
[55] 19 central banks: Argentina, Australia, Brazil, China, Canada, France, Germany, India, Indonesia, Italy, Japan, Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom, United States.
[56] Foreign Direct Investment inflows.

Brazil ($ 48 billion), Russia ($ 41 billion) and India ($ 23 billion). OECD countries[57] represented only 55% of the total FDI inflows (OECD, 2011)[58].

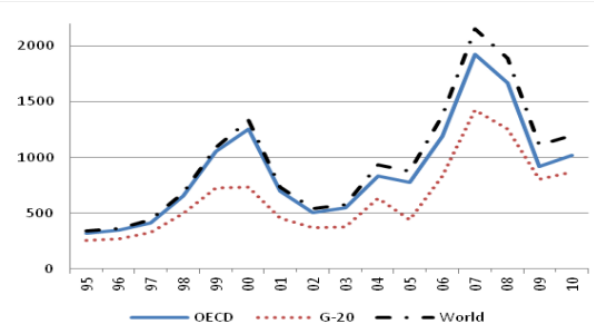

Exhibit 11 - FDI outflows in US$ billion
Source: OECD

In addition, the FDI inflows in EU-15 banks reached the top in 2007, even though outward flows outperformed them, thanks to a considerable presence of Western EU banks in emerging markets. Nonetheless, after the financial turmoil, FDI volumes slumped heavily, remaining a small volume of outflows (Schildbach, 2011). Pointing at FDI outward flows, after the dramatic declines in 2008 and 2009, world countries increased by 7.5% to $ 1,197 billion in 2010. As for OECD countries, they accounted for 85% of total FDI outflows ($ 1,108 bn), facing a climb of 11% from 2009, in which the most representative countries were: USA ($ 346 bn), France ($ 123 bn) and Germany ($ 97 bn) (OECD, 2011).

Most of the FDI investments are the so-called mergers and acquisitions (M&A). Up to 2007, those deals rose substantially, hitting the top, however right after the economic and financial downturn, M&A transactions (the majority of domestic moves) were easily countable as volumes turned out to be quite low in 2009. Recently, cross-border M&A have been recovering, even though absolute values were small-scale (Schildbach, 2011).

In a broad sense, the percentage of foreign-owned banks in the EU-25 rose until the crisis from 23% in 2003 to 29% in 2007 (6 p.p.) due to an increasing share of other European banks, stressing out the strength of the European market integration. Over the years, the market share of non EU banks tended to stabilise, which indicates that it was not the main driver of the foreign-owned banks' rise (Schildbach, 2011).

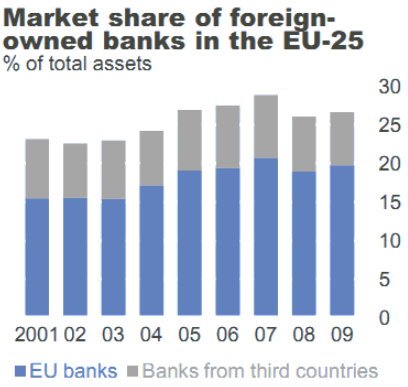

Exhibit 12 - Market share of foreign-owned banks in the EU-25
Source: ECB, DB Research

[57]34 countries; Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States
[58] OECD (May 2011). Investment News. Issue 15.

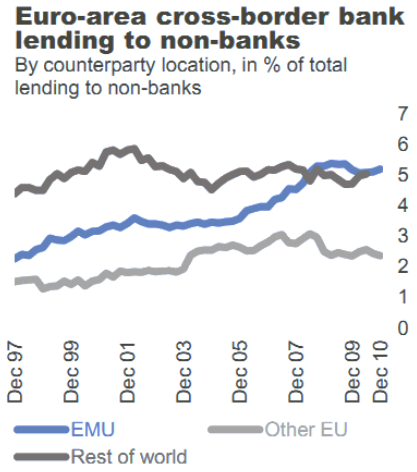

Exhibit 13 - Euro-area cross border bank lending to non-banks (by counterparty location, in % of total lending to non-banks)
Source: ECB, DB Research

Furthermore, cross-border bank lending to non-banks is limited in the euro-area financial market. The point is that all the loans granted by european financial institutions to non-financial business in other EU did not exceed 8% of the total book of loans to non-banks. As opposed to this, EMU accounted for almost two-thirds. One good example was when German banks (one of the EMU countries) granted an amount of € 2,584 bn out of a total of € 2,773 bn to private households, corporates and governments in Germany and the remaining € 189 bn would go for other european countries such as France, Italy, Spain, etc.

2. Portuguese banking system

The loan loss reserves increase at a fast pace ...

In Q3 2011, the main six Portuguese banks'[59] banking activity measured by total assets levelled off after a major drop in the Q1 2011 caused by a decline of the available for sale financial assets portfolio and the disposal of loans portfolio.

Concerning the data on a consolidated basis, total assets suffered a virtual increase of 0.1% in relation to the Q2 2011, however yoy[60] results plunged by 2.5% – **see appendix 1**(Portugal B. o., 2011). As regards the net credit to customers, its slight drop revealed an upward leap of credit provisions (impairments), a driver of the cost of risk to impose against the surge of the overdue loans, whereas the credit portfolio seemed not to recede.

Shedding some light on the financial assets portfolio of the Portuguese banking system, the improvement of the derivative instruments in the trading portfolio averaged out the downward trend of debt and equity securities (Portugal B. o., 2011).

The need of complying with the capital standards was witnessed by the rise of customer resources (deposits) of 1.9% qoq[61], while debt securities fell down. The funding from central banks and other institutions also rose slightly. Furthermore, the decline of subordinated debt[62]

[59] Caixa Geral de Depósitos, Espírito Santo Financial Group, Millennium BCP, Banco Português de Investimento, Banco Santander Totta and Caixa Económica Montepio Geral, accounting for 77% of the portuguese banking system by June 2011.
[60] Year-on-year.
[61] Quarter-on-quarter.
[62] According to the new capital policies, they are not eligible in terms of CT1, making them sort of an unattractive source of funding.

of 15.9% qoq lied behind the banks' repurchase of their own bonds, taking advantage of the discount at the secondary market - **see appendix 1** (Portugal B. o., 2011).

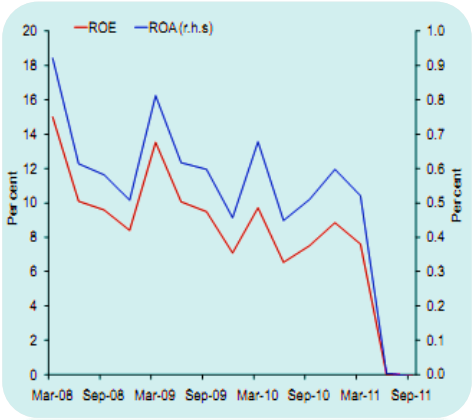

Exhibit 14 - ROA and ROE of the six major banking groups
Source: Bank of Portugal
Note: Quarterly data have been annualized. Indicators calculated on income before tax and minority interests

In what concerns income pre-tax and minority interests they decreased sharply, leading to less satisfying profitability ratios – **see appendix 2**. The cause of this fall was due to a relevant decrease of the financial assets portfolio, which included a 21% deduction of the nominal value of all the long positions in Greek debt (Portugal B. o., 2011).

The release of impairments also impacted negatively the profitability ratios, although not so harsh as the previous quarter (Q2 2011).

Giving an in-depth look at interest and non-interest income, both tended to stabilise, whose path signalled resilience throughout the turmoil period. Likewise, it was notorious the diligence to reduce operating costs, whose purpose was to seek higher levels of efficiency (lower cost-to-income ratio).

Considering the own funds adequacy ratio, in September 2011 there was a slight dip from 8.4% to 8.3% provided not only by the actuarial deviations of the banks' pension obligations, but also the 21% deduction aforementioned – **see appendix 3** (Portugal B. o., 2011).

B. Banking profitability in the aftermath of the 2008 financial crisis

At first instance, European bank profitability seemed to boost more than expected ...

Stressing out profit and loss trends from Scheuermeyer (2011)[63], European banks have started to grow slowly, although more than was actually expected. The main drivers of the profits' recovery were:

- Constant increase in NII[64];
- Rebound in trading income;
- Decrease of loan loss provisions.

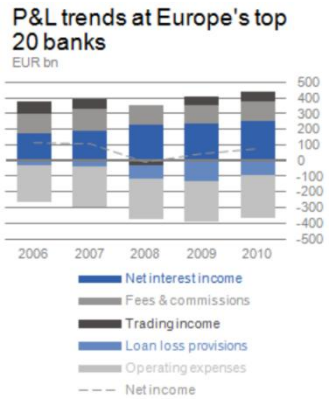

Exhibit 15 - P&L trends at Europe's top 20 banks
Source: Company reports, DB Research

First of all, starting by NII, it is the most important component in terms of banking revenues. From the

[63] Scheuermeyer, P. (August 3 2011). Talking Point. *Bank Profitability After the Crisis*, pp. 1-2.
[64] Net interest income.

financial crisis onwards, this upward trend was a result of a slump in central bank rates and funding costs (Scheuermeyer, 2011). Notwithstanding, it is important to stress that NII only grew 2.9%[65] from 2008 to 2011 – **see appendix 5** (Spick, 2011)[66].

Although trading income is highly volatile, there was a jump to €60 bn of profits in 2010 right after announcing a loss of €30 billion in the previous year (2008) (Scheuermeyer, 2011). The fact is that European banks tended to be ex-growth and without accounting for this variable, CAGR of revenues was near 2.1% - **see appendix 5** (Spick, 2011).

Last but not the least, the decline in loan loss provisions was beneficial as it turned out to be just one third in comparison with post-crisis highs. However, the sovereign debt crisis and fiscal consolidation may provoke loan losses to rise, i.e., pushing up loan losses provisions to have a bigger share in P&L statements (Scheuermeyer, 2011).

In what concerns fee and commission income generated by securitized and structured products the moment preceding the recent crisis, it has been falling as investors' risk aversion tended to increase, implying higher returns for the same level of risk (risk/return trade-off).

(…) however, analysts defend they will go ex-growth – a downside reaction to sluggish macroeconomic conditions.

Strangely, after all these statements, future prospects for banking profit growth will tremendously slow. The problem is that the drivers of an increasing net income until 2007 will probably not be able to improve the post-crisis figures in the medium/long run. When all were just "peace & love", low interest rates, fast lending growth and low credit losses were the components that helped net income boost mostly in an unsustainable direction.

Over Q2 2011 earnings for 46 banks under Deutsche Bank coverage, the adjusted profit forecasts plunged by 8% both in 2011 and 2012 due to a weak NII and trading income, operating costs and high expectations for bad debt expenses – **see appendix 4**(Spick, 2011).

For those countries that went through a real estate bubble, credit growth will be almost static on behalf of private households needing to diminish their indebtedness. On the other side, for those countries that did not suffer from a real estate crisis, all the developments inherent to low interest rates will lead to small net income margins.

Likewise, there is another side of the story: As long as interest rates start to rise, funding costs will also jump. At some point we have the possibility to check this out from the capital standards of Basel III, deposit insurance premiums, higher sovereign refinancing costs, etc. From

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[66] Spick, M. (August 24 2011). European Banks Strategy. *Ex-growth and challenged: a bleak outlook for banks*.

a volume perspective, the effect of higher interest rates is damaging for the credit growth, which slows NII.

It is also intriguing that top management is conscious about the negative effects of stricter regulatory rules and they spend little time developing strategies to overcome some of their limitations (Marrs & Rizzi, 2011)[67].

As the benefits of decreasing interest rates start to mitigate, NII slows down, putting at risk the possibility of this component acting as the main source of revenue. More than that, a sluggish economic growth allied to an increasing sovereign indebtedness quite slims down credit growth and enables the end of low loan loss provisions. At last, since trading income suffers ups and downs on a frequent basis due to fresh and stricter regulations, banking profitability scenario does not look appealing.

A McKinsey Global Survey of executives in financial services says inquiries expected little growth in respect to ROE because only 19% of the respondents claimed this financial ratio exceeded 15% in the previous fiscal year – pre-crisis expectations (Marrs & Rizzi, 2011)[68] – **see appendix 6**.

Thus, how can banks achieve growth in such an adverse scenario? There are at least three strategies European banks should pursue in the near future (Spick, 2011):

- Investments abroad in emerging markets;
- Cost-cutting programmes measured by cost:income ratios and costs to market capitalization;
- M&A, albeit from the point of view of the author it had destroyed value historically[69].

C. Basel III accord

Basel Committee on Banking Supervision has a word on capital adequacy requirements…

Basel III consists of "the Basel Committee's reforms to strengthen global capital and liquidity rules with the goal of promoting a more resilient banking sector", since it is the "foundation for sustainable economic growth" (BIS, 2010).

Concerning the press release on September 12 2010[70], the Basel Committee on Banking Supervision approved higher global capital standards, first discussed on July 26 2010. This

[67] Marrs, A., & Rizzi, W. (2011). Mckinsey Global Survey results. Assessing banks' confidence after the crisis, pp. 1-9.

[69] Throughout history (1999 – 2011), the 46 banks assessed by Deutsche Bank made 650 acquisitions adding up to €679 bn. Nonetheless, the current market cap for this set of banks was just €630 bn, meaning that over 12 years, they were unable to create value for the banking sector.

reforming package heightens the minimum common equity as of January 2015 from 2% to 4.5% plus a conservation buffer of 2.5% to ensure loss absorbing capital for periods of financial stress, making a total of 7%. As for Tier 1 capital and total capital they must account for 6% and 8%, respectively, in addition to a conservation buffer of 2.5% - **see appendix 7**.

Likewise, a countercyclical buffer within 0% - 2.5% range of common equity or other type of loss absorbing capital is recommended to provide insurance for periods of excess credit growth. Regarding the leverage ratio, the Basel Committee will test a minimum Tier 1 leverage ratio of 3% under a certain period of time (from Jan 1 2013 – Jan 1 2017) aiming to migrate to Pillar 1 on January 1 2018, right after a model calibration taking into account all the observations during the testable period – **see appendix 8**.

These capital requirements will be phased-in between January 1 2013 and January 1 2015. As of January 1 2013 banks will have to comply with certain requirements in relation to risk-weighted assets – **see appendix 8**:

- 3.5% common equity/RWA;
- 4.5% Tier 1/RWA;
- 8% total capital/RWA.

The regulatory adjustments[71] should be totally deducted from common equity by 1 January 2018, meaning that as of 1 January 2014 will be deducted only 20% from common equity and from that moment on it will increase 20 p.p. until it reaches 100% (fully deduction) – see appendix 8.

There will also be a transition arrangement for the conservation buffer which will go from January 1 2016 to YE 2018, starting at 0.625% of RWA, adding up each year 0.625 p.p. until it becomes fully effective on January 1 2019 – see appendix 8.

Capital injections from national governments will persist until January 1 2018. Capital instruments not qualified as Tier 2 will be withdrawn during 10 years and from January 1 2013 onwards will be derecognized by 10 p.p. per year. On the other hand, the capital instruments that do not belong to common equity Tier 1 will be eliminated from common equity as of January 1 2013 – see appendix 8.

D. Troika measures for the Portuguese financial sector

After EU, IMF and ECB approved Portugal's bailout program, it is demanded from the Portuguese nation an outstanding effort to achieve the objectives proposed by the Troika board.

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[70] BIS. (September 17 2010). Press release. *Group of Governors and Heads of Supervision announces higher global minimum capital standards*, pp. 1-7.
[71] Deductions and prudential filters.

Therefore, there is a special concern on those subjects to ensure financial stability and eliminate further negative effects in this weak economy (Commission, 2011)[72]:

1. Liquidity

Bank of Portugal agreed on the issuance of government guarantees bank bonds, totalling €35 bn and for bank collateral about €28 bn as it would be a fair amount for the banking refinancing needs (IMF, 2011)[73];

2. Deleverage programme

Bank of Portugal (BoP), ECB, European Commission and IMF established leverage ratios for banks and those must be committed to the planning of deleverage programmes in the medium term as they will be assessed by BoP on a quarterly basis through SDAF[74].

3. Capital buffers

All Portuguese banks must obtain a core Tier 1 of 9% by year end 2011 and 10% until the end of 2012, maintaining it ahead through deleverage and capital increases. This rule is broadly in line with a weak July EBA stress test. Likewise, BoP will submit new stress tests on a quarterly basis to check the need of regular capital increases. At the moment, it is not expected further deposits to the BSSF[75] account at the BoP.

4. Caixa Geral de Depósitos

This state-owned bank is forced to strengthen its capital ratio. The group plans the sale of its insurance arm and non-core subsidiaries plus the reduction of cross-border operations, if necessary.

5. Solvency and liquidity

Bank of Portugal has been working on the improvement of solvency and deleverage mechanisms. It sought a review from EC, ECB and IMF specialists to see the main weaknesses of them at end-September 2011. In the end of June 2011, for the supervision of solvency parameters, BoP pointed out the assets that could be validated for the assessment after relying on EC, ECB and IFM competencies (Commission, 2011).

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[72] Commission, E. (May 17 2011). Portugal. *Memorandum of Understanding on Specific Economic Policy Conditionality*, pp. 7-10.
[73] IMF. (2011). Portugal: First Review Under the Extended Arrangement. *IMF Country Report No. 11/279*, (pp. 11-13).
[74] The Solvency and Deleveraging Assessment Framework.
[75] Bank Solvency Support Facility.

6. Regulation and supervision

BoP was concerned of recruiting new banking supervisors to clarify the recognition of non-performing loans and implement a stricter bank evaluation system. Furthermore, bank and deposit guarantee fund legislation was updated in accordance with EC, ECB and IMF heads (Commission, 2011).

7. Corporate and household debt restructuring

By end-December 2011, the Insolvency law was amended in consultation with IMF supervisors and corporate stakeholders so that restructuring plans would move faster in the court. Tax and social security administrations were allowed to use a wider range of restructuring tools as long as creditors approved the restructuring of their claims. As for restructuring tools, they were communicated for instance through training, information means, etc (IMF, 2011).

8. Corporate and household monitoring

The authorities were on the field to enhance financing opportunities for SME especially coming from the financial markets and a quarterly report of corporate and household sectors were underway to check out the last events. As SME sector is delicate, the ministry of Economy was planning the opening of a credit extension.

E. EBA's EU stress test in 2011

On July 15 2011, European Banking Authority revealed the results for EU stress test covering a total of 90 banks in 21 countries. The purpose was to assess the financial stability of the largest banks in Europe in an adverse scenario taking into account a deterioration of some macroeconomic variables such as GDP, unemployment and house prices. The bank resilience was tested against the highest quality capital named Core Tier 1 (CT1) set at 5% of RWA (EBA, 2011)[76].

As a whole, eight banks[77] failed the stress tests since their CT1 ratio fell below the threshold of 5% in the adverse scenario adding up to a shortfall of €2.5 bn (EBA, 2011). Interestingly, Deutsche Bank European Banks Team believed "the risks are also rising, and the amount of €2.5 bn capital to be raised is no game-changer" (Spick, 2011)[78] as it looked too optimistic to be credible. On the contrary, sixteen banks were within the range 5% - 6% (EBA, 2011). However, it should not be forgotten that if there were not any capital increases during the

[76] EBA. (2011). *2011 EU-Wide Stress Test.*
[77] Two greek, five spanish and one Austrian.
[78] Spick, M. (July 17 2011). *Stress Tests.*

first four-month period of 2011, twenty banks would be placed below the benchmark threshold, implying a total shortfall of €26.8 bn (Moec, Stringa, Wall, Buckley, Grady, & Heider, 2011)[79].

Also, EBA recommends the national entities to oblige banks which fall below the 5% threshold to recapitalize in the near future. Furthermore, the banks whose CT1 is above 5% of RWA and still have high sovereign exposures should comply with specific criteria in order to strengthen their capital ratios (Moec, Stringa, Wall, Buckley, Grady, & Heider, 2011).

1. General analysis by country

Information provided by Fitch Ratings[80]:

a) Spain

From the Spanish banking system, seven banks and 18 saving banks groups undertook stress tests, accounting for 93% of market share, in which five banks were unable to reach the minimum 5% CT1 of 5%.

As a matter of fact, the weakest financial institutions had large exposures to the real-estate and construction sectors and low capital levels, needing support from FROB[81] to pass the 5% mark through mandatory convertible preference shares and capital.

Focusing on the generic reserves, they were not used to absorb capital losses and from Fitch Ratings point of view that would raise ratios of a large bank sample to above 6%.

As opposed to the weakest banks, Spain's largest banks – Santander and BBVA reported CT1 of 8.4% and 9.2% at year-end 2012 under the adverse scenario, respectively. Both banks benefited from retail banking earnings and international diversification, even though there were applied stringent assumptions to the Spanish banking system. For instance, the retail mortgage portfolio suffered a cumulative house-price decline until 2012 of 21.9% and the real estate sector a cumulative property price decline of 46.7% - well above the EU average.

b) Italy

Italian banks still need to progress in terms of capital increases as the €10 bn of fresh capital during 2011 was not enough. Taking into account the Bank of Italy, Italian banks must reinforce their capital position of about €20 bn to be in accordance with the 2019 Basel capital standards.

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[79] Moec, G., Stringa, M., Wall, M., Buckley, G., Grady, C., & Heider, M. (July 22 2011). Focus Europe. *Euro Summit at the Top of Our Expectations*.
[80] Ratings, F. (July 20 2011). Spanish, Italian and Portuguese banks: EBA stress test results. *Funding: Cost and access remain common concerns*, pp. 1-11.
[81] *Fondo de Reestructuración Ordenada Bancaria* – Banking bailout and reconstruction program.

The credit risk implied by the loan book was the main concern as the Italian economy remains sluggish, leading to the deterioration of impairments not only in a tough scenario, but also in the baseline scenario.

In respect to the profitability of the Italian financial sector when considering the toughest scenario, it is under pressure since four of the five banks report losses in 2011. Concentrating on the main driver of income – NII, from 2009 onwards it suffered steadily by the drop of the interest rates, reducing the spreads over customer deposits when scrutinizing the loan portfolio. Indeed, higher short-term interest rates would be helpful on the interest gained from the loan portfolio. However, given the systematic sovereign downgrades, funding costs boosted, reversing the positive impact on generating earnings.

A good solution entails, first and foremost, restructuring loans and accessible funding sources to support earnings more easily. Likewise, cost cutting programmes would make profitability to progress well, improving operating efficiency in a consistent direction.

c) Portugal

Portuguese banks are expected to act according to more stringent regulations as part of the banking bailout terms, requiring banks to reach a minimum CT1 of 9% by year-end 2011 and 10% by year-end 2012. If banks fail the targets, they could fund themselves by an amount of €12 bn available by the EU and IMF, a parcel included in the €78 bn bailout package.

The deterioration of profitability was impelled by loan impairments to a certain extent and also by sovereign debt crisis under the adverse scenario. The first one leads to losses from customer loans and the latter one is based on trading losses, which conjoined with increasing funding costs, cuts off dramatically the profitability growth as can be suggested by the climbing of Portuguese credit default swaps in comparison with the German's.

Plus, financial sector rating was naturally linked to sovereign downgrades developments, meaning that a negative outlook for Portuguese sovereign risk led to a downside risk in banks and enterprises, following up further prospects of GDP growth, unemployment rates and consumer index prices evolution. As a result, the financial sector has been suffering to fund through the secondary market funding and to get rid of subprime loans.

d) Greece

In Greece, the banks[82] assessed represented almost the whole Greek banking system. Four of the banks under the stress test were reasonably capitalised after the equity raise and the compulsory restructuring programmes, in which two banks were considerably above the

[82] National Bank of Greece, Alpha Bank, Hellenic Postbank, Piraeus Bank, Eurobank EFG and Agricultural Bank.

minimum 5% CT1 and the remaining two are above but near the benchmark. In order to increase the capital adequacy, Greek financial institutions has been stepping forward as mergers/sales of subsidiaries, convertible bonds issuance, disinvestments are underway (Finance, 2011)[83].

According to the Memorandum of economic and financial policies for Greece, they needed to take several steps such as:

- Maintain minimum CT1 of 10% from the beginning of 2012;
- Diagnose bank's loan portfolios in consultation with EC, ECB and IMF and raise capital buffers at maximum end-September 2012, taking into account the final outcome reached by an international advisory firm;

In the meantime, if the most influential banks do not present solutions for equity raising in pre-determined deadlines, some measures should be pursued with the approval of EC (Finance, 2011):

- Financial Stability Fund Scheme – the main purpose is to strengthen the capital adequacy ratios of Greek banks, augmenting financial stability;
- Recapitalization close to a total amount of €5 bn and a remaining of €1.2 bn, valid until end of 2011.

2. Espírito Santo Financial Group stress test results

Espírito Santo Financial Group results came from the consolidation of BES, which represents 97% of the consolidated assets of the group plus the remaining associations (BES, 2011)[84].

According to the BoP release for ESFG stress tests results, CT1 ratio would be 5.8% under a shock scenario in 2012 in comparison with the 6.5% obtained in year-end 2010. Most importantly is that this outcome aggregated the effects provided by the measures announced and applied until 30 April 2011, albeit it put aside further management actions and business strategies from that moment on (Portugal B. O., 2011)[85].

ESFG passed on the tests, however in the very short term and taking into account a CT1 ratio of 6% on behalf of the shock scenario in 2012, the group had to increase capital or sell non-core assets of about €145 mn in the next three month period after publishing the results. The group was already on the field not only by disposing a part of its loan portfolio until the end of

[83] Finance, M. o. (July 15 2011). EU-Wide Stress Test 2011: Greek banks. Greece.
[84] BES. (July 15 2011). BES informs about stress tests results.
[85] Portugal, B. O. (July 15 2011). Espírito Santo Financial Group, SA Capital Update - EU Wide Stress Test Results. pp. 1-2.

2011, but also by buyback of hybrid instruments, affecting about 0.5 percentage points of the 6% CT1 for the 2012 adverse scenario (Portugal B. O., 2011).

One interesting fact that I would point out is that the measures pursued at end-April 2011 until the date of BoP publication (July 15 2011) would be enough to cover 6% of the RWA.

III. BES Developments

A. BES group presentation

As of 30 March 2012, BES was the largest domestic financial institution listed in PSI20 index with a market capitalization of about € 2 bn, being placed in 4th by weight. The successful profile of BES group translated into the 2nd Portuguese private bank by total assets of € 80,2 bn with an average local market share of 19.3% in FY2011 and around 2.2 mn customers over the world (BES, 2012).

The bank operates in different segments such as Private Banking, Retail Banking, Corporate and Institutional Clients, Asset Management, Investment Banking and International Commercial Banking.

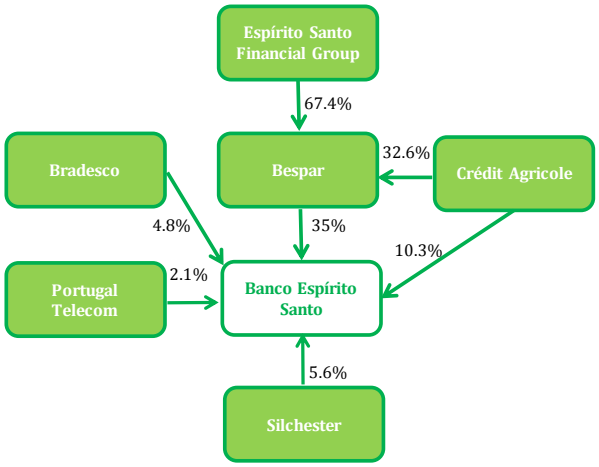

Exhibit 16 - BES Main Shareholders
Source: Company Website (December, 2011)

Regarding the shareholder structure after the bank privatization in 1991/1992, in which there was an alliance between Espírito Santo Financial Group (ESFG) and Crédit Agricole, it has been stable over time. They hold jointly 35% of BES through Bespar. Morever, Crédit Agricole holds a direct stake of 10.3% in BES. The other strategic partners - Bradesco, Portugal Telecom Group and Silchester own 4.8%, 2.1% and 5.6% as December 2011, respectively. The free float accounts for 49.45% composed by international institutionals (20.38%), domestic institutionals (10.49%) and individuals & corporates (18.58%).

As a motivation to seek for long term profitability, BES Group has been showing a special concern on international expansion for what they call the strategic triangle: Angola, Brazil and Spain. The rationale behind it goes alongside with the need to augment the dynamics in emerging markets that reveal cultural and economic linkage with Portugal.

Furthermore, BES Group has been encouraging small and medium enterprises to export by granting international credit that allows for an "internationalisation of BES corporate client base" as it is stated in BES Group presentation.

Likewise, investment banking is taking on an importance capable of generating more and more brokerage[86] and M&A financial advisory[87] fees to increase non-interest income.

As for domestic businesses, the strategic movements go hand in hand not only with the need of intensifying customer funds, but also by taking advantage of cross-selling insurance to foster banking income growth. The local core competences are corporate banking, trade finance, private banking and investment banking.

Concerning the BES share price, from the beginning of the crisis[88] until February 2009, it accompanied all the developments of the underlying index.

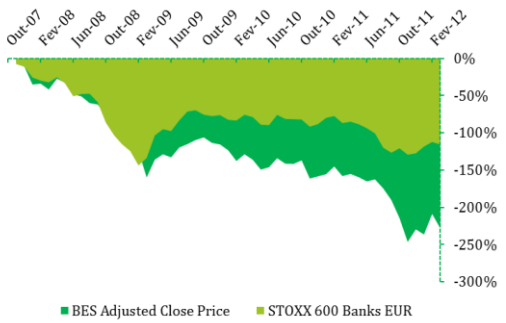

Exhibit 17 - Performance of BES Share Price versus Index in Terms of Net Return (Reference Base Period: October 2007 = 100; Ending period =March

The thing was that on a cumulative basis the net return[89] was similar, however, BES started to distance from the index due to a spiral of Portuguese downgrade ratings aligned with a debt euro crisis that affected directly banks, increasing their cost of funding. As a result, BES share price has absorbed all the bad news and dropped drastically, giving the impression the bank is being traded at a cheap price.

B. Main indicators

1. Activity

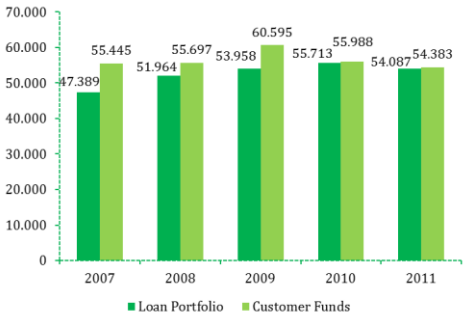

Exhibit 18 - BES Activity in million euros (includes securitized credit)
Source: BES annual reports

The recent activity was negatively affected by the euro zone financial crisis, giving rise to an implementation of a Portuguese financial bailout powered by EBA, IMF, EU and the Government. Due to the deterioration of macroeconomic conditions, these entities promoted strict targets to help financial balance sheets get healthier by impelling an aggressive deleveraging programme.

[86] BES ranks #1 in Portugal and #4 in Spain.
[87] BES is placed at #1 in Portugal, #1 in Iberian market and #5 in Brazil.
[88] I considered October 2007 the reference base since at that time DJ STOXX 600 banks index in euros started to drop sharply for the first time.
[89] In percentage.

Over time, customer funds had an impressive growth, especially in 2009 when it reached its peak, as certificates of deposit drove on-balance sheet customer funds to increase by 8.6% (from € 38,189 mn in 2008 to € 41,473 mn in 2009). Likewise, off-balance sheet customer funds improved right after reporting in 2008 a negative trend, leading to a growth of 9.2%.

Nonetheless, in 2010 debt securities placed with clients diminished by 49.6%, revealing the loss of confidence of the international investors thanks to the constant sovereign downgrades. Furthermore, off-balance sheet funds plunged by 10.6% as the focus was on strengthening the deposit volume by customers. These negative effects offset the positive impact of the outstanding climb in customer deposits (from € 25,447 mn to € 30,819 mn).

In the last year (2011), the customer funds followed the trend, dropping by 2.9%. Debt securities went down by 20% and off-balance sheet funds contracted by 19.8% (due to a reduction of the asset management and bancassurance inflows.

Thus, there is no surprise the fall of both international customer funds by 7% y-o-y in 2011, after the sharp decrease in 2010 (-34%) and domestic funds by 2% y-o-y. On a relative basis, international activity represented 22% of the total customer funds, while the domestic activity accounted for 78%.

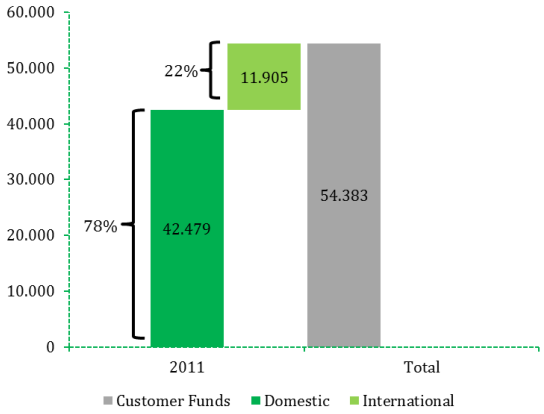

Exhibit 19 - Share of international and domestic funds in million euros
Source: BES Financials

In respect to the loan portfolio, the rise has been slowing since 2010 due to the deleverage process as mentioned before. The Eurozone sovereign debt crisis, the recessionary conditions of the Portuguese economy and the financial aid programme contributed to stricter banking policies. Throughout 2011, BES group was concentrated on the disposal of non-core international loan portfolios such as project finance, an attempt to protect the corporate sector from a sharper reduction in loan granting, namely exporting SMEs' business.

2. Profitability

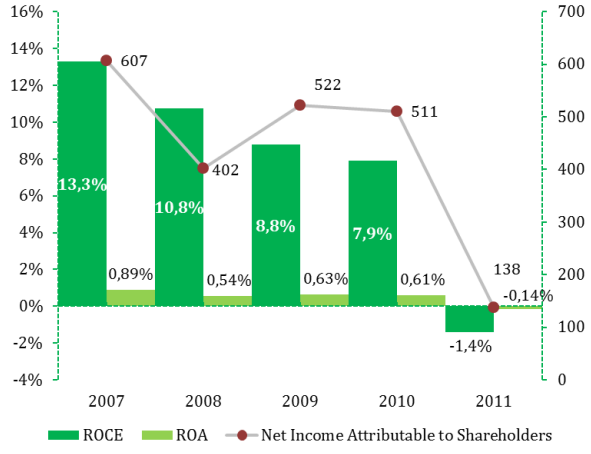

Exhibit 20 - BES Profitability (in % and € mn)
Source: BES Financials & own calculations

Throughout the years, the return on common equity (ROCE) has been suffering a sharp decrease, starting from 13.3% to end up with -1.4% in 2011. The negative return in last year can be justified by the extraordinary charges (pension obligations), by the additional impairments and finally by the special tax on banks.

Notwithstanding, the one-off charges exclusion would imply a net income attributable to shareholders of € 167 mn, which increases ROCE to 3.2% and a ROA to 0.2%.

	2007	2008	2009	2010	2011	Linear Trend	Bar Chart	P & L
Net Income Attributable to Shareholders	607	402	522	511	-109			
Domestic	466	259	343	307	-270			
In %	77%	64%	66%	60%	248%			
International	142	143	179	204	161			
In %	23%	36%	34%	40%	-148%			

Exhibit 21 - Evolution of net income attributable to shareholders by area (in € mn and %)
Source: BES Financials & own calculations

Interestingly, even though domestic net income has been holding the highest share over time, in the recent period the process is reversing. Hence, since 2010 the domestic market went upside down in contrast with the international net income, which soared impressively. This event gives us the hint that emerging economies will be of higher importance for a sustainable profitability in the near future, especially two of the strategic triangle: Angola and Brazil.

3. Liquidity

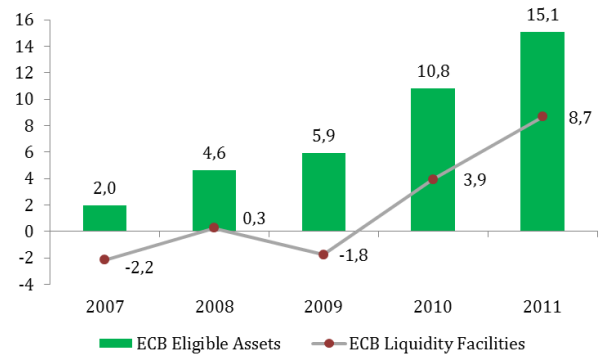

Exhibit 22 – BES use of ECB liquidity facilities and repoable securities (in € bn)
Source: BES annual reports

There were two points in time where BES remained in the lending position: both in 2007 and 2009. First, in 2007, one of the main concerns of the group was based on diversifying its funding sources, giving a special focus to medium and long term debt financing. Otherwise, the short term liquidity surplus would be a mirage and difficult to reach.

As for 2009, the liquidity gap minus the liquidity buffer corresponded to € - 1.8 bn), providing short term liquidity whenever the bank decides to increase its commercial activity by grating loans at a higher pace than capturing fresh resources (customer funds). Saying that so, BES showed up as a net lender to ECB, whose amount could be applied to cover the reimbursement of the 2010 MLT debt (€ 5.1 bn).

Last year, the used ECB liquidity facilities increased substantially, in which the outflows of € 9.6 bn (reimbursements of MLT debt) were not totally compensated by the reduction of the loan portfolio and the increase of deposits, adding up to € 4.8 bn. As a consequence, the use of ECB funds jumped to € 8.7 bn in 2011.

In terms of repoable securities, BES decided to maintain a good buffer by boosting the issue of covered bonds and bonds guaranteed by the State in 2011, therefore increasing the amount of collateral eligible for rediscount at ECB through the years.

The portuguese financial system have been struggling to comply with a demanding balance sheet management in order to achieve a 120% loan-to-deposit ratio by 2014. BES is not the exception: it started the deleverage programme by the disposal of non-core loan portfolios and by the capture of new costumer deposits (fresh resources), as mentioned in subsection B, number 1.

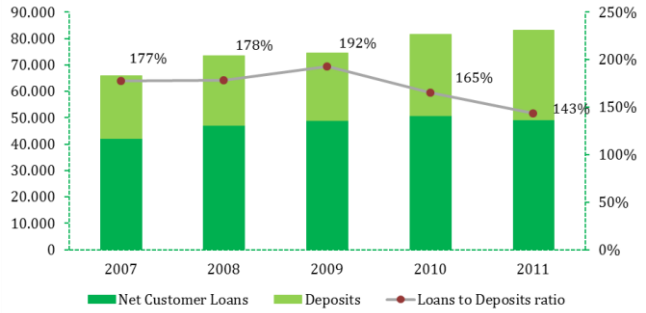

Exhibit 23 - The deleverage process on track by the transformation ratio
Source: BES Financials & own calculations

4. Asset Quality

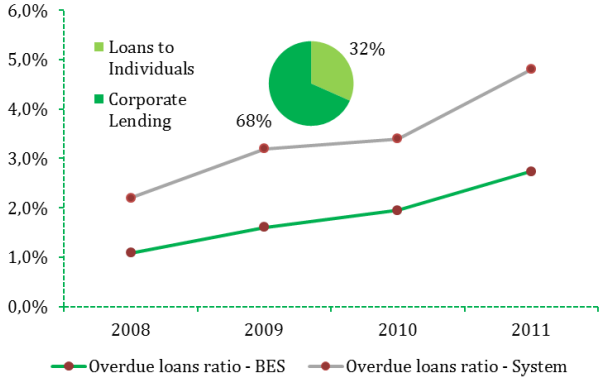

Exhibit 24 - The evolution of BES and the Portuguese financial system's overdue and doubtful loans (in %)
Data as of November 2011
Source: BES Financials, Bank of Portugal & own calculations

Despite the heavy corporate loan book (68% in 2011), the overdue loans ratio > 90 days of BES showed resilience not only in the aftermath of the 2008 financial crisis, but also in the recent Eurozone sovereign debt crisis.

Moreover, this ratio was consistently below the average of the Portuguese financial system, giving the emphasis BES holds a better asset quality than most of other big financial players.

An austere monitoring of the asset quality aligned with the reinforcement of credit provisions is evidenced, accounting for 4.2% of the gross loans. BES anticipated the deterioration of macro conditions and its credit portfolio by committing itself to a higher provisioning coverage as it was the case of 2009, for instance. In Q2 2009 and Q4 2009, an extra € 40 mn and € 66 mn of the gross capital gain[90] on the sale of 24% of BES Angola was completed, respectively.

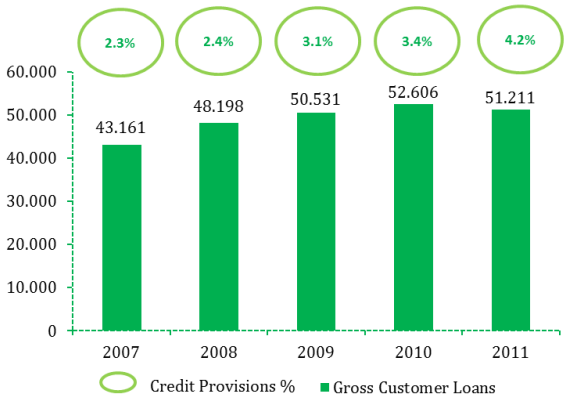

Exhibit 25 - BES on balance sheet provisions reserve (in € mn and % of gross loans)
Source: BES Financials

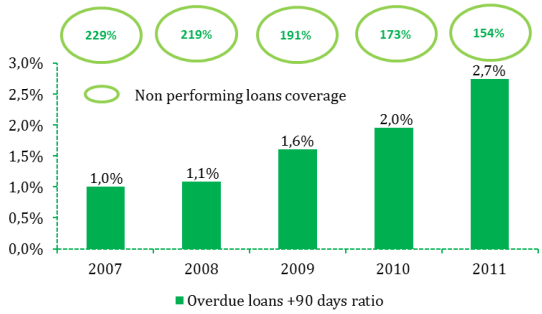

Exhibit 26 – Non performing loans coverage and overdue loans >90 days ratio
Source: BES Financials & own calculations

Traditionally, the coverage of non-performing loans over 90 days surpasses 100% comfortably. Albeit the good result, it is notorious the coverage diminishes insofar as overdue & doubtful loans tend to get harsh in the recessionary period.

5. Efficiency

Generally speaking, operating costs were under control (CAGR =4.4%), an effect caused by a rationalization policy, even though in 2010 it was witnessed an upward leap.

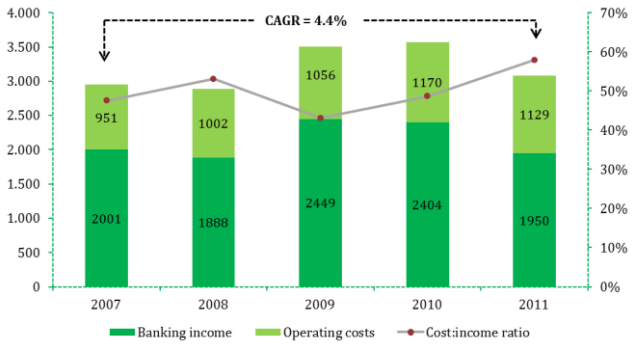

Exhibit 27 - Efficiency diagnosis
Source: BES Financials

The rise in cost-to-income ratio in 2008 from 48% to 53% embraced the amortization of actuarial differences from pension obligations (+€ 15 mn in staff costs), the expansion of the international market and the raise in domestic branch network.

Although operating costs soared in 2009 by 5.4%, the increase by 29.7% of banking income more than compensated the negative effect in P&L statement. Again, the lung of those costs was the accrual deviation implied by post-employment benefits.

[90] The gross capital gain reported at the time was € 191 mn.

A year after, banking income ascertained a slight reduction of 2% aligned with the worsening of the staff costs impelled by the transfer of the employees for the Social Security System (+ € 6 mn).

Lately, operation costs seemed to emphasize the capacity of the bank to rationalize them, nevertheless cost:income ratio was fustigated by a drastic fall in banking income (-18.9%).

	2007	2008	2009	2010	2011	
Staff Costs	411	418	441	467	395	
Administrative Costs	317	335	321	340	317	
Depreciation	58	65	71	80	82	
Total	**785**	**817**	**834**	**887**	**794**	**Domestic Area**
Growth (%)	**-**	**4,02%**	**2,08%**	**6,34%**	**-10,50%**	
Banking income	**1.608**	**1.436**	**1.813**	**1.630**	**1.212**	
Cost : income ratio	**48,8%**	**56,9%**	**46,0%**	**54,4%**	**65,5%**	
	2007	**2008**	**2009**	**2010**	**2011**	
Staff Costs	92	104	125	162	192	
Administrative Costs	62	68	81	101	117	
Depreciation	12	13	16	21	26	
Total	**166**	**185**	**222**	**283**	**336**	**International Area**
Growth (%)	**-**	**11,72%**	**19,85%**	**27,66%**	**18,66%**	

Exhibit 28 - Operating costs by area (mn euros and %)
Source: BES Financials

Breaking it by geographical area, there is an increasing move of the international operating costs due to the expansion overseas, namely the consolidation of new units of Execution Noble[91].

In the national outlook, operating costs diminished, however the drop in banking income jeopardised cost:income, accounting for 65.5%.

Hence, it is not expected a high-volatile cost structure for both scenarios, plus in the near future consolidated banking income will tend to grow. In that sense, cost:income ratio will reverse to an acceptable one (around 50%), mitigating the downward trend of the Portuguese banking income.

6. Solvency

a) European Sovereign Exposure

Concerning the strengthening of the capital ratios, the European sovereign exposure amounts to € 2,948 mn and is mainly concentrated on the Portuguese short term debt (74% matures within 1 year) – **Appendix 9**. The accounting of total potential losses of European sovereign debt adds up to € 124 mn, which impacts core tier I on 19 basis points as of December 2011.

	Treasury Bills	Bonds	Total
Portugal	1.545	1.399	**2.944**
Ireland	0	0	0
Greece	0	0	0
Italy	0	0	0
Spain	0	4	**4**
Total	**1.545**	**1.403**	**2.948**

Exhibit 29 - European sovereign exposure (in € mn)
Source: BES results presentation of 2011

[91] Espírito Santo Investment Bank acquired 50.1% in Execution Noble, a leading international investment banking group.

	2009	2011	2012
Month	April	December	April
Type of Operation	Incorporation of Reserves Rights Issue	Exchange Offer	Rights Issue
Capital Increase	€ 1,200 mn	€ 530 mn	€ 1,010 mn
Share Capital	€ 3,500 mn	€ 4,030 mn	€ 5,040 mn
Offering Price	€ 1.8	€ 1.8	€ 0.395
Rights Issue	4/3		7/4
Price Ex-Rights	€ 3.42		€ 0.588
Value of the right	€ 2.17		€ 0.3377
# Subordinated Bonds Issued (Par Value = € 100)		81,736	
# Shares Issued	666,666,666	294,573,418	2,555,688,388
# Total Shares	1,166,666,666	1,461,240,084	4,016,928,472
Core Tier 1	**8.0%**	**9.2%**	**10.53% Including the acquisition of BES Vida**

Exhibit 30 - Capital Increase description and core tier 1 ratio
Source: BES annual reports and releases

Ultimately BES has been striving to improve its solvency ratios. On April 2009, BES increased its share capital by three stages:

a) The nominal value per share had plunged from € 5 to € 1, so that raise in capital would succeed taking into account market conditions; Hereby, share capital was reduced from € 2500 mn to € 500 mn, and the remaining € 2000 mn were transferred to a special reserve;

b) Issuance of 666,67 mn new shares at € 1 nominal value through public subscription and a rights issue, totalling 1666,67 mn shares;

c) Rise in capital by incorporation of reserves through an increase in nominal value per share (€ 3), adding up the share premium.

On December 2011, BES received new contributions in kind through an exchange offer of securities issued by BES, Espírito Santo Investment Bank and BES Finance. As a consequence of that offer, 294,573,418 common shares and 81,736 subordinated bonds at par (€ 100) were issued to comply with the capital requirements of BoP[92].

In addition, BES announced on May 4 2012 the total subscription of the capital increase of € 1,010 mn through. Hence, the bank issued 2,556,688,387 ordinary shares at an offering price of € 0.395. Most of the investors exercised their rights (99.3%), in which they had the right to pay at discount 1.75 shares more, for each old share held and the remaining amount was fulfilled by supplementary orders.

The bank plans to acquire 50% of the insurer BES Vida for € 225 mn to the French bank Crédit Agricole by the proceeds of the right issue. The capital raise and the sale of BES Vida will reinforce Core Tier 1 to 10.53%, well above the minimum stipulated by the BoP[93]. Fortunately,

[92] Bank of Portugal requires 9% by the end of December 2011.
[93] Bank of Portugal requires 10% by the end of December 2012.

the raise of capital among shareholders will avoid reliance on a € 12 bn state fund for banking recapitalization included in Portugal's € 78 bn financial aid agreed with the EU, ECB and IMF.

Throughout the years, BES has been striving to increase the capital standards by engaging on better capital (core capital) and reducing the risk on its assets.

IV. Valuation Methodology

A. Valuation Structure

BES group was evaluated by four different approaches: Dupont analysis, Excess return model – Damodaran, Equity free cash flow and finally relative valuation. The purpose of this research was to look at the bank's business and understand how each geographical area was creating value for its stakeholders. Hereby, I decided to split up the business into two different core areas: domestic and international.

B. Valuation Assumptions

1. Core items forecast – Liability side of the balance sheet

a) Customer deposits

Apart from loans-to-deposit ratio, deposits estimation was essential to derive loans and advances to customers and gross loans. In the first case, I found the change in gross national savings per year, in relative terms, the key word to estimate a pattern for customer deposits.

		2012 E	2013 E	2014 E	2015 E	2016 E
Domestic Area	Portugal	-2,73%	8,25%	9,50%	6,48%	7,17%
International Area	Angola	25,96%	-0,30%	-5,36%	-11,41%	-11,22%
	Brazil	-4,13%	6,70%	8,38%	8,27%	8,45%
	Spain	-5,51%	1,78%	3,24%	3,69%	4,53%
	United Kingdom	2,88%	13,64%	11,93%	13,41%	10,34%
	Others *					
	Cape Verde	-4,43%	15,56%	15,04%	3,76%	10,85%
	Libya	317,26%	44,46%	-7,95%	-4,13%	-5,11%
	Mozambique	-1,01%	23,14%	17,23%	16,43%	19,89%
	USA	5,04%	9,23%	9,03%	9,80%	8,18%
	France	0,78%	4,46%	5,99%	5,12%	5,25%
	Customer Deposits Growth	8,2%	3,5%	2,7%	1,1%	1,8%
	Adjustment	1%	-6%	-6%	-5%	-5%

Average of Customer Funds	2008 - 2011
Domestic	75,2%
International	24,8%

Exhibit 31 – Customer deposits forecast
Source: IMF Database, own calculations

The domestic outlook is represented by Portugal and the international is mainly composed by the emerging markets such as Angola and Brazil and other countries relevant for the business. Afterwards, I came up with an average of customer funds from 2008 to 2011 for each geographical area, so that the relative change in Portugal would definitely be the number one driver, followed by the international arena.

In BES year-end 2011 conference call, the chairman Ricardo Espirito Santo stressed out the deposits in Portugal was showing an upward trend (8.3% y-o-y in November), a proof of depositors confidence in the Portuguese banking system. In this sense, I made an adjustment to the initial weight computed to reflect more closely the behaviour of customer deposits in 2012 by 100 basis points.

Later on, it did not seem feasible to keep the same rate as I believed the growth would slow down heavily, therefore I established an adjustment of minus 600 basis points for both 2013, 2014 and minus 500 basis points for 2015 and 2016.

The rationale behind it was that deposits growth will probably saturate in the near future, a reminiscent that unsustainable growth rates will not be set in the medium/long term horizon. The attempt to raise the deposit base made depositors require a lift in deposit margin. Bank of Portugal introduced tighter rules to manage this scale-up by penalizing in early November the remuneration of deposits beyond 300 basis points + Euribor rate (Commission, Winter 2011/2012)[94]. Nevertheless, in absolute terms, it will increase year-on-year - **see appendix 10**.

b) Deposits from central banks

BES group was fatally exposed to the usage of ECB liquidity facilities. It had been the last resource for the Portuguese banking system' funding that allowed to reimburse maturities and manage liquidity during this sluggish period. The accessibility to the wholesale debt markets is practically forbidden due to an increasing spread of the Portuguese treasury bonds' credit default swaps in contrast to the Germany's bund, giving us the hint Portugal is facing a higher risk of default. On May 24 2012, the CDS of the 5-year national treasury bonds was being traded at 1,231.69 basis points[95]. This indicates the investor has to pay annually € 1,231.69 thousand to insure himself/herself for each € 10 mn invested in the sovereign debt.

As a consequence, BES has been highly penalized by the systematic sovereign notch cuts administrated by the rating agencies, in which its business has been intrinsically connected to the ability of the country to capitalize through the wholesale markets.

Whereas, we should bear in mind the dependency to the ECB funding resources has to be reduced drastically, otherwise the Eurosystem is being put at risk in spite of the substantial raise of ECB's eligible collaterals.

[94] Commission, E. (Winter 2011/2012). *The economic adjustment programme for Portugal*, pp. 12.
[95] Bloomberg on 24 May 2012.

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Deposits from central banks (DCB)	14.407	19.419	48.788	50.774	30.245	33.161	36.971	41.184	45.647
Deposits - BES	4.810	3.818	7.965	10.014	8.022	6.632	5.546	4.118	4.565
% of DCB	33,39%	19,66%	16,33%	19,72%	26,52%	20,00%	15,00%	10,00%	10,00%

Exhibit 32 – Deposits from central banks forecast (in € mn)
Source: IMF Database, Bank of Portugal, BES annual reports & own calculations

Concerning these limitations, I attempted to estimate deposits from central banks through a linear regression between the Euro area GDP at current prices and deposits from central banks reported in Bank of Portugal for the time horizon beginning in 2000 and ending up in 2011 – **see appendix 11**. Later, I checked the weight of these deposits in BES balance sheet against the total amount of deposits from central banks.

For 2012 I computed a 2008-2009 average, yielding a high percentage to mirror the dependency on ECB's liquidity facilities. In the subsequent years, the target weight should plunge 5 p.p. starting from 20% in 2013 and drawing to a 10% close in 2016.

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Resources from other credit institutions - BP (DOCI	74.415	74.370	81.040	74.455	77.029	81.070	86.352	92.192	98.379
Deposits from banks - BES	7.682	6.896	6.381	6.239	6.260	6.588	7.018	7.492	7.995
% of DOCI	10,32%	9,27%	7,87%	8,38%	8,13%	8,13%	8,13%	8,13%	8,13%

Exhibit 33 – Resources from other credit institutions forecast (in € mn)
Source: IMF Database, Bank of Portugal, BES annual reports & own calculations

c) Claims at other credit institutions

The strategy adopted to reckon on resources from other credit institutions stemmed from the same reasoning as the one stated right above in practical terms. The only difference to highlight is the 2010-2011 average, in which BES deposits were computed by multiplying it with the total resources from other credit institutions.

Undoubtedly, as long as the confidence in the financial system is restored, the tendency to a growing amount of these specific deposits is underway, generating liquidity to finance the economy.

d) Debt securities issued

	2012 E	2013 E	2014 E	2015 E	2016 E
Debt securities issued (exc. matured securities)	12.006	9.466	6.684	4.927	4.721
(+) 0 - 12 monthly securities per year	6.800	9.718	12.637	15.556	15.556
Total debt securities issued	**18.805**	**19.185**	**19.322**	**20.484**	**20.278**

Exhibit 34 – Debt securities issued forecast (in € mn)
Source: BES 2011 annual report & own calculations

The seize of debt securities consisted of starting from the 2011 value (€ 18,453 mn) and excluding all the debt instruments that were going to mature in each year. After that, the next thing to think of was the issuance of the 0 – 12 monthly securities per year to achieve an aggregate figure for this item.

In respect to the later, the year 2012 deemed an equivalent amount as the one from 2011, foreseeing a copycat behaviour, but further on I figured out that a 2008 – 2011 average

would be trustworthy to evidence a recovery. Then, the performance in 2014 and 2015 followed the yearly change depicted between 2012 and 2013 years, while in 2016 it equalled to the previous year.

In the subsection ***deposits from central banks***, I pointed out the emergency of a downward ECB funding to protect the Eurosystem as the counterpart of higher access to the debt wholesale markets to run the business in a healthier mode.

In effect, the drop in deposits from central banks should be partially compensated by the increase in debt securities issued, although at a slow pace due to abnormal interest rates to hold national sovereign debt and the national risk of default/credit event.

e) Subordinated debt

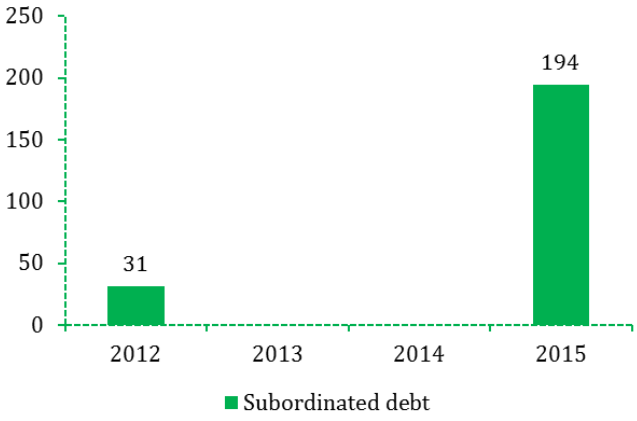

Exhibit 35 – Subordinated debt maturity profile (in € mn)
Source: BES annual report (2011)

For a better comprehension of the developments in subordinated debt I referred to its maturity profile from 2012 to 2015. As a matter of fact, the expected amount to be reimbursed in 2012 was about € 31 mn. In the following years it was not foreseen any relevant matured subordinated instruments, whilst in 2015 it was reported a heavy amount of € 194 mn.

In that sense, I deducted these reimbursements from 2011 subordinated debt, meaning that in 2012 - 2014 the outcome would be minus € 31 mn and in 2015 – 2016 would be minus € 225 mn.

2. Core items forecast – Asset side of the balance sheet

a) Gross loans

Gross loans takes into account three components: loans & advances to banks, loans & advances to customers and provisions. The estimation of total deposits (deposits from central banks and other credit institutions, customer deposits) was suitable to multiply them with total loan-to-deposit ratio in order to set the results for gross loans.

In general, the deleverage programme caused substantial effects in the way I should perceive loan granting. The total transformation ratio[96] should not exceed the percentage of 2011 (108%) – **see appendix 10**, instead it should drop drastically to signal a lower banking

[96] The same as total loan-to-deposit ratio.

lending to households and SMEs without jeopardising exporting companies that attempt to seize market share in emerging economies.

Thus, the decreasing amount of gross loans in the financial years 2012 and 2013 can be justified by a fall in total transformation ratio – **see appendix 10**. To align the business with a recovery environment in the near future, I was pragmatically careful to reverse the previous trend by committing to a turning point in the overall banking lending.

In the next five years, my expectation rely on the possibility of the loan granting being somewhere between 2010 and 2011 results – **see appendix 10**.

b) Customer loans

The specification of customer deposits was necessary to provide the amounts for customer loans. Indeed, in 2012 I decreased the customer loan-to-deposit ratio to 130% and from that moment onwards I complied with the 120% target ratio. The deleverage programme was adopted since the second half of 2010, reaching in 2011 a loan-to-deposit ratio of 143%. Despite the strong balance sheet deleverage, BES was showing selectivity in loan granting, insofar the bank did not despise its strategic positioning – support exporting Portuguese companies that aim to gain market share in the international outlook.

In 2012 and 2013 I forecasted a reduction of € -917 mn and € -2,159 mn, respectively, however the recovery process would start from that moment onwards to fund the small and medium enterprises (exporting & non-exporting companies) and the households, achieving € 48,607 mn in 2016, an amount below the one reported in the last financial year (2011) – **see appendix 10**.

c) Loans and advances to banks

This asset was entitled to be processed through the deduction of customer loans and provisions to the total amount of gross loans. In the medium/long term it is fair enough to assume a gradual soar in the interbank lending market, whereupon BES would arrange more liquidity facilities to lend to other credit institutions – **see appendix 10**.

Loan exchange would definitely improve the funding conditions of the economy. That is, the growth in the interbank lending market leads to greater private/public consumption and puts in place more funding resources to SMEs seeking to finance their business and future investments. Hence, GDP would report an satisfactory result in the domestic outlook.

d) Cash and deposits at central banks

The ECB press release of December 8 2011 set the minimum reserves to 1% for periods starting on 18 January 2012. It stresses out that overnight deposits, deposits with agreed

maturity or period notice up to two years, debt securities issued with maturity up two years and money market paper has a coefficient of 1%.

The remaining liabilities with maturity over two years do not fulfil the requirements.

The below table depicts the breakdown of the main components to calculate the reserves. Back in time, the coefficient ratio corresponded to 2% of the above liabilities, excluding all the deposits and debt certificates subject to ECB's minimum reserves requirements (BES, 2011)[97].

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Deposits from central banks	4.810	3.818	7.965	10.014	8.022	6.632	5.546	4.118	4.565
0 - 12 Months	4.810	3.818	7.965	5.012	4.016	3.320	2.776	2.061	2.285
% of Deposits from central banks	100%	100%	100%	50%	50%	50%	50%	50%	50%
Deposits from banks	7.682	6.896	6.381	6.239	6.260	6.588	7.018	7.492	7.995
0 - 12 Months	5.247	5.058	3.834	3.647	4.072	4.286	4.565	4.874	5.201
% of Deposits from banks	68%	73%	60%	58%	65%	65%	65%	65%	65%
Due to customers	26.387	25.446	30.819	34.206	37.020	38.306	39.352	39.789	40.506
0 - 12 Months	15.993	16.117	17.372	20.867	22.334	23.110	23.741	24.004	24.437
% of Due to customers	61%	63%	56%	61%	60%	60%	60%	60%	60%
Debt securities issued	24.597	33.101	24.110	18.453	18.805	19.185	19.322	20.484	20.278
0 - 12 Months	8.407	15.254	8.413	6.800	7.146	7.290	7.343	7.784	7.706
% of Debt securities issued	34%	46%	35%	37%	38%	38%	38%	38%	38%
Minimum reserves Requirement					751	760	768	774	793
In %					2%	2%	2%	2%	2%

Exhibit 36 – Decomposition of minimum reserves forecast (in € mn)
Source: BES annual reports, IMF Database, Bank of Portugal & own calculations

Although I had said right before the maturity would be up to two years, BES financial statements' notes did only display the results up to three months, three to twelve months and one year to five years. In view of that, I only considered the amounts maturing up to twelve months.

Then, I ascertained the weight of these short term liabilities over its respective total amount. Regarding deposits from central banks, I established a ratio equivalent to 2011 for the next years. In fact, BES group took advantage of a three year LTRO[98] from ECB both in December 2011 and February 2012, adding up to € 10,200 mn to ensure funding for the following three years (BES, Q1 2012).

Given that this operation holds a massive position in deposits from central banks, it made sense to keep the 50% ratio. To the rest of the liabilities I adopted a fixed average.

Likewise, I assumed total reserves would rely on 1% to fulfil Bank of Portugal requirements and 1% more for the European system of central banks, accounting for an overall 2%.

[97] BES. (2011). *Annual report.*
[98] Long term refinancing operations.

e) Provisions

One of the most relevant ratios to observe is the overdue loans[99] over the gross loans. Given that gross loans were already estimated by the methodology carried out in subsection **valuation assumptions**, 2., a) I found out that in 2011 the ratio was about 5.4% - **see appendix 11**.

In the subsequent two years, I kept the ratio at the same level which provoked a level off in 2012 and a decrease in 2013 of overdue loans to be in accordance with market expectations for the very immediate moment – **see appendix 11**.

From 2013 onwards, I submitted a ratio of 5%, 4.5% and 4% to illustrate the ability of the households and SMEs to cancel out their obligations, which smooths out overdue loans over time – **see appendix 11**.

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Gross loans	52.730	58.529	56.852	54.493	53.868	51.527	52.954	53.456	55.188
Provisions (BS)	1.148	1.552	1.777	2.167	2.321	2.216	2.100	1.900	1.737
Overdue loans	1.161	1.704	2.134	2.949	2.915	2.788	2.648	2.406	2.208

Exhibit 37 – Provisions forecast (in € mn)
Source: BES Financials & own calculations

Do not be fooled by the great amount of overdue loans in comparison with balance sheet provisions. In fact, if you slip non performing loans up into overdue loans 30+ days and 90+ days, the coverage of these overdue loans exceeds by far 100%.

Starting from 2000 and ending up in 2011 I made a linear regression between balance sheet provisions and overdue loans to understand how they relate to each other, mathematically speaking.

During 2012, the recessionary environment for Portugal will foster the placement of credit impairments, in which Eurostat estimates a -3.3% decrease in real GDP growth rate. Nevertheless, the next year projections display a slight raise of 0.3%, whereupon I came across to think it would be viable to slow down impairments in the balance sheet for the subsequent years (IMF, 2012).

In the first quarter of 2012, BES group reinforced credit impairments to € 2,271.2 mn, an increase of € 103.8 mn from 2011 financial year (BES, Q1 2012).

f) Securities

By scrolling down the notes in the consolidated financial statements, I figured out the below items in the asset side of the balance sheet had something in common: bonds & other fixed income securities and shares.

[99] Overdue loans (30+ and 90+ days).

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Securities	**15.106**	**16.535**	**19.600**	**18.423**	**16.900**	**16.223**	**16.636**	**16.781**	**17.282**
Financial assets held for trading	3.690	4.459	3.942	3.435	3.751	3.584	3.595	3.610	3.789
% of securities	24%	27%	20%	19%	22%	22%	22%	22%	22%
Other financial assets at fair value through profit or loss	2.162	1.002	1.424	1.964	1.618	1.361	1.493	1.577	1.570
% of securities	14%	6%	7%	11%	10%	8%	9%	9%	9%
Available-for-sale financial assets	7.094	8.532	11.775	11.483	9.336	9.298	9.772	9.801	9.924
% of securities	47%	52%	60%	62%	55%	57%	59%	58%	57%
Held-to-maturity investments	2.160	2.542	2.459	1.541	2.137	1.984	1.904	1.875	2.052
% of securities	14%	15%	13%	8%	13%	12%	11%	11%	12%
Loans	52.730	58.529	56.852	54.493	53.868	51.527	52.954	53.456	55.188

Exhibit 38 – Breakdown of securities forecast (in € mn)
Source: BES annual reports & own calculations

Hereby, I dared to see what would be the relation between each variable and the core item in the balance sheet (gross loans) by computing further on the moving average of that weight. Overall speaking, due to securities risky profile and BES risk aversion I foresee a downside trend coming to an end in 2013. The Eurostat database suggests the real GDP growth rate in EU 27 will be null, followed by a jump in 2013 of 1.3%, which emphasizes the confidence is riskier financial instruments will be on track.

g) Derivatives for risk management purposes

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Derivatives for risk management purposes	**936**	**455**	**447**	**510**	**501**	**604**	**939**	**950**	**967**
Hedged assets	598	292	256	210	206	274	600	607	618
% of total	1%	1%	0%	0%	0%	1%	1%	1%	1%
Risk management - assets	338	163	191	300	295	330	339	343	349
% of total	1%	0%	0%	1%	1%	1%	1%	1%	1%
Deposits at banks	664	611	558	581	628	638	651	666	682
Loans and advances to customers	47.049	48.979	50.829	49.043	48.126	45.968	47.223	47.747	48.607
Total	**47.714**	**49.589**	**51.387**	**49.624**	**48.754**	**46.606**	**47.874**	**48.413**	**49.289**

Exhibit 39 – Derivatives for risk management purposes forecast (in € mn)
Source: BES annual reports & own calculations

Derivatives for risk management purposes include the "hedging derivatives and derivatives to manage the risk of certain financial assets/liabilities" (BES annual report, 2011). Most of the time, the hedging derivatives and other derivatives "on the table" were usually interest rate swaps, credit default swaps, equity swaps, forex swaps, etc. to cover potential downside risks.

Frequently, the financial assets to be hedged were deposits at banks and loans & advances to customers, which is of the uttermost importance since you never know with 100% accuracy whether the borrowers will pay you the principal plus interest or not.

Therefore, I added up these two items to come up with a percentage measure for both categories (hedged assets and other derivatives). Regarding the time horizon, the weight for hedged assets and other derivatives in 2012 was similar to 2011 and later on I assumed 2008 percentage (1%).

The argument holds if we are aware that risk-weighted assets should improve, causing not only the trading book to fall down, but also an upward leap in the core tier 1 ratio to comply with the regulatory standards in 2012. Nevertheless, as BES gets better capitalized through capital increases we could presume the bank will take on more risk in its trading portfolio.

h) Deposits with banks

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Claims at other credit institutions - BP	34.422	43.274	35.109	34.751	38.024	38.647	39.462	40.362	41.316
Deposits with banks - BES	664	611	558	581	628	638	651	666	682
% of claims - BP	1,93%	1,41%	1,59%	1,67%	1,65%	1,65%	1,65%	1,65%	1,65%

Exhibit 40 – Deposits with banks forecast (in € mn)
Source: IMF Database, Bank of Portugal, BES annual reports & own calculations

Along with deposits from central banks and other credit institutions, I looked into the future by computing a linear regression between the total euro area GDP at current prices and deposits with banks provided by Bank of Portugal database – **see appendix 11**. The arithmetic average from 2008 to 2011 was applied, contributing to a soar in BES deposits with banks at a slow pace throughout the time line.

We should bear in mind that BES will not benefit from a dominant liquidity surplus to save heavily its resources in other credit institutions.

3. Core items forecast – income statement

a) Net interest income

	2012 E	2013 E	2014 E	2015 E	2016 E
Euribor forward 3 M	0,05%	0,33%	0,68%	1,34%	2,03%
Loans and advances	51.547	49.310	50.853	51.555	53.451
Yield	4,15%	4,63%	4,88%	5,54%	6,13%
Revenues	2.141	2.283	2.483	2.858	3.276
Margin	4,1%	4,3%	4,2%	4,2%	4,1%
Other assets	14.220	13.885	14.760	14.869	15.195
Yield	3,51%	3,79%	4,14%	4,80%	5,49%
Revenues	500	526	611	714	834
Margin	3,5%	3,5%	3,5%	3,5%	3,5%
IEA	65.767	63.196	65.613	66.425	68.647
Yield	4,01%	4,45%	4,72%	5,38%	5,99%
Revenues	2.640	2.809	3.094	3.573	4.110
Due to customers	37.020	38.306	39.352	39.789	40.506
Yield	2,05%	2,33%	2,68%	3,24%	3,83%
Costs	760	893	1.056	1.291	1.551
Margin	2,0%	2,0%	2,0%	1,9%	1,8%
Other liabilities	34.267	33.592	33.079	33.102	33.849
Yield	2,28%	2,56%	2,78%	3,34%	3,93%
Costs	782	860	920	1107	1330
Margin	2,2%	2,2%	2,1%	2,0%	1,9%
IEL	71.287	71.898	72.431	72.891	74.355
Yield	2,16%	2,44%	2,73%	3,29%	3,87%
Costs	1.542	1.753	1.976	2.398	2.881
Net Interest Income	1.098	1.057	1.118	1.175	1.229
Net interest margin (NII/IEA)	1,67%	1,67%	1,70%	1,77%	1,79%

Exhibit 41 – Net interest income forecast (in € mn)
Source: BES annual reports & own calculations

Alongside fees and commissions (net non-interest income), net interest income is also a significant item of a banking P&L statement.

To understand whether a careful asset/liability management is on track, first you give a look at interest earning assets and see the revenues yielded, in which yield is expressed as Euribor forward three months plus credit margin; second, you ascertain interest earning liabilities and have a look at the costs yielded, measured by Euribor forward three months plus deposit margin[100].

[100] Deposit margin is negative as it represents a cost for the bank.

The yield curve - the term structure of interest rates is estimated by zero-coupon yield curves and I used it to derive implied three month forward rates. According to Bodie, Kane & Marcus (2009), the forward interest rate is a "rate of interest for a future period that would equate the total return of a long-term bond with that of a strategy of rolling over shorter-term bonds".

As a matter of fact, it can be defined by the following equation:

$$(1 + y_n)^n = (1 + y_{n-1})^{n-1}(1 + f_n),$$

in which y_n is the yield to maturity of a zero-coupon bond with an n-period maturity, y_{n-1} is the same but with an (n-1) period maturity and f_n is the forward interest rate for an n-period.

John Y. Campbell[101] states "the forward curve lies above the yield curve when the yield curve is upward-sloping and below it when the yield curve is downward-sloping".

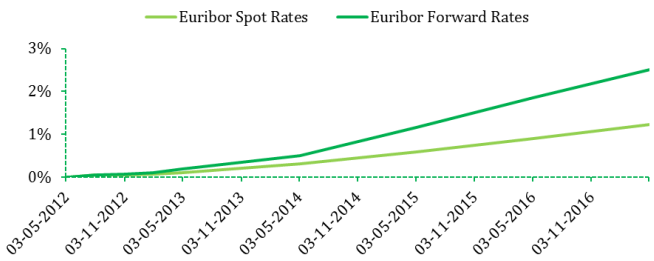

Exhibit 42 – The yield and forward curves
Source: ECB & own calculations

The slope of the yield curve defines the direction of future short-term interest rates. In our specific case, this upward-sloping indicates that financial markets expect higher future interest rates – **see appendix 12**.

The 3-M forward rates from 2012 to 2016 were 0.05%, 0.33%, 0.68%, 1.34% and 2.03%, respectively – **see appendix 13**.

In what concerns the projections for credit margin I increased from 3.8% in 2011 to 4.1% in 2012 to protect a net interest margin of 1.67% achieved in the last financial year, whilst deposit margin would be stuck at the same level (2%) – **see exhibit 40**. The reason behind it relates to the need for compensation of a lower banking lending to households and SMEs.

In 2013, the line of reasoning stuck with the same principle as in 2012, attempting to maintain a net interest margin of 1.67% since I believe lending would suffer another shortfall – **see exhibit 40**.

In the upcoming years, the trend would go along with a slight drop in deposit margin, followed by a minor decrease in credit margin, however expecting higher net interest margin as loan growth accelerates to finance the economy – **see exhibit 40**.

[101] Campbell, J. Y. (Summer 1995). Some lessons from the yield curve. *The Journal of Economic Perspectives*, 129-152.

The individual balance sheet deems Banco Espírito Santo, S.A., a commercial bank headquartered in Portugal employed to assess the domestic outlook. I checked the figures of loans & advances, and other assets to compute the weight over its consolidated outcome to decide how much million euros I would allocate for these items in the future.

Both 2010 and 2011 presented similar net interest margins (1.01% and 1.02%, respectively), whereupon I deliberated the ratio in 2012 would be equal as in 2011, rising in the upcoming years by 0.01%. Thereby, domestic net interest income was determined by the multiplying of domestic net interest margin and domestic interest earning assets – **see appendix 14**.

The international figures were obtained by deducting the domestic net interest income from the consolidated one.

Generally speaking, my reasoning comprises the idea both domestic and international net interest income will plunge from 2011[102] to 2013, recovering in the following years as credit lending gets back on the market.

b) Fees and commissions

Fees and commissions is the second most relevant item in P&L and it is also known as non-interest income. To estimate it I was interested in the historical performance of each category over interest earning assets – **see appendix 15**. Then, I kept the historical average in the future to see the contribution of each category in the whole amount of fees and commissions.

Forsooth, what stands out is that the slowdown in banking lending leads mainly commissions on loans and trade finance & other exports related (includes documentary credit) to a sharp reduction from 2012 to 2013. In the last next three years, loan related fees will probably get back to a normal record – **see appendix 15**.

Moreover, asset management and bancassurance fees also plunge in 2012, revealing automatically the customers' risk aversion, i.e., preference for low-risk instruments such as deposits. Nevertheless, from 2013 onwards there are high prospects financial markets turmoil will reverse, making investors to seek riskier financial applications, which foster this class of fees – **see appendix 15**.

Not only security related fees perform well thanks to the consolidation of Execution Noble, but also cards fees as BES announced a partnership with American Express to issue its branded cards in Portugal.

[102] Domestic net interest income (2011) = € 645.7 mn; International net interest income (2011) = € 535.9 mn

Shedding some light into geographical areas, I would point out that domestic fees will suffer in 2012 and 2013 in view of a lending shortage, recovering later on to fulfil macroeconomic dynamics.

As for the international fees, it will only suffer in 2012 for the same reason as domestic fees, but in the upcoming years the consolidation of Execution Noble will bring many more benefits.

c) Capital markets & other

Capital markets & other expresses the movements in the equity and debt main price indices. Interest rate, credit & FX and equity trading stemmed from their weight in the overall securities portfolio – **see appendix 16 and the subsection securities**.

In the latter one I assumed the ratio would correspond to the 2009-2010 average, whereas the first would be equal to 2011 ratio – **see appendix 16**. In fact, I am confident capital markets will be translated into the appreciation of those financial instruments whenever investors' negative sentiment about sovereign public deficit in the Eurozone steps back.

In the prior financial year, capital markets & other was highly impacted by the partial transfer of the pension funds to the Social Security, leading to a loss of € mn 107 after pension liabilities being valued at 4% discount rate from a 5% before the operation.

Likewise, the loss in the sale of international loan book (€ 78 mn) and BES Vida impairments (€ 193.3 mn) were devastating.

In respect to income from securities, BES holds a stake in EDP, Portugal Telecom and BMCE[103] of 2.19%, 10.45% and 0.25%, respectively. Portugal Telecom's dividend policy plan for 2012-2014 consisted of a 3-4% raise in dividends, in which I preferred to assume it would be at least 3% in my calculations. EDP has been increasing dividends by € 0.015 per year since 2007, therefore I do not expect further changes. As for BMCE I took a defensive move by only considering each year the same dividend as in 2012 – **see appendix 17**.

Other results were heavily influenced by potential gains/losses in available for sale portfolio. My behaviour was aligned with the need of testing the gap between the market value and the acquisition value. If $Ac.value > Mkt\ value$, thus we report a potential loss, otherwise it is a potential gain – **see appendix 18**.

The performance of PT shares punishes BES' available for sale portfolio over time more than the remaining two. Moreover, I reinforced the negative value of 2012 by taking into account the loss in sale of international loan book (€ 78 mn as in 2011), the purchase of BES Vida by €

[103] *Banque Marocaine du commerce extérieur*.

225 mn and the impairments in BES Vida by € -0.2 mn (Q1 2012 reported figure). In the next year, I just consider the loss in sale of international loan portfolio to be in line with bank lending shortfall – **see appendix 16**.

By analysing geographical particularities, domestic will be fustigated in 2012 on the verge of a spoiled Eurozone debt crisis – **see appendix 16**. Although BES does not possess any exposure to the Greek market, the exposure to Portugal and Spain can be translated into a massive lockdown in 2012. As opposed to it, international activities will attempt to show resilience, and be attentive of finding new sources of return outside Europe.

In the forthcoming years, the prospects may lead to a significant improvement since Troika says Portugal will be able to regain access to the markets for financing in September 2013 as scheduled.

d) Operating cash costs

Operating cash costs is composed by staff costs and administrative costs.

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Staff costs	**521**	**566**	**582**	**587**	**565**	**578**	**601**	**619**	**633**
Remuneration	403	416	466	472	477	488	503	520	537
Long term service benefits & other costs	6	3	4	1	1	1	4	4	4
Pension benefits (restated)	48	86	44	23	16	17	17	17	18
Other costs	65	61	68	93	72	73	76	78	75
o.w. domestic	**418**	**441**	**420**	**395**	**373**	**381**	**390**	**403**	**405**
% of staff costs	80%	78%	72%	67%	66%	66%	65%	65%	64%
o.w. international	**103**	**125**	**162**	**192**	**192**	**196**	**210**	**217**	**228**
% of staff costs	20%	22%	28%	33%	34%	34%	35%	35%	36%

Exhibit 43 – Staff costs forecast (in € mn)
Source: BES Financials & own calculations

Focusing on remuneration I determined 2012 would present a growth ratio equal to 2011 (1.1%), 2013 would be 2.25% of actuarial assumptions and from 2014 onwards salaries would get back to 3.25% increase rate of 2010.

Long term service benefits is applicable at the date of retirement or disability, as workers receive a premium proportional to the amount they would get as if they were at work. It is realistic to consider this benefit will remain constant in the following two years and start to grow in better market conditions. As it is known, banking system is cutting down superfluous prerogatives.

In terms of the transfer of pension obligations to the Social Security, it added up to € 961 mn, of which € 529 mn were transferred until YE 2011 and the remaining € 432 mn would be transferred until June 2012

Exhibit 44 – Pension liabilities transferred to Social Security and remaining post-employment benefits (in € mn).
Source: BES 2011 Presentation

(BES presentation, 2011).

Of the overall liabilities transferred, it is fair enough to mention BES supported a € 107 mn loss due to the change of discount rate from 5.5% to 4%, whilst pension funds the remaining € 854 mn. At the moment, post-employment benefits only represent around € 1,100 mn (BES presentation, 2011).

Likewise, actuarial differences are now going to be recorded in other comprehensive income, crossing off the preceding corridor method. Before, the criteria consisted of amortising the actuarial gains/losses outside the corridor over a fifteen year period, while the ones within the corridor was not acknowledged in the income statement.

To estimate pension benefits, I deemed what would be the costs without transferring the liabilities and how much costs were cut off from transferring to the Social Security. The difference between these two would represent the pension expenses for each year. The contribution rate is 26.6%, in which 23.6% is paid by BES and the remaining 3% by the employee.

The international staff costs were computed by adding 1% more than 2011 figure, keeping constant for two years. The same procedure would be applied for the next years. Therefore, we would presume only a fall in 2012 for domestic outlook, whereas international outlook would definitely not drop thanks to Execution Noble consolidation and the pursuance of expansion strategy in emerging markets, mainly in strategic triangle.

As for administrative expenses, I ascertained how much staff costs would account for in operating cash costs and the rest would go for this item to reach 100%.

e) Loan impairments/Reversal of loan impairments

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Gross loans	52.730	58.529	56.852	54.493	53.868	51.527	52.954	53.456	55.188
Provisions (BS)	1.148	1.552	1.777	2.167	2.321	2.216	2.100	1.900	1.737
Overdue loans	1.161	1.704	2.134	2.949	2.915	2.788	2.648	2.406	2.208
Credit provisions/Reversal	**275**	**540**	**352**	**601**	**154**	**-105**	**-116**	**-200**	**-164**
Provisions - Domestic	628	936	1.141	1.523	1.631	1.382	1.392	1.269	1.168
% of total provisions (BS)	55%	60%	64%	70%	70%	62%	66%	67%	67%
Credit provisions/Reversal	**199**	**387**	**259**	**538**	**108**	**-65**	**-77**	**-134**	**-110**
Provisions - International	520	616	636	645	691	834	709	632	568
% of total provisions (BS)	45%	40%	36%	30%	30%	38%	34%	33%	33%
Credit provisions/Reversal	**75**	**153**	**93**	**62**	**46**	**-39**	**-39**	**-66**	**-54**

Exhibit 45 – Loan impairments/Reversal of loan impairments forecast
Source: BES Financials & own calculations

The global amount of credit provisions or reversal of credit provisions was introduced by the absolute change y-o-y in balance sheet provisions.

To decipher how much would go to IS domestic/international credit provisions, I conferred its weight against provisions of the balance sheet from 2008 to 2011. Afterwards, I maintained the proportion in 2012 identical to YE 2011 and generated a moving average beginning in 2008 and finishing up in 2011.

The composition of credit impairments/reversal of impairments is related to the future growth prospects of real GDP – **see IV, B., 2., e)**. Thus, from 2013 onwards I pondered total balance sheet provisions would loosen up as it has been impacting negatively the consolidated net income.

f) Income taxes and special tax on banks

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Core Tier 1	6,1%	8,0%	7,9%	9,2%	10,0%	10,0%	10,0%	10,0%	10,0%
Absolute Values	3.412	5.232	5.416	6.020	6.509	6.578	6.675	6.751	6.908
Total Assets	75.187	82.297	83.655	80.237	82.016	82.881	84.107	85.070	87.038
RWA	55.705	65.097	68.802	65.385	64.982	65.667	66.639	67.402	68.961
% of TA	74,1%	79,1%	82,2%	81,5%	79,2%	79,2%	79,2%	79,2%	79,2%
Tier I	3.946	5.405	6.040	6.171	6.133	6.198	6.289	6.361	6.509
% of RWA	7,1%	8,3%	8,8%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%
Tier II	2.327	1.851	1.802	858	853	862	874	884	905
% of RWA	4,2%	2,8%	2,6%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%
Liabilities	70.534	75.358	76.179	74.045	74.497	74.929	75.658	76.145	77.688
Due to customers	26.387	25.446	30.819	34.206	37.020	38.306	39.352	39.789	40.506
Off-balance sheet items	23.600	24.200	21.900	18.900	22.150	21.788	21.184	21.005	21.532
Special Tax on banks					**15**	**15**	**15**	**15**	**15**

Exhibit 46 – Clearance of special tax on banks (in € mn)
Source: Portuguese state gazette, BES Financials & own calculations

The definition of income taxes is in line with a nominal rate of 26.5%, in accordance with the Law No. 107-B/2003 from December 31 and Law No. 2/2007 of January 15. Also, a tax of 2.5% is applicable in the scope of *Programa de Estabilidade e Crescimento*.

In addition, the administrative rule No.121/2011 from March 30 states that in total liabilities (excluding Tier 1 & Tier 2 resources and all the deposits covered by Deposit Guarantee Fund) is applicable a tax of 0.05%; in relation to the off-balance sheet instruments a tax burden of 0.00015%.

g) Net income

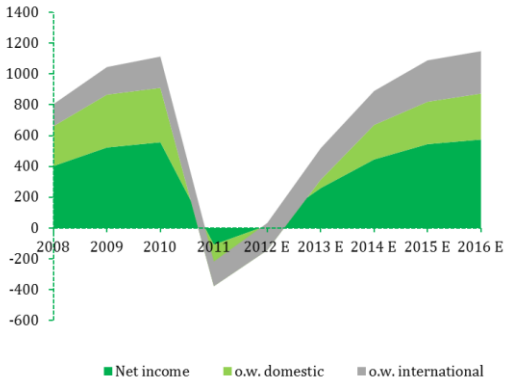

Exhibit 47 - Geographical areas contribution to the consolidated net income (in € mn)
Source: BES Financials & own calculations

From the graph, it is absolutely clear that international business will be as important as domestic business over time.

The sluggish macroeconomic environment faced in Portugal will make BES to seek other growth opportunities overseas, especially in two of its strategic triangle – Angola and Brazil.

C. Valuation Inputs

The moment after discussing the key components of BES balance sheet and income statement is the right time to value the bank through four valuation approaches: Dupont analysis, adjusted excess return model[104] – Damodaran, free cash flow to the equity and relative valuation.

1. Dupont analysis

According to this method, the equity of a financial institution is worth the resulting equation:

$$Net\ asset\ value \times \frac{Forecasted\ ROE}{Demanded\ ROE}$$

, in which demanded ROE is estimated by CAPM, the forecasted ROE is ROA multiplied by the equity multiplier and net asset value is the value of equity striped of any pension fund shortfalls, tax credits that are going to end, unrealised capital gains/losses and lack of provisions.

	Portugal	Angola	Brazil	Spain	United Kingdom	United States of America
Total assets	58.600	6.867	2.681	5.909	3.575	1.398
Total Assets Domestic/International	58.600			20.429		
% of TA		34%	13%	29%	18%	7%
Total market risk premium	10,13%	10,88%	8,63%	7,28%	6,00%	6,00%
o.w. country risk premium	4,13%	4,88%	2,63%	1,28%	0,00%	0,00%

Exhibit 48 – National and international total assets at YE2011 (in € mn). Data reported in January 2012.
Source: BES annual report (2011) & own calculations

The above table was envisaged to balance the total market risk premium that contained exposure to Portugal (domestic area) and the most relevant international areas - Angola, Brasil, Spain, United Kingdom and USA in total assets.

[104] I have done some adjustments to the original model provided by Damodaran.

Damodaran assumes total market risk premium to be the equity risk premium for mature markets (6%) plus a country risk premium, determined by the multiplying of country default spread with the relative equity market volatility.

Market risk premium	9,53%
B_u	0,11
R_f (German bund 10-years)	1,41%
D/E	11,96
T	29,0%
B_L	1,04
Re	**11,35%**
ROE Demanded	**11,35%**

Exhibit 49 – Inputs for CAPM
Source: Damodaran, Bloomberg & own calculations

To compute market risk premium, I scrutinised the composition of 2011 total assets[105] by geographical area (domestic/international), in which Portugal accounted for 73% and the remaining accounted for 25%. I must catch your attention to point out the missing 2% belongs to other emerging economies where BES is exposed. It was not considered as they did not represent a significant share in total assets.

The unlevered beta corresponds to small/regional banks sector average outlined by Damodaran, whilst risk free interest rate was chosen to be 10-year German bunds. The debt to equity ratio was implicit to be consolidated total liabilities over consolidated equity and the corporate tax is in line with what was said in section VI, 2., f).

The levered beta of BES respected the following equation:

$$B_L = B_u \times \left[1 + (1 - t) \times \frac{D}{E}\right]$$

, and was used to calculate the demanded ROE through the CAPM[106], which depicted 11.35%.

	2008	2009	2010	2011
Net Income	402	523	557	167
Total Banking Income	1.888	2.450	2.404	1.950
Total Assets	75.187	82.297	83.655	80.237
Asset Utilization	**2,5%**	**3,0%**	**2,9%**	**2,4%**
Profit Margin	**21,3%**	**21,3%**	**23,2%**	**8,6%**

As data must be consistent, net income, total banking income and total assets were consolidated figures because later on the computation of net asset value required the strip of certain omitted capital gains/losses that were only disclosed on a global perspective by BES group.

	2012
Expected growth rate	2,2%
ROA	**0,21%**
Equity Multiplier	**12,96**
ROE Forecasted	**2,76%**

Exhibit 50 – Forecasted ROE
Source: BES Financials & own calculations

[105] € mn 80,237 mn as of YE2011.
[106] $r = r_f + \beta \times \left(E[R_{Mkt}] - r_f\right)$

ROA was submitted in accordance with what was set in YE2011. In fact, although the net income was € -109 mn, I got rid of one-time events that were influencing negatively the profitability of the business. Thus, the net income without these effects was about € 167 mn.

As can be seen in **exhibit 50**, from 2010 to 2011 the net income followed an arrow's fall, an event that implied an extremely low ROA for 2012, even though I yielded a growth rate of 2.2% (total assets growth in 2012 – **see appendix 10**) and an equity multiplier of 12.96.

	2008	2009	2010	2011
Equity				6.192
Pension fund shortfalls	-8	73	1	107
Amortised actuarial differences			46	45
Tax credits that are going to end	-	-	-	31
Unrealized capital (gains)/losses	266	-593	10	445
Net asset value				5.564

Exhibit 51 – Net asset value deducted of unrealised gains/losses (in € mn)
Source: BES annual reports & own calculations

As I mentioned before, the real equity value is the book value of equity striped of certain unrealised gains/losses that inflates its worthiness. Therefore, the amounts for pension fund shortfalls were stretched by the difference of total post-employment benefits and the fair value of plan assets.

Due to the abolition of the corridor method to recognise actuarial differences, I found it reasonable to get rid of it as it would not be accounted in the traditional income statement, more precisely in staff costs item.

The 2011 financial year was a total black hole to the profitability of the bank. The negative net income (€ -109 mn) led to a tax credit of € 31 mn.

At last but not the least, the unrealised capital gains/losses were fair value reserves arising from available for-sale financial assets and deferred tax reserves.

In general, the real equity value (NAV) was € 5,564 mn.

	BES Value	Value per share (Consolidated)	Domestic	International
ROE Demanded	**1.351**	0,34 €	0,25 €	0,09 €

Exhibit 52 – BES value per share (in €)
Source: BES annual reports & own calculations

Given that value per share was attained in consolidated terms due to the reason stated above, the price per share of € 0.34 was split up into each geographical area contribution to 2011 total assets. Saying that so, € 0.25 would go to domestic area and the remaining € 0.09 to international area. At the end, this valuation method would signal a short-sell of BES shares in contrast to the market price € 0.454 on May 30 2012.

2. Damodaran – Excess return model

a) Domestic area

	2012	2013	2014	2015	2016	Terminal Value
Market risk premium	10,13%	10,13%	7,90%	7,90%	7,90%	6,28%
Bu	0,11	0,11	0,11	0,11	0,11	0,11
Rf (German bund 10-years)	1,41%	1,41%	1,41%	1,41%	1,41%	1,41%
D/E	11,04	10,51	9,99	9,52	9,27	9,27
T	29,0%	29,0%	29,0%	29,0%	29,0%	29,0%
BL	0,97	0,93	0,89	0,85	0,83	0,83
Re	11,26%	10,84%	8,44%	8,15%	8,00%	6,65%
Cost of equity	**11,26%**	**10,84%**	**8,44%**	**8,15%**	**8,00%**	**6,65%**

Exhibit 53 – Inputs to compute domestic cost of equity
Source: Damodaran, Bloomberg, Moody's & own calculations

These inputs followed the same procedure as the one detailed in **exhibit 49**, apart from debt-to-equity ratio and total market risk premium. In the first case, I applied a contribution rate for domestic assets over the total consolidated (≃ 73%). The latter on tracked country bond default spread, relative equity market volatility and the melded approach to estimate country risk premium.

	Mature market	Country risk premium	Total risk premium
Country Bond Default Spread	6%	3,25%	9,25%
Relative Equity Market Volatility	6%	0,28%	6,28%
Melded Approach	6%	1,90%	7,90%

Exhibit 54 – Different approaches to determine country risk premium
Source: Damodaran (March 2012), Moody's

Country bond default spread is revealed by finding at first a sovereign rating for Portugal provided by Moody's and then looking up the sovereign default spread according to Damodaran's table of sovereign CDS[107].

On February 13 2012 Moody's cut one notch for Portugal to Ba3 from Ba2. Hence, the country risk premium would be 3.25%, added up to the risk premium for mature markets of 6% as stated in subsection **Dupont analysis**.

Relative equity market volatility is for analysts who believe equity risk depends on the volatilities of Portugal and US markets. The Portuguese risk premium is defined as:

$$Country\ risk\ premium_{Portugal} = Equity\ risk\ premium_{Portugal} - Equity\ risk\ premium_{Mature\ markets}$$

,where $Equity\ risk\ premium_{Portugal} = Risk\ premium_{US} \times \frac{Standard\ deviation_{Portugal}}{Standard\ deviation_{US}}$.

The last approach combines the info in country default spread and the equity market volatility. In fact, $country\ risk\ premium_{Portugal} = Country\ default\ spread \times \left(\frac{\sigma_{Equity}}{\sigma_{Country\ Bond}}\right)$.

[107] Damodaran, A. (March 2012). Equity risk premiums: Determinants, estimation and implications. pp. 1-107.

A good practice of adjusting country risk premiums over time is to consider at first the premium arisen in country bond default spread and adjust it downwards, in which terminal value takes the lowest percentage (6.28%) to make a better assessment of Portugal's economy in the medium/long term – **see exhibit 53**.

	2012 E	2013 E	2014 E	2015 E	2016 E	Terminal Value
Net income	-161	55	224	275	299	304
Growth rate	-2,56%	0,41%	1,59%	1,85%	1,91%	1,91%
Equity cost	653	665	595	607	624	528
Excess equity return	-814	-610	-370	-331	-325	-224
TV of equity excess return					-4.735	
Cumulated cost of equity	1,10	1,21	1,32	1,42	1,54	
PV of equity excess return	-737	-502	-281	-233	-3.289	
BV of equity	6.279	6.636	7.051	7.448	7.799	7.948
Ke	10,41%	10,02%	8,44%	8,15%	8,00%	6,65%
Equity cost	653	665	595	607	624	528
ROE	-2,561%	0,823%	3,183%	3,698%	3,828%	3,828%
Net income	-161	55	224	275	299	304
Dividend Payout ratio	0%	50%	50%	50%	50%	50,00%
Dividends paid	0	27	112	138	149	
Retained earnings	-161	27	112	138	149	

Value of equity	1.236
PV of equity excess return	-5.043
Number of shares	4.017.928
Value per share	**0,31 €**

Exhibit 55 – Adjusted excess return model by Damodaran – Domestic area
Source: Damodaran & own adjustments

The model fundamentals consist of extracting the equity excess return, this is net income minus cost of equity in absolute terms. Since ROE has been inferior to cost of equity (K_e), the domestic activity has been destroying value.

The growth rate of the terminal value was assumed to be the same as the 2016 growth rate of earnings[108], instead of the nominal growth rate of the Portuguese economy.

As for the dividend policy, BES states on its website "the bank seeks to pay dividends to its shareholders corresponding to at least 50% of its net individual earnings". Thus, in 2012 I anticipated it would not pay out any dividends as in 2011 and from 2013 onwards paying out 50%.

At last, adding up the 2012 book value of equity to the present value of equity excess return divided by total outstanding shares we come to a conclusion the domestic price per share is about € 0.31.

b) International area

The international arena is essentially exposed to Angola, Brazil, Spain, United Kingdom and United States of America as stressed out above. However, the total risk premium per country implies the weight of its contribution to the overall total market risk premium. In order to do that, I ascertained each country's 2011 assets over the total 2011 international assets.

I must refer Angola was not listed in Equity risk premium paper published by Damodaran. To solve this issue I thought of attributing the exposure of South Africa to Angola.

	Angola	Brazil	Spain	United Kingdom	United States of America
Country Bond Default Spread	10,88%	8,63%	7,28%	6,00%	6,00%
Relative Equity Market Volatility	5,01%	6,69%	8,94%	6,00%	6,00%
Melded Approach	7,46%	9,03%	6,80%	6,00%	6,00%
Total assets	6.867	2.681	5.909	3.575	1.398
Total assets - International			**20429**		
% of TA - International	34%	13%	29%	18%	7%

Exhibit 56 – Weight of total risk premium per country for different country risk premium approaches
Source: Damodaran (March 2012), BES annual report (2011) & own calculations

	2012	2013	2014	2015	2016	Terminal Value
Market risk premium	8,36%	8,36%	7,12%	7,12%	7,12%	6,61%
Rf (US Treasury Bonds 10-years)	1,78%	1,78%	1,78%	1,78%	1,78%	1,78%
BL	1,05	1,05	1,00	1,00	1,00	0,95
Re	**10,55%**	**10,55%**	**8,90%**	**8,90%**	**8,90%**	**8,06%**
Cost of equity	**10,55%**	**10,55%**	**8,90%**	**8,90%**	**8,90%**	**8,06%**

Exhibit 57 – Inputs for CAPM
Source: Damodaran (March 2012), Bloomberg & own calculations

The market risk premium trailed the same reasoning as before, decreasing over time. The risk free interest rate was the 10-year US treasury bonds as they are normally the benchmark to assess emerging economies.

	2012 E	2013 E	2014 E	2015 E	2016 E	Terminal Value
Net income	177	204	221	269	276	286
Growth rate						3,62%
Equity cost	131	138	124	131	137	129
Excess equity return	46	66	97	138	139	157
TV of equity excess return					3.547	
Cumulated cost of equity	1,11	1,22	1,33	1,45	1,58	
PV of equity excess return	42	54	73	95	2.335	
BV of equity	1.240	1.310	1.392	1.470	1.540	1.596
Ke	10,55%	10,55%	8,90%	8,90%	8,90%	8,06%
Equity cost	131	138	124	131	137	129
ROE	14,28%	15,61%	15,85%	18,30%	17,92%	17,92%
Net income	177	204	221	269	276	286
Dividend Payout ratio	0%	23%	10%	12%	13%	12,52%
Dividends paid	0	47	21	31	35	
Retained earnings	177	157	199	238	241	

Value of equity	3.839
PV of equity excess return	2.599
Number of shares	4.017.928
Value per share	**0,96 €**

Exhibit 58 – Adjusted excess return model by Damodaran – International area
Source: Damodaran & own adjustments

The beta levered corresponds to small/regional banks in emerging markets and throughout the time line I reduced it by 0.05 to show that the risk of investing in businesses of emerging markets tend to slow.

Likewise, an UK Reuteurs article[109] mentioned that emerging markets beta was in 2011 close to 1 in comparison with the last five years, indicating that it is not as risky as we may think at first instance.

One of the major differences between domestic and international valuation was the ability of the international business to generate positive excess returns, i.e. $ROE > K_e$. The growth rate comprised the proportion of each international country multiplied by the projected real GDP growth rate for 2017 published in World Economic Outlook – IMF, which led to a 3.62% growth rate.

The dividend pay-out ratio depended on the total consolidated amount of dividend paid (estimates) minus the dividends paid in domestic area. In the end, the equity value of € 3.839 mn divided by 4.017,93 mn shares provided a final international price per share of € 0.96.

Although domestic outlook has a higher expression in total balance sheet compared to international outlook, the latter one is showing resilience by higher profitability ratios and most of all is not destroying value for the shareholders.

Thus, the final price per share is € 1.27.

109 Gaunt, J. (January 28 2011). *UK Reuteurs.* Obtained on April 5 2012, http://uk.reuters.com/article/2011/01/28/us-markets-investors-developed-idUKTRE70R24R20110128

3. Free cash flow to the equity

a) Domestic area

This model indicates the free cash flow to equityholders is the one left after debt payments and regulatory capital needs are met. The free cash flow to equity can be isolated as:

$$FCFE_{Financial\ Service\ Firm} = Net\ income - Reinvestment\ in\ regulatory\ capital$$

First of all, the degree of profitability is crucial and is defined in terms of net income. Indeed, we must specify how much net profit the bank is able to generate with each additional loan granted.

Second, the reinvestment in regulatory capital will be influenced by the capital standards deliberated by EBA[110] & Bank of Portugal, and the inside choices made by BES in relation to the dividend policy.

	2012 E	2013 E	2014 E	2015 E	2016 E
Net income	-161	55	224	275	299
Reinvestment for regulatory capital	489	27	112	138	149
Cash flow to the equityholders	-650	27	112	138	149
Ke	11,26%	10,83%	8,43%	8,14%	7,99%
Cumulated cost of equity	1,113	1,233	1,337	1,446	1,561
PV cash flows	-584	22	84	95	96

∑ PV cash flows	-287,32

Growth	Future cash flow	Terminal value	Explicit period + Terminal value = ∑ PV of all cash flows	Value per share - Domestic
1%	151	4.172	3.885	0,97 €
2%	152	5.024	4.736	1,18 €
3%	154	6.591	6.304	1,57 €

Exhibit 59 – Domestic free cash flow to equity (in € mn)
Source: Damodaran (March 2012) & own calculations

From the 2012 net income it is excluded the change in core tier 1, i.e., the change in retained earnings, a remarkable event in 2012 – the € 1,010 mn capital increase – **see exhibit 30**, the purchase of BES Vida, the total potential loss on European sovereign exposure and finally the buffer for the public debt less deferrals and pensions ($€\ 400\ mn \times 85\%$)[111] . The y-o-y absolute change in core tier 1 – **see exhibit 46** was of € 489 mn.

In the upcoming years as I did not expect any capital increases, I just deducted the retained earnings estimated each year.

By keeping consistency on domestic cost of equity and the growth rate (1.91%) amongst the valuation approaches, I say domestic are creating value per share to its shareholders of about € 1.18.

b) International area

[110] European Banking Authority.
[111] I assumed 85% of the value stated by Joaquim Freixial de Goes in Q4 BES conference call was truth.

	2012 E	2013 E	2014 E	2015 E	2016 E
Net income	177	204	221	269	276
Reinvestment for regulatory capital	177	157	199	238	241
Cash flow to the equityholders	0	47	21	31	35
Ke	10,55%	10,55%	8,90%	8,90%	8,90%
Cumulated cost of equity	1,106	1,222	1,331	1,449	1,578
PV cash flows	0	39	16	21	22

∑ PV cash flows	98,0429

Growth	Future cash flow	Terminal value	Explicit period + Terminal value = ∑ PV of all cash flows	Value per share - International
3%	36	1.110	1.208	0,30 €
3,62%	36	1.274	1.372	0,34 €
5%	36	1.872	1.970	0,49 €

Exhibit 60 – International free cash flow to equity (in € mn)
Source: Damodaran (March 2012) & own calculations

Regarding the international free cash flow to equity, I removed from international net income the retained earnings per year. The growth rate and international cost of equity were kept consistent with the inputs of excess return model.

Thus, the international price per share is € 0.34, which diverges from the previous model. In fact, the international valuation was penalised given that the dividends pay-out ratio is at maximum 40 p.p. below from the domestic business. This situation fosters reinvestment in regulatory standards, which translates into a price per share devaluation.

Generally speaking, the closing price converges to € 1.52.

4. Relative Valuation

Throughout the literature review we saw that relative valuation implied a different approach from DCF method. Indeed, the purpose is to look at the market and extract the value paid for similar assets, so that we know how much the underlying asset is worth.

Nevertheless, as an analyst I bear the risk the market may be or may not be wrong in the way it prices the assets; If there is no visible anomaly, on average, DCF method and relative valuation tend to go side by side; On the other hand, if that is not the case, the systematic underpricing or overpricing of a certain sector gives rise to inconsistency among these two frameworks.

The banking system must comply with strict and specific capital standards, being forbidden to expand by more than its means, which aids equityholders and depositors not being put at risk.

Moreover, the constraints imposed by the regulatory entities not only persist whenever banks dare to allocate its resources (inputs), but also whenever a new financial service firm intends to enter the market and in the situation of mergers & acquisitions.

	ROE	ROA	D/E	P/TBV	P/E	Div. Yield	Core Tier I Ratio	Assets Growth
Alpha Bank	-10,17%	-0,85%	457%	0,05	-0,42	0,00%	10,00%	-7,42%
Banco De Sabadell	4,37%	0,29%	711%	0,85	17,16	1,31%	9,10%	11,70%
Banco Popular Espanol	5,75%	0,36%	537%	0,62	9,95	1,19%	9,76%	2,57%
Banif	1,32%	0,08%	687%	0,19	15,82	5,65%	8,00%	7,17%
Bankinter	n/a	0,25%	n/a	n/a	13,92	0,97%	8,43%	13,12%
BES	**4,01%**	**0,29%**	**663%**	**0,27**	**6,32**	**9,43%**	**8,10%**	**0,77%**
BPI	12,65%	0,31%	1407%	0,49	3,10	0,00%	9,00%	-8,74%
Espírito Santo Financial Group	6,13%	0,08%	8707%	0,88	8,22	5,45%	7,60%	1,44%
Millennium BCP	2,47%	0,15%	662%	0,15	5,52	16,36%	9,10%	-2,09%
Deutsche Bank	2,93%	0,06%	780%	0,59	19,06	2,76%	10,10%	16,59%

Exhibit 61 – Selection of financial ratios to infer the peer group
Source: Company reports & own calculations

Since in recent years the increase in capital ratios have been voguish and the banking system has been facing liquidity risk prompted by adverse market conditions, the overall sector trends may be a good predictor of BES fair value through dominant multiples: P/E and P/B. Hereby, I decided to use backward-looking multiples, i.e., trailing 12 months multiples as a matter of believing future performance will not differ significantly from recent past performance due to the recent sovereign debt crisis and funding concerns. From a list of nine banks picked randomly, I pre-selected the most crucial financial ratios for the banking system to deliberate what would be the most reliable peer group for BES, such as: ROE, ROA, D/E, P/TBV[112], PER[113], dividend yield, core tier I and assets growth, as it can be conferred in the above exhibit.

Starting by the breakdown of the profitability ratios, I assigned net income as the summation of the cumulative Q3 2011 and the Q4 2010. Afterwards I divided it by the average total common equity (ROE) and total assets (ROA). Both denominators took into account cumulative values of Q3 2010 and Q3 2011. The purpose was to study the ability of sources and/or uses of funds to generate income for the common shareholders.

Debt-to-tangible equity ratio was also computed in accordance with the results of cumulative Q3 2011. The price-to-tangible book value of equity ratio and the price-to-earnings ratio reflected in the numerator market value prices of December 16 2011, obtained at Bloomberg online. As for the tangible book value of equity, I deducted intangible assets from total common equity to reach the result of the cumulative twelve months until Q3 2011. The thing is that tangible book value expresses what common shareholders will receive if the bank files for bankruptcy and all its assets are liquidated. Hence, it does a better job in estimating the true value for its shareholders.

The dividend yield was searched on Bloomberg online on December 16 2011 and the core tier 1 ratio on Q3 2011 reports. In effect, banks paying out excessive dividends would be punished by the regulatory overlay; by paying out too little dividends, the punishment would be set by investors. Finally, the assets growth, in relative terms, comprised cum. Q3 2010 and cum. Q3 2011. The growth prospects should be attractive to expect higher cash flows for the bank and

[112] Price-to-tangible book value of equity.
[113] Price-to-earnings ratio.

perceive the stock as a good buy, however that is not the case due to the diligence of running the deleverage programme.

Concerning the features of BES Q3 2011 results, profitability ratios were above the average of the random group, D/E was well-balanced and P/TBV and P/E multiples were low. The dividend policy, in relative terms, was quite attractive taking into account the recessionary period and core tier 1 ratio showed resilience. The business growth was nothing more than a reminiscence of the balance sheet deleverage started in 2010.

Saying that so, how and which stocks depict similar figures?

To clear up this question, I submitted a strict range for each variable to come up with the upper and lower limit in comparison with BES figures – **see appendix 19**. In fact, if the value computed exceeded that range, it would turn out to be crossed from the comparable financial institutions' list.

The comparable companies observed were Banco de Sabadell, Banco Popular Espanol, Banif, ESFG[114], Millennium BCP and Deutsche Bank.

	Earnings	Tangible Book Value	Number of Shares
BES	242.922	5.735.118	1.461.240

	P/TBV	Absolute values	Value Per Share	P/E	Absolutes Values	Value Per Share
BES	0,27	1.534.302 €	1,05 €	6,32	1.534.302 €	1,05 €
Min	0,15	860.926 €	0,59 €	5,52	1.341.257 €	0,92 €
Max	0,88	5.059.649 €	3,46 €	19,06	4.630.861 €	3,17 €
Weighted Average	0,61	3.510.013 €	2,40 €	17,51	4.254.414 €	2,91 €

Exhibit 62 – Relative Valuation of BES
Source: Company reports, bloomberg, own calculations

Stemming from the peer group's market capitalization, I ascribed a weight to each comparable concerning the two most influential multiples, and then I summed it up – **see appendix 20**. The main goal was to come up with the fair price for BES by multiplying it by earnings ($P/E \times Earnings_{BES}$) and by tangible book value ($P/TBV \times TBV_{BES}$). As a matter of fact, the fair value per share for BES on December 16 2011, on a weighted average basis, was of €2.40 (P/TBV) and € 2.91(P/E) – **see exhibit 62**.

This gives us the hint the potential upside risk is of 129% and 177%, respectively after reporting a market price of €1.05.

According to Damodaran's recent thoughts[115], a real bargain is the bank that trades at a low P/B ratio, has a high CT1 and shows an impressive ROE. Although BES fails in the third dimension, falling below the average[116] of the observable financial institutions by a small margin

[114] Espírito Santo Financial Group.
[115] Damodaran, A. (29 March 2011). *Damodaran Blog.* Obtained on 29 December 2011, Musings on Markets: http://aswathdamodaran.blogspot.pt/2011/03/breach-of-trust-bank-valuation-after.html
[116] Excluding Alpha Bank due to its negative ROE.

($ROE_{BES} = 4.01\% < ROE_{Avg} = 4.95\%$), we cannot deny the stock is being traded at a large discount in the market (underpricing), a result of the systematic sovereign debt downgrades.

D. BES fair value price

Dupont analysis		Excess return model		Free cash flow to equity		Relative Valuation
Domestic	International	Domestic	International	Domestic	International	
0,25 €	0,09 €	0,31 €	0,96 €	1,18 €	0,34 €	2,4€ / 2,91€
	0,34 €		1,26 €		1,52 €	

Exhibit 63 - Decision of BES target price
Source: Own calculations

The purpose of assessing different valuation models is to come up with a final price target that reflects the fair value of the bank.

From my point of view, Dupont method does not correctly provide the fair price for BES group. By taking out the one-time events that put its 2011 net income at risk, it was not enough to carry out a satisfactory ROA for the next year, which led to a heavy devaluation of the bank's share price. In addition, the model is not forward-looking as it is subject to historical data that may miss the growing opportunities in emerging markets the bank faces. Furthermore, it is implicit BES is undervalued due to the sovereign debt crisis, in which Greece is the head of the recent turmoil. **As a result, I cross off from the list the short-sell recommendation reported by this method**. **The market price on May 25 2012 was € 0.487**.

The free cash flow to equity will not be considered to ascribe a fair value price for BES for the reason that international outlook is being devaluated as opposed to domestic outlook. The latter one is taking advantage of an expressive dividend policy (at least 50%) from an individual perspective, raising the price to a certain level that I consider meaningless. As a matter of fact, the international activity will tend to have a bigger share on the overall net income, and most of all yields a high profitability for a very little international balance sheet. **As a consequence, I cross off from the list the buy recommendation reported by this method**.

The relative valuation where I found the peer group does not track the recent events carried out by the bank, mainly the capital increase of € 1,'010 mn, meaning that € 2.40 (P/TBV) and € 2.91 (P/E) was correctly inferred at the time, but now it is obsolete. **Thus, I cross off from the list the buy recommendation reported by this method.**

Therefore, the final consideration is to stick to excess return model to determine the fair value of BES shares. It is the only model that punishes the inability of the bank to create value to its shareholders for the domestic business. Nevertheless, it catches the growth opportunities in emerging markets.

The price target of BES is € 1.26, a buy recommendation to investors as it suggests a potential upside risk of 159%.

E. Sensitivity Analysis

The sensitivity analysis purpose is to see how the main value drivers would impact the final share price for BES. The selection of the best method to determine the fair value for the two different geographical areas was detailed.

According to Young, Sullivan, Nokhasteh, & Holt (1999), the valuation models are so sensitive to variations in things we cannot estimate accurately such as the terminal value. The problem is that practitioners usually spend 80%/90% of their time forecasting the near future, rather than the medium/long term. This occurs because analysts feel more comfortable estimating what is usually disclosed in the market, which drives to a heavily undervalued or overvalued price target.

Domestic

Growth \ Cost of equity - Terminal Value	6,0%	6,5%	6,6%	7,0%	7,5%	Δ Staff costs
2,5%	0,236 €	0,211 €	0,227 €	0,222 €	0,206 €	-2%
2,0%	0,321 €	0,290 €	0,303 €	0,294 €	0,274 €	-1%
1,9%	0,318 €	0,288 €	**0,301 €**	0,291 €	0,272 €	0%
1,5%	0,369 €	0,336 €	0,347 €	0,336 €	0,315 €	1%
1,0%	0,424 €	0,389 €	0,398 €	0,385 €	0,362 €	2%
	-2%	-1%	0%	1%	2%	

Δ Net interest income

Exhibit 64 – Domestic sensitivity analysis (in €)
Source: Own analysis

For that reason, I resolved to ascribe different growth rates and the cost of equity for the terminal value and the change of two other relevant variables in a bank P&L statement – net interest income and staff costs. The baseline scenario is calibrated to a growth rate of 1.9%, a cost of equity of 6.6% and no changes in net interest income and staff costs. Thus, the domestic value per share accounts to € 0.301.

It is implicit the terminal value goes off if we drop the cost equity and rise the growth rate, prevailing $K_e > g$ condition, otherwise it would not make sense from a theoretical point of view. That is, the cost of equity is equal to ROE in stable growth period.

Nevertheless, I remind you domestic outlook is one of those special cases of value destruction. If you increase cost of equity, the negative equity excess return in stable period deteriorates. Remaining constant the growth rate, the present value of the terminal value worsen. For a better conception, please read the table from your left hand to the right hand.

On the other hand, for a certain level of cost of equity, the fluctuation in growth rate in an increasing direction worsens off the negative equity excess return, bringing down the fair value of the bank. For a better understanding, please read the table from the top to the bottom.

The third effect is the diagonal scale. By moving up cost of equity and moving down the growth rate, the equity excess return improves, ranging from € 0.236 to € 0.362.

Interestingly, a negative change in staff costs (- 200 basis points) and a positive change in net interest income (+ 200 basis points) is nowhere sufficient to contradict the effects described above, albeit this situation augments the net income. Just for you to see the power of terminal value.

International

Growth \ Cost of equity - Terminal Value	7,0%	7,5%	8,1%	8,5%	9,0%	Δ Staff costs
4,5%	1,452 €	1,268 €	1,124 €	1,045 €	0,971 €	-2%
4,0%	1,257 €	1,127 €	1,021 €	0,961 €	0,903 €	-1%
3,6%	1,144 €	1,042 €	**0,955 €**	0,906 €	0,858 €	0%
3,0%	1,011 €	0,938 €	0,874 €	0,837 €	0,800 €	1%
2,5%	0,928 €	0,871 €	0,820 €	0,791 €	0,761 €	2%
	-2%	-1%	0%	1%	2%	

Δ Net interest income

Exhibit 65 – International sensitivity analysis (in €)
Source: Own calculations

In respect to the international sensitivity analysis, the data interpretation is the traditional conception described before. The baseline scenario is as it follows: growth rate of 3.6%, cost of equity of 8.1% and no changes for net interest income and staff costs, yielding € 0.955.

For a certain degree of growth rate, the higher the cost of equity, the lower the fair value. For the same level of cost of equity, the higher the growth rate, the higher the price target. Finally, an increase in cost of equity and a plunge in growth rate lead to a lower final price, ranging from € 1.452 to € 0.761.

Again, the P&L variables are not so powerful as terminal value components, although for the best scenario (-200 basis points in staff costs and +200 basis points in net interest income), the price yielded is higher than the adverse scenario (+200 basis points in staff costs and -200 basis points in net interest income).

V. Comparison With CaixaBI Banking Report

Caixa BI's report of the Portuguese financial system published on December 13, 2011 does not take into account the capital increase of € 530 mn. The bank revised BES fair value per share to € 2.7, down from the previous price target of € 4. Besides that, according to ESN

recommendation system, the investment bank maintains its buy recommendation as opposed to the closing price of € 1.13[117].

A. Valuation methods

Caixa BI's valuation of the Portuguese financial institutions (BES, BCP and BPI) is grounded on three approaches, each one accounting for 1/3 of the final price.

1. Discounted cash flow model

The investment bank outlines cash flow as the difference between the net income and the retained capital, which is nothing more than the increase in core tier 1 expressed as Δ RWA × 10%. The 10% is in line with the new capital standard published by Bank of Portugal to be accomplished at the end of 2012.

They also provide a normalized capital employed, i.e., the computation of 2011 $RWA \times 10\%$. The reason why it is 2011 and not 2012 has to do with the fact that the report was submitted under Q3 2011 results. Therefore, at the time there was the need to look into 2011's performance.

The fair value of BES was the summation of the excess capital foreseen for 2011, i.e., the forecasted 2011 capital[118] minus the standard capital defined as normalized capital employed, plus the present value of future cash flow and the terminal value and finally the 2011 dividends expected to be paid in 2012. From my point there is a flaw because the bank did not consider the capital increase of € 530 mn carried out in 2011, which may lead to a biased excess capital for 2011.

In that sense, I would say the free cash flow to equity has some similarities for 2012 prospects since I took into consideration the relative change in core tier 1 and from 2012 onwards the inside policies that influences the dividends pay-out ratio and the capacity to retain earnings.

The reason why I thought this would be a valuable option had to do with the expectation core tier 1 would depend mainly on BES retained earnings to increase its capital ratio. In fact, in the near future BES will not be willing to announce a new capital increase as it would damage shareholders' wealth and their stake in the bank.

Furthermore, the 2011 dividends paid in 2012 is useless since the bank did not paid out any dividends.

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[117] As of December 12, 2011.

[118] Probably contemplates a core tier 1 ratio of 9% to be achieved at the end of 2011.

2. Bond pricing model (adjusted with dividends)

The forecasted ROE is the average of 2011-2015 ROE estimates divided by ROE demanded obtained through CAPM. The net asset value is ROE forecasted/ROE demanded plus the 2015 equity, which is afterwards adjusted to current prices (today). Furthermore, the investment bank adds the 2011-2015 present value of dividends. From my understanding It does not create any value since BES frozen its dividend policy.

This model sounded promising because it is forward-looking in contrast to Dupont method, nevertheless it fails by just striping of only the pension fund shortfalls.

Indeed, there are many more we should get rid of such as unrealized capital gains/losses, lack of provisions, tax credit that are going to end, amortised actuarial differences that are no more recognised in the traditional P&L statement.

3. Residual income model

Caixa BI displays this model as:

$$Residual\ value = Net\ profit\ of\ the\ year - (Average\ Equity \times Cost\ of\ equity)$$

The only difference ascertained was the average equity. The literature review hinted the use of book value of equity, however I am not in the position to criticise this model as it definitely yields a coherent result.

B. Valuation assumptions

The risk free rate and the market risk premium are standardised in order to engage into the specifications of ESN network. However, due to the exposure of the bank to international activities, the sovereign debt crisis and the risk of Portugal measured by default spread.

Beta calculation			ESN	BES
BES	1.497	Risk free rate	4,5%	4,5%
BPI	1.188	Beta		1,30
BCP	1.284	Market Risk Premium	4,0%	4,75%
Banco Popular	1.237	Cost of equity		10,77%
BBVA	1.467	Perpetual growth rate		2,6%
BSCH	1.365			
Bankinter	1.320			
Average	**1.337**			

Exhibit 66 – Valuation assumptions in CaixaBI's banking report
Source: CaixaBI's banking report (December 13 2011)

The Portuguese market risk premium was 4%, whereas the international operation was about 7%. The betas are 1.34 and 1.25, respectively. From the UK Reuteurs article I referred above, emerging economies are not as risky as we once perceived and tend to be close to 1, meaning the perfect correlation between the international operations with the market. Regarding Portugal I released a lower beta through the relationship amongst financial leverage, beta unlevered and corporate tax rate.

In my opinion, even though the bank has made an adjustment it did not reflect the true market risk premium, because ESN lowered too much the market risk premium of mature markets (4%) as opposed to the 6% stated in Damodaran. In addition, there may be the case the investment bank devaluated the country risk premium, turning down again the market risk premium. As I identified before, there were three methodologies to come up with better estimates for country risk premium.

Moreover, I pursued a detailed geographical analysis that allowed me to realize better the business. This decision brought implications in relation to the assessment of betas, market risk premiums, cost of equity and perpetual growth rates. Likewise, I did not find appealing the fact CaixaBI turned cost of equity static over time.

As a matter of fact, markets are moving at a fast pace, which is wrong to assume the ceteris paribus condition. As for the perpetual growth rate (2.6%) I found it quite feasible, given that my international baseline scenario was intended to be 3.62% and the domestic one about 1.91%. If you weight international activity by 25% and domestic activity by the remaining, the percentage generated would be 2.34%.

C. Sensitivity analysis

The sensitivity analysis is limited to two variables comprised in the terminal value, when actually there are plenty of them that should be tested in the final price and may cause huge discrepancies. As I mentioned before, I took into account four variables: perpetual growth rate, cost of equity and the change in net interest income & staff costs.

D. Key performance ratios

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Net interest margin - Dissertation	1,76%	1,77%	1,61%	1,68%	1,67%	1,67%	1,70%	1,77%	1,79%
Net interest margin - CaixaBI					1,90%	2,00%			
Cost-to-income ratio - Dissertation	53%	43%	47%	58%	64%	61%	57%	56%	55%
Cost-to-income ratio - CaixaBI					60%	57%			
ROE - Dissertation	8,6%	7,5%	7,4%	-1,8%	0,2%	3,3%	5,3%	6,1%	6,2%
ROE - CaixaBI					1,9%	4,4%			
Customer loans-to-deposit ratio - Dissertation	178%	192%	165%	143%	130%	120%	120%	120%	120%
Customer loans-to-deposit ratio - CaixaBI					135%	129%			
Non performing loans coverage - Dissertation	219,0%	191,5%	173,0%	154,5%	169,0%	168,7%	168,4%	167,7%	167,0%
Non performing loans coverage - CaixaBI					119,0%	141,5%			
Credit provisions reserve/ Gross customer loans - Dissertation	2,4%	3,1%	3,4%	4,2%	4,6%	4,6%	4,3%	3,8%	3,4%
Credit provisions reserve/ Gross customer loans - CaixaBI					5,6%	6,6%			
Non performing loans/Gross customer loans - Dissertation	1,1%	1,6%	2,0%	2,7%	2,7%	2,7%	2,5%	2,3%	2,1%
Non performing loans/Gross customer loans - CaixaBI					4,7%	4,6%			
Core tier 1 - Dissertation	6,1%	8,0%	7,9%	9,2%	10,0%	10,0%	10,0%	10,0%	10,0%
Core tier 1 - CaixaBI					8,4%	8,4%			
Dividend Payout ratio (consolidated) - Dissertation	20%	31%	29%	0%	0%	29%	30%	31%	32%
Dividend Payout ratio (consolidated) - CaixaBI					0%	0%			

Exhibit 67 – Comparison of key performance ratios between my dissertation and CaixaBI's banking report
Source: CaixaBI's banking report (December 13 2011) & own calculations

The net interest margin is too high in comparison with my estimates. From my point of view, the deleverage programme reduces the possibility of earning more through bank lending. On the other hand, the attempt to seize new customer deposits is translated into a boost in deposit margin. This event will potentially reduce the spread between interest earning assets and interest earning liabilities.

My dissertation's cost-to-income ratio outperforms the one from CaixaBI, because the investment bank presumes an upper total banking income, impelled by non-interest income, whilst I am cautious about it. Actually, the commissions on loans, the asset management and bancassurance may plunge sharply, revealing a generalized anti-risk appetite amongst investors.

Regarding ROE, I believe CaixaBI's is confident about BES succeeding in net profit, which contradicts my reasoning thanks to the turmoil trend in the Portuguese economy that pushes down the profitability of the bank. On the other hand, the IB did not consider the two recent capital increases – **see exhibit 30**.

Customer loans-to-deposit ratio is decreasing sharply and I do ponder BES will comply with the 2014 ratio of 120% in 2013. However, CaixaBI seems cautious about BES perseverance in meeting the requirement right before the official deadline.

Traditionally, non performing-loans have been covered by more than 100%. The sentiment between me and CaixaBI will remain. The balance sheet credit provision reserves are not explicitly specified in CaixaBI's report. Thus, it is tough to draw a conclusion, albeit the IB bet on its reinforcement over gross customer loans. In terms of non-performing loans, CaixaBI suggest a deep aggravation, whereas I engage in a 2011 look alike for 2012-2013 years.

The core tier 1 ratio presented by the IB escapes from the reality, a percentage well below of 2012 target (10%). Finally, the dividend policy will possibly get back at its own record in 2013, contradicting the line of reasoning of CaixaBI (0%).

VI. Conclusion

The main goal of this dissertation was to come up with a fair value price for BES shares through the application of the most suitable methods to evaluate financial services. The choice of adjusted excess return model by Damodaran yielded a price target of € 1.26, which signals a buy recommendation to potential investors.

Its potential upside risk of 159% is nowhere nonsensical since in YE2011 BES market share price was being traded closely to that price. In the near future, I expect BES will enhance its expansion strategies to emerging economies to compensate for the sluggish Portuguese economy.

	Year-on-year rates of change (%)					Quarterly rates of change (%)		
	2010		2011			2011		
	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Jun.	Sep.
Cash and claims on central banks	-25.0	-32.5	-31.6	-12.4	13.9	-14.1	3.1	-2.2
Claims and investments in other credit institutions	-21.3	-39.6	-38.4	-23.2	-23.1	-2.2	3.4	2.0
Securities, derivatives and investments	28.9	29.7	3.6	-2.8	-5.4	-9.2	-1.4	0.6
Net credit to customers	3.0	-1.8	-4.4	-8.1	-6.8	-2.8	-0.2	-0.5
Securitised non-derecognized assets	3.5	47.6	49.8	55.8	39.5	7.4	-0.4	-1.5
Tangible and intangible assets	-23.6	-0.8	-0.1	-3.4	0.9	1.5	-2.9	1.1
Other assets	21.4	10.7	0.8	5.6	14.0	-1.0	10.6	7.9
Total assets	**5.3**	**3.9**	**-1.4**	**-3.0**	**-2.5**	**-3.2**	**0.2**	**0.1**
Resources from central banks	272.6	169.5	132.1	5.2	9.1	-8.3	10.6	4.1
Resources from other credit institutions	-1.4	3.1	-5.7	-23.7	-19.2	-1.3	-21.2	0.9
Resources from customers and other loans	7.6	6.7	7.4	11.5	8.1	-0.1	5.0	1.9
Liabilities represented by securities	-18.6	-23.1	-31.1	-24.3	-21.7	-7.7	-4.8	-6.2
Subordinated liabilities	-10.4	-12.8	-17.5	-25.7	-37.2	-8.8	-13.8	-15.9
Other liabilities	-3.1	9.3	-5.1	-3.2	7.0	-5.6	0.9	5.1
Capital	3.2	1.8	-2.4	-4.7	-12.0	-1.3	-6.9	-5.3
Total liabilities and capital	5.3	3.9	-1.4	-3.0	-2.5	-3.2	0.2	0.1
	3.3	***3.1***	***1.0***	***-2.0***	***-1.6***	***-1.6***	***0.1***	***-0.3***

Appendix 1 - Balance Sheet of the six major banking groups (consolidated basis)
Source: Bank of Portugal

	Quarterly income				
	2010				2011
	Q3	Q4	Q1	Q2	Q3
Net interest income	**1.49**	**1.42**	**1.37**	**1.43**	**1.35**
Income (net) from services and commissions	0.72	0.71	0.70	0.71	0.67
Income from financial operations	**0.17**	**0.30**	**0.14**	**0.17**	**0.12**
Other income	0.18	0.25	0.09	0.26	0.05
Gross income	2.56	2.69	2.30	2.57	2.19
Operating costs	1.44	1.51	1.32	1.45	1.30
Provisions and impairment	0.70	0.64	0.52	1.15	0.90
Of which: associated with credit to customers	0.42	0.43	0.40	1.00	0.54
Consolidation differences and appropriation of income	-0.09	-0.06	-0.06	-0.06	0.00
Income before tax and minority interests	0.51	0.60	0.52	0.00	0.00
Income tax profit	0.07	0.02	0.09	-0.21	0.01
Income before minority interests	0.44	0.58	0.43	0.21	-0.01
Minority interests	0.19	0.19	0.14	0.15	0.09
Net income	**0.25**	**0.38**	**0.29**	**0.07**	**-0.10**

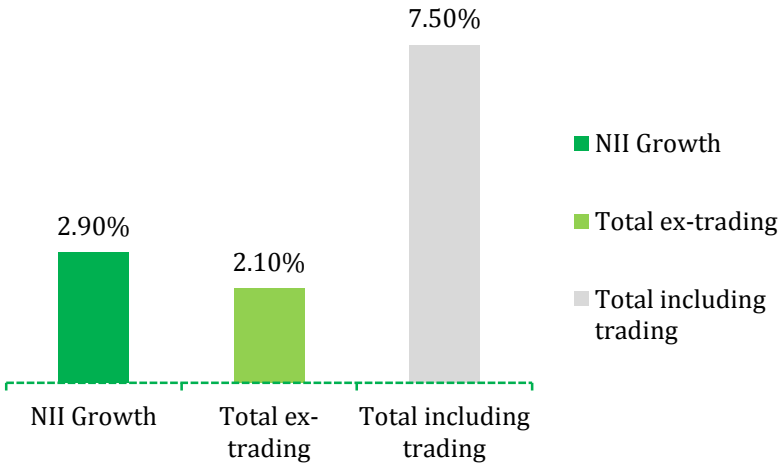
Appendix 2 - P & L statement of the six major banking groups
Source: Bank of Portugal
Note: Quarterly data have been annualised

	2010		2011		
	Sep.	Dec.	Mar.	Jun.	Sep.
Own funds					
Original own funds	24 151	25 484	26 011	25 889	24 803
Of which: non-core elements	4 294	4 616	4 595	3 420	2 682
Capital Requirements	21 771	21 694	21 426	21 508	21 437
Core Tier I	**7.3**	**7.7**	**8.0**	**8.4**	**8.3**

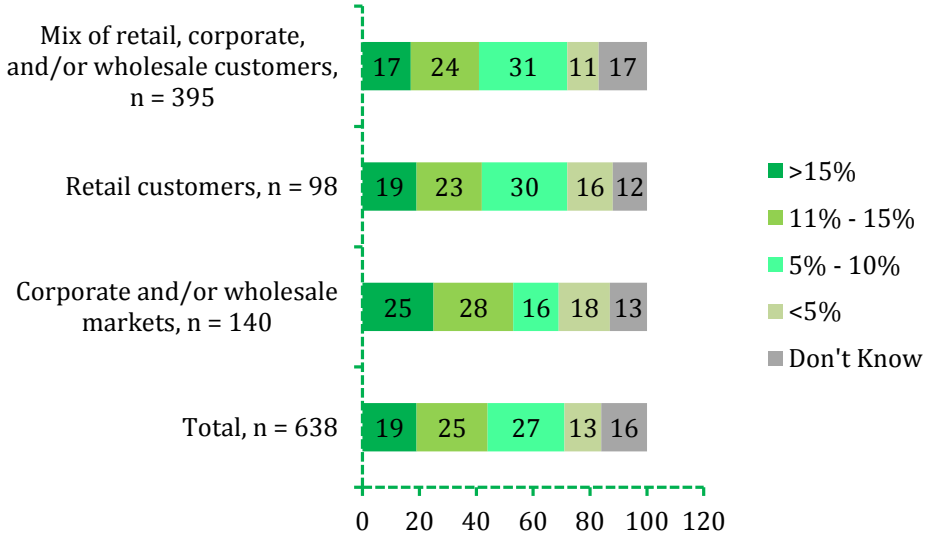
Appendix 2 - Own funds adequacy ratio of the six major banking groups
Source: Bank of Portugal

	Old - 27 June 2011		New - 18 August 2011		% change	
Year Ending 31 December	**2011E**	**2012E**	**2011E**	**2012E**	**2011E**	**2012E**
Profit & Loss (EUR m)						
Net interest revenue	284.573	299.027	283.632	296.242	0%	-1%
Non-interest income	240.085	256.462	232.396	247.766	-3%	-3%
Commissions	132.338	142.215	132.622	142.778	0%	0%
Trading revenue	65.939	70.722	59.436	62.568	-10%	-12%
Other revenue	41.808	43.525	40.338	42.420	-4%	-3%
Total revenue	524.658	555.489	516.028	544.008	-2%	-2%
Total Operating Costs	310.778	314.492	311.519	314.229	0%	0%
Employee costs	133.778	137.365	184.245	188.020	38%	37%
Other costs	177.000	177.064	125.586	124.538	-29%	-30%
Pre-Provision profit	219.830	243.622	210.931	232.120	-4%	-5%
Bad debt expense	84.172	68.702	86.186	71.761	2%	4%
Operating Profit	129.708	172.295	118.323	158.018	-9%	-8%
Pre-tax associates	4.171	4.629	4.501	4.938	8%	7%
Pre-tax profit	**133.879**	**176.924**	**122.824**	**162.956**	**-8%**	**-8%**
Tax	34.660	46.527	30.215	41.750	-13%	-10%
Other post tax items	-15.203	-14.538	-18.719	-14.916	23%	3%
Stated net profit	**84.246**	**116.089**	**74.119**	**106.520**	**-12%**	**-8%**

Appendix 4 - Aggregated European banks income statement (46 banks under DB coverage, Eur bns)
Source: Deutsche Bank



Appendix 3 - European banks: top-line growth 2008-2011
Source: Deutsche Bank



Appendix 5 - Institution's total return on equity in previous fiscal year
Source: Mckinsey

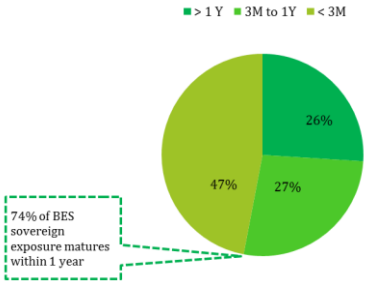
Capital requirements and buffers (%)

	Common Equity (after deductions)	Tier 1 Capital	Total Capital
Minimum	4.5	6	8
Conservation buffer	2.5		
Minimum plus conservation buffer	**7**	**8.5**	**10.5**
Countercyclical buffer range	0 - 2.5		

Appendix 4 - Calibration of the Capital Framework
Source: Bank for International Settlements (BIS)

Phase-in arrangements (green figures indicates transition periods)									
As of:	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Leverage ratio	*Supervisory monitoring*		*Parallel run 1 Jan 2013 - 1 Jan 2017 Disclosure starts 1 Jan 2015*					*Migration to Pillar 1*	
Minimum Common Equity Capital Ratio			**3.5%**	**4%**	4.5%	4.5%	4.5%	4.5%	4.5%
Capital Conservation buffer						**0,625%**	**1.25%**	**1.875%**	2.5%
Minimum common equity plus capital conservation buffer			**3.5%**	**4%**	**4.5%**	**5125%**	**5.75%**	**6375%**	7%
Phase-in of deductions from CET1 (including amounts exceeding the limit for DTAs, MSRs and financials				**20%**	**40%**	**60%**	**80%**	100%	100%
Minimum Tier 1 Capital			**4.5%**	**5.5%**	6%	6%	6%	6%	6%
Minimum Total Capital			8%	8%	8%	8%	8%	8%	8%
Minimum Total Capital plus conservation buffer			8%	8%	8%	**8.625%**	**9.25%**	**9.875%**	10.5%
Capital instruments that no longer qualify as non-core Tier 1 capital or Tier 2 capital					*Phased out over 10 year horizon beginning 2013*				
Liquidity coverage ratio	*Observation period begins*				*Introduce minimum standard*				
Net sable funding ratio		*Observation period begins*						*Introduce minimum standard*	

Appendix 6 - Transition arrangements (all dates are as of 1 January)
Source: Bank for International Settlements (BIS)



Appendix 9 - Maturity of European sovereign exposure
Source: BES results presentation of 2011

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
ASSETS									
Cash and deposits at central banks	2.027	2.192	931	1.090	751	760	768	774	793
Deposits with banks	664	611	558	581	628	638	651	666	682
Financial assets held for trading	3.690	4.459	3.942	3.435	3.751	3.584	3.595	3.610	3.789
Financial assets at fair value through profit or loss	2.162	1.002	1.424	1.964	1.618	1.361	1.493	1.577	1.570
Available for sale financial assets	7.094	8.532	11.775	11.483	9.336	9.298	9.772	9.801	9.924
Loans and advances to banks	4.532	7.998	4.245	3.283	3.420	3.343	3.631	3.808	4.844
Loans and advances to customers	47.049	48.979	50.829	49.043	48.126	45.968	47.223	47.747	48.607
(Provisions)	1.148	1.552	1.777	2.167	2.321	2.216	2.100	1.900	1.737
Gross loans	**52.730**	**58.529**	**56.852**	**54.493**	**53.868**	**51.527**	**52.954**	**53.456**	**55.188**
Held to maturity investments	2.160	2.542	2.459	1.541	2.137	1.984	1.904	1.875	2.052
Financial assets with repurchase agreements	0	0	0	0	0	0	0	0	0
Hedging derivatives	936	455	447	510	501	604	939	950	967
Non-current assets held for sale	148	238	575	1.647	1.647	1.647	1.647	1.647	1.647
Investment properties	0	0	0	0	0	0	0	0	0
Property and equipment	638	659	809	852	852	852	852	852	852
Intangible assets	124	138	234	230	230	230	230	230	230
Investments in associates	645	794	962	807	1.032	1.032	1.032	1.032	1.032
Current income tax assets	53	21	99	29					
Deferred income tax assets	142	188	283	712					
Total tax assets	**194**	**209**	**383**	**741**	**371**	**355**	**365**	**369**	**381**
% of loans	0,4%	0,4%	0,7%	1,4%	0,7%	0,7%	0,7%	0,7%	0,7%
Other assets	3.121	3.490	4.083	3.031	3.316	3.172	3.260	3.291	3.398
% of loans	5,9%	6,0%	7,2%	5,6%	6,2%	6,2%	6,2%	6,2%	6,2%
Total assets without extra financial applications	75.187	82.297	83.655	82.405	80.039	77.044	79.463	80.129	82.503
Extra Financial applications					**967**	**4.827**	**3.635**	**3.931**	**3.525**
TOTAL ASSETS	**75.187**	**82.297**	**83.655**	**80.237**	**82.016**	**82.881**	**84.107**	**85.070**	**87.038**
LIABILITIES									
Deposits from central banks	4.810	3.818	7.965	10.014	8.022	6.632	5.546	4.118	4.565
Deposits from banks	7.682	6.896	6.381	6.239	6.260	6.588	7.018	7.492	7.995
Due to customers	26.387	25.446	30.819	34.206	37.020	38.306	39.352	39.789	40.506
Total deposits	**38.879**	**36.160**	**45.165**	**50.459**	**51.303**	**51.527**	**51.915**	**51.400**	**53.065**
Financial liabilities held for trading	1.914	1.561	2.088	2.125	1.868	1.766	1.915	1.926	1.947
Other financial liabilities at fair value through profit or loss	0	0	0	0	0	0	0	0	0
Debt securities issued	24.597	33.101	24.110	18.453	18.805	19.185	19.322	20.484	20.278
Financial liabilities to transferred assets	0	0	0	0	0	0	0	0	0
Hedging derivatives	727	253	229	239	249	257	263	271	275
Non core liabilities held for sale	13	22	5	141	44	42	44	44	45
% of loans	0,02%	0,04%	0,01%	0,26%	0,08%	0,08%	0,08%	0,08%	0,08%
Provisions	131	180	215	190	173	165	170	171	177
% of loans	0,2%	0,3%	0,4%	0,3%	0,3%	0,3%	0,3%	0,3%	0,3%
Current income tax liabilities	90	134	25	45					
Deferred income tax liabilities	37	79	116	111					
Total tax liabilities	**127**	**213**	**141**	**155**	**153**	**147**	**151**	**152**	**157**
% of loans	0,2%	0,4%	0,2%	0,3%	0,3%	0,3%	0,3%	0,3%	0,3%
Capital instruments	0	0	0	0	0	0	0	0	0
Subordinated debt	2.829	2.639	2.292	961	930	930	930	736	736
Other liabilities	1.316	1.230	1.935	1321	972	911	948	961	1006
% of loans	2,5%	2,1%	3,4%	2,4%	2,6%	2,6%	2,6%	2,6%	2,6%
TOTAL LIABILITIES	**70.534**	**75.358**	**76.179**	**74.045**	**74.497**	**74.929**	**75.658**	**76.145**	**77.688**
SHAREHOLDERS' EQUITY									
Share Capital	2.500	3.500	3.500	4.030	5.040	5.040	5.040	5.040	5.040
Share premium	669	1.085	1.085	1.082	1.049	1.049	1.049	1.049	1.049
Other capital instruments	0	0	320	30	30	30	30	30	30
Treasury stock	-30	-25	0	-1	-1	-1	-1	-1	-1
Preference shares	600	600	600	212	212	212	212	212	212
Fair value reserve	-266	301	-10	-1.086	-900	-900	-900	-900	-900
Other reserves and retained earnings	624	672	979	1447	1463	1654	1965	2341	2737
Profit for the period attributable to equity holders of the banl	402	522	511	-109	16	259	445	545	574
Prepaid dividends	0	0	0	0	0	0	0	0	0
Minority interests	154	284	491	588	609	609	609	609	609
TOTAL EQUITY	**4.653**	**6.939**	**7.476**	**6.192**	**7.518**	**7.952**	**8.449**	**8.925**	**9.351**
TOTAL LIABILITIES AND TOTAL EQUITY	**75.187**	**82.297**	**83.655**	**80.237**	**82.016**	**82.881**	**84.107**	**85.070**	**87.038**
Loans-to-Deposit Ratio (Total)	**136%**	**162%**	**126%**	**108%**	**105%**	**100%**	**102%**	**104%**	**104%**
Loans-to-Deposit Ratio (Customers)	**178%**	**192%**	**165%**	**143%**	**130%**	**120%**	**120%**	**120%**	**120%**

Appendix 10 - Balance sheet forecast (2012 - 2016) in mn euros
Source: BES Financials, own calculations

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Austria	208.474	214.201	220.529	224.996	234.708	245.243	259.035	274.020	282.746	274.818	286.197	301.308	311.424	323.789	337.401	351.326	365.542
Belgium	252.543	259.803	268.620	276.156	291.292	303.357	318.697	335.610	346.130	340.398	354.378	368.976	377.672	388.360	400.862	414.713	430.057
Cyprus	9.756	10.548	10.892	11.631	12.522	13.402	14.433	15.830	17.157	16.854	17.334	17.931	18.257	18.511	19.094	19.930	20.893
Estonia	6.160	6.971	7.776	8.719	9.685	11.182	13.391	16.069	16.304	13.840	14.305	15.973	16.951	17.965	19.027	20.154	21.381
Finland	132.195	139.288	143.646	145.531	152.266	157.429	165.765	179.830	185.651	172.518	179.721	191.571	195.981	204.115	213.536	222.536	231.686
France	1.441.078	1.496.464	1.544.017	1.588.822	1.653.141	1.716.184	1.799.530	1.887.280	1.931.456	1.889.664	1.931.397	1.995.335	2.061.845	2.117.572	2.199.410	2.285.775	2.377.446
Germany	2.047.500	2.101.900	2.132.200	2.147.500	2.195.700	2.224.400	2.313.900	2.428.500	2.473.800	2.374.500	2.476.800	2.570.800	2.644.772	2.720.977	2.793.883	2.865.371	2.938.425
Greece	136.281	146.428	156.615	172.431	185.266	194.819	211.300	227.074	236.917	235.017	230.173	217.812	206.116	205.278	210.396	218.850	227.875
Ireland	105.854	118.122	131.336	140.981	150.560	163.462	178.297	189.933	179.990	160.596	155.992	156.438	159.358	164.526	171.171	178.863	186.980
Italy	1.198.292	1.255.738	1.301.873	1.341.850	1.397.728	1.436.379	1.493.031	1.554.200	1.575.144	1.519.695	1.553.166	1.580.220	1.571.407	1.588.196	1.615.312	1.652.729	1.695.979
Luxembourg	22.000	22.572	23.993	25.834	27.456	30.282	33.920	37.491	39.436	37.393	40.267	41.980	42.525	43.635	44.815	46.462	48.283
Malta	4.039	4.107	4.339	4.499	4.531	4.817	5.056	5.438	5.828	5.811	6.123	6.393	6.623	6.924	7.286	7.669	8.082
Netherlands	417.960	447.731	465.214	476.945	491.184	513.407	540.216	571.773	594.481	571.466	588.381	604.016	609.782	622.236	639.169	660.486	682.293
Portugal	127.317	134.471	140.567	143.472	149.313	154.269	160.855	169.319	171.983	168.504	172.571	171.682	167.690	170.546	176.329	182.251	188.767
Slovak Republic	31.177	33.881	36.806	40.612	45.161	49.314	55.002	61.450	66.843	62.795	65.744	69.059	71.884	75.173	79.570	84.520	89.570
Slovenia	18.566	20.765	23.195	25.195	27.165	28.722	31.045	34.562	37.280	35.311	35.416	35.639	35.643	36.495	37.634	39.004	40.584
Spain	630.263	680.678	729.258	783.082	841.294	909.298	985.547	1.053.161	1.087.749	1.047.831	1.051.342	1.073.383	1.062.674	1.080.223	1.112.307	1.150.137	1.189.742
Total Euro Area	6.789.455	7.093.668	7.340.876	7.558.256	7.868.972	8.155.966	8.579.020	9.041.540	9.248.895	8.927.011	9.159.307	9.418.516	9.560.604	9.784.521	10.077.202	10.400.776	10.743.585
Deposits with other banks	28.596	33.887	30.293	32.837	36.119	30.876	31.442	45.618	33.108	40.929	31.695	34.751	38.024	38.647	39.462	40.362	41.316
Deposits from central banks	3.133	2.611	1.272	2.923	3.542	6.215	1.739	5.731	14.407	19.419	48.788	50.774	30.245	33.161	36.971	41.184	45.647
Deposits from other banks	40.223	40.107	37.360	34.233	33.315	38.840	42.921	72.492	74.415	74.370	81.040	74.455	77.029	81.070	86.352	92.192	98.379
Overdue loans (30+ & 90+ days)	769	818	979	1.032	1.015	910	871	941	1.161	1.704	2.134	2.949	2.915	2.788	2.648	2.406	2.208
% of gross loans	3,5%	3,3%	3,7%	3,9%	3,0%	2,4%	2,0%	1,8%	2,2%	2,9%	3,8%	5,4%	5,4%	5,4%	5,0%	4,5%	4,0%
Gross loans	22.095	24.874	26.163	26.445	33.951	37.826	43.340	51.371	52.730	58.529	56.852	54.493	53.868	51.527	52.954	53.456	55.188

Appendix 11 – Estimates of deposits and overdue loans (30+ and 90+ days) in mn euros
Source: IMF Database, own calculations

Date	Days	Years	Euribor Spot Rates	Euribor Forward Rates
04-05-2012				
05-05-2012	1	0,003	0,001%	0,001%
11-05-2012	7	0,019	0,004%	0,004%
02-08-2012	90	0,247	0,049%	0,053%
31-10-2012	180	0,493	0,054%	0,059%
29-01-2013	270	0,740	0,072%	0,108%
29-04-2013	360	0,986	0,101%	0,188%
04-05-2014	730	2	0,300%	0,494%
04-05-2015	1095	3	0,583%	1,151%
03-05-2016	1460	4	0,899%	1,853%
03-05-2017	1825	5	1,219%	2,509%

Appendix 127 – Implied forward interest rates for different time horizons
Source: ECB & own calculations

Years		Fwd Rates
2012	3M Fwd 90 days from today	0,05%
2013	3M Fwd 1 year from today	0,33%
2014	3M Fwd 2 years from today	0,68%
2015	3M Fwd 3 years from today	1,34%
2016	3M Fwd 4 years from today	2,03%

Appendix 138 – Implied 3-M forward rates (2012-2016)
Source: ECB & own calculations

	2008	2009	2010	2011	Average	2012 E	2013 E	2014 E	2015 E	2016 E	
Loans and advances	46.171	52.428	49.568	47.045		46.577	44.556	45.950	46.585	48.298	Loans and advances
% of total	90%	92%	90%	90%	90%	12.505	12.210	12.979	13.076	13.363	Other assets
Other assets	12.370	11.034	16.306	17.904	**88%**	59.082	56.767	58.930	59.661	61.660	Interest Earning Assets
Financial assets at fair value through profit or loss	2.021	923	1.780	1.969		1,02%	1,03%	1,04%	1,05%	1,06%	Net interest margin (BES)
% of total	93%	92%	125%	100%	103%	603	585	613	626	654	Net interest income (domestic)
Deposits with banks	338	322	263	342		1.098	1.057	1.118	1.175	1.229	Consolidated net interest income
% of total	51%	53%	47%	59%	52%	495	472	505	548	576	Net interest income (international)
Available-for-sale financial assets	7.219	7.174	12.094	14.275							
% of total	102%	84%	103%	124%	103%						
Held-to-maturity investments	1.806	2.035	1.669	830							
% of total	84%	80%	68%	54%	71%						
Derivatives for risk management purposes	986	580	500	488							
% of total	105%	127%	112%	96%	110%						
Due to customers	22.895	22.594	26.591	31.179							
% of total	99%	101%	98%	104%	100%						
Other liabilities	23.307	32.154	24.228	20.448							
Deposits from central banks and other banks	4.710	3.379	7.392	9.232							
% of total	20%	15%	27%	31%	23%						
Debt securities	14.326	24.985	14.055	10.164							
% of total	94%	122%	94%	89%	100%						
Subordinated debt	3.474	3.420	2.505	896							
% of total	123%	130%	109%	93%	114%						
Derivatives for risk management purposes	797	370	277	156							
% of total	109%	146%	121%	65%	111%						

Appendix 14 – Net interest income by geographical area
Source: BES annual reports & own calculations

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Account Management	89	86	85	81	78	72	80	83	84
% of IEA	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Commissions on Loans	82	109	131	104	99	96	101	102	106
% of IEA	0,1%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%
Trade Finance & Exports related	33	54	94	85	63	61	63	64	66
% of IEA	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Corporate Finance and Project Finance	44	55	69	60	51	52	54	55	57
% of IEA	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Guarantees	58	73	92	125	83	80	83	84	87
% of IEA	0,1%	0,1%	0,1%	0,2%	0,1%	0,1%	0,1%	0,1%	0,1%
Securities Related Fees	51	53	51	90	92	93	86	87	88
% of IEA	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Asset Management	101	99	102	86	82	87	93	94	97
% of IEA	0,2%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Cards	35	35	40	41	43	44	45	45	46
% of IEA	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Bancassurance	47	61	56	35	33	37	42	42	50
% of IEA	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Factoring	7	8	8	8	7	7	7	8	8
% of IEA	0,01%	0,01%	0,01%	0,01%	0,01%	0,01%	0,01%	0,01%	0,01%
Other	89	86	78	75	76	76	76	77	77
% of IEA	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Total	**636**	**718**	**807**	**791**	**709**	**704**	**731**	**740**	**765**
Interest earning assets	**64.598**	**70.118**	**71.738**	**68.405**	**65.767**	**63.196**	**65.613**	**66.425**	**68.647**
Domestic	**500**	**568**	**610**	**600**	**544**	**532**	**557**	**564**	**578**
Return on fees and commissions	0,8%	0,8%	0,9%	0,9%	0,8%	0,8%	0,8%	0,8%	0,8%
International	**136**	**150**	**197**	**190**	**164**	**173**	**174**	**176**	**187**

Appendix 11 – Fees and commissions forecast (in € mn)
Source: BES annual reports & own calculations

	2008	2009	2010	2011	2012 E	2013 E	2014 E	2015 E	2016 E
Interest rate, credit & FX	114	132	-28	175	161	151	158	160	162
% of securities portfolio	0,8%	0,8%	-0,1%	1,0%	1,0%	1,0%	1,0%	1,0%	1,0%
Equity	114	257	397	93	250	243	253	258	263
Trading	23	168	203	-74	173	163	170	172	174
% of securities portfolio	0,1%	1,0%	1,0%	-0,4%	1,0%	1,0%	1,0%	1,0%	1,0%
Income from securities	92	89	193	168	76	79	83	86	89
Total of capital markets	**229**	**389**	**369**	**269**	**410**	**394**	**411**	**417**	**425**
Other results	-63	142	64	-290	-542	-311	-227	-222	-216
Securities portfolio	15.106	16.535	19.600	18.423	16.900	16.223	16.636	16.781	17.282
Total of capital markets & other results	**166**	**531**	**433**	**-22**	**-132**	**83**	**183**	**196**	**209**
o.w. domestic	**103**	**383**	**409**	**-34**	**-144**	**63**	**140**	**149**	**159**
% of CM & O	62%	72%	94%	156%	109%	76%	76%	76%	76%
o.w. international	**62**	**148**	**24**	**12**	**12**	**20**	**43**	**46**	**50**
% of CM & O	38%	28%	6%	-55%	-9%	24%	24%	24%	24%

Appendix 96 – Capital markets & other forecast (in € mn)
Source: BES Financials, Bloomberg, Other company reports & own calculations

			2012		2013		2014		2015		2016	
	Stake	# shares	Dividend	Income (€ mn)	Dividend	Income (€ mn)	Dividend	Income (€ mn)	Dividend	Income (€ mn)	Dividend	Income (€ mn)
EDP	2,19%	80.110.820	0,185 €	15	0,20 €	16	0,22 €	17	0,23 €	18	0,25 €	20
PT	10,45%	93.697.989	0,65 €	61	0,67 €	63	0,69 €	65	0,71 €	67	0,73 €	69
BMCE	0,25%	429.900	1,5625 €	0,67	1,5625 €	0,67	1,5625 €	0,67	1,5625 €	0,67	1,5625 €	0,67
Total	12,89%	174.238.709	2,40 €	76	2,43 €	79	2,47 €	83	2,50 €	86	2,54 €	89

Appendix 107 – Income from securities forecast (in € mn)
Source: BES Financials, Bloomberg, Other company reports & own calculations

				2012			2013			2014			2015			2016		
	Stake	# shares	Acquisition value	Market price	Market value	Gap (MV - AV)	Market price	Market value	Gap (MV - AV)	Market price	Market value	Gap (MV - AV)	Market price	Market value	Gap (MV - AV)	Market price	Market value	Gap (MV - AV)
EDP	2,19%	80.110.820	201	2,10 €	168	-33	2,12 €	170	-31	2,14 €	171	-29	2,16 €	173	-28	2,18 €	175	-26
PT	10,45%	93.697.989	603	4,19 €	392	-211	4,23 €	396	-207	4,27 €	400	-203	4,31 €	404	-199	4,36 €	408	-195
BMCE	0,25%	429.900	3	17,28 €	7	5	17,45 €	8	5	17,63 €	8	5	17,80 €	8	5	17,98 €	8	5
Potential gains/losses						-239			-233			-227			-222			-216

Appendix 14 – Potential gains/losses in the available for sale portfolio
Source: BES Financials, Bloomberg, Other company reports & own calculations

	ROE	ROA	D/E	P/TBV	P/E	Div. Yield	Core Tier I Ratio	Growth	Peer Group
Alpha Bank	Non comparable	Non comparable	Non comparable	Comparable	Non comparable	Non comparable	Comparable	Non comparable	Non comparable
Banco De Sabadell	Comparable	Comparable	Comparable	Comparable	Non comparable	Non comparable	Comparable	Non comparable	Comparable
Banco Popular Espanol	Non comparable	Comparable	Comparable	Comparable	Non comparable	Non comparable	Comparable	Comparable	Comparable
Banif	Non comparable	Comparable	Comparable	Comparable	Non comparable	Comparable	Comparable	Non comparable	Comparable
Bankinter	Non comparable	Comparable	Non comparable	Non comparable	Non comparable	Non comparable	Comparable	Non comparable	Non comparable
BES									
BPI	Non comparable	Comparable	Non comparable	Comparable	Non comparable	Non comparable	Comparable	Non comparable	Non comparable
Espírito Santo Financial Group	Non comparable	Comparable	Non comparable	Comparable	Comparable	Comparable	Comparable	Comparable	Comparable
Millennium BCP	Non comparable	Comparable	Comparable	Comparable	Comparable	Non comparable	Comparable	Comparable	Comparable
Deutsche Bank	Comparable	Comparable	Comparable	Comparable	Non comparable	Non comparable	Comparable	Non comparable	Comparable
	1,5%	0,50%	200%	3	3	4%	2%	3%	5

Appendix 13 - Foundation of the peer group
Source: Bloomberg, company reports, own calculations

										P/TBV	P/E	P/TBV	P/E
	Market price	# Shares	Market Cap.	Market Cap. Comp.	Weighted Average	Peer Group	Weighted Avg Comparable Banks	P/TBV	P/E	Comparables		w/ wght Avg	
Alpha Bank	0,44	534.270	235.613	-	-	Non comparable	-	0,05	-0,42	-	-	-	-
Banco De Sabadell	3,05	1.389.994	4.242.262	4.242.262	9,64%	Comparable	9,64%	0,85	17,16	0,85	17,16	0,08	1,66
Banco Popular Espanol	3,36	1.400.147	4.705.894	4.705.894	10,70%	Comparable	10,70%	0,62	9,95	0,62	9,95	0,07	1,06
Banif	0,35	570.000	201.780	201.780	0,46%	Comparable	0,46%	0,19	15,82	0,19	15,82	0,00	0,07
Bankinter	4,34	476.919	2.070.782	-	-	Non comparable	-	n/a	13,92	-	-	-	-
BES								0,27	6,32				
BPI	0,44	990.000	438.570	-	-	Non comparable	-	0,49	3,10	-	-	-	-
Espírito Santo Financial Group	5,14	105.032	539.864	539.864	1,23%	Comparable	1,23%	0,88	8,22	0,88	8,22	0,01	0,10
Millennium BCP	0,11	7.207.167	792.788	792.788	1,80%	Comparable	1,80%	0,15	5,52	0,15	5,52	0,00	0,10
Deutsche Bank	27,75	1.207.740	33.508.746	33.508.746	76,17%	Comparable	76,17%	0,59	19,06	0,59	19,06	0,45	14,52
Total Market Cap.				43.991.335	100%								

Appendix 12 – The breakdown of P/B and P/E (with and without weighted average)
Source: Bloomberg, company reports and own calculations

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