# MERGERS AND ACQUISITIONS IN THE PORTUGUESE BANKING SYSTEM – SANTANDER TOTTA CASE

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# RESUMO

A atual conjuntura económica combinada com os inúmeros fatores externos a que os bancos estão expostos levam à avaliação de possíveis alternativas estratégicas a implementar. Uma das estratégias a seguir é o aumento da dimensão da estrutura do banco com vista ao reforço da estrutura de capital e aumento da quota de mercado, melhoria de resultados e eliminação de custos redundantes.

A fusão entre o Santander Portugal, Totta & Açores e Crédito Predial Português ocorreu em 2004 e criou o Santander-Totta. Neste período verificaram-se inúmeras restruturações no sistema bancário português, para aumentar a dimensão da estrutura e, consequentemente, incrementar a vantagem competitiva e valor acionista.

Este projeto estuda a fusão dos três bancos comerciais e as motivações, ganhos esperados e criação de valor acionista.

Foram calculadas potenciais sinergias através do *Discounted Cash Flow Method* numa perspetiva de *Equity Cash Flows*. Comparando o Valor dos Capitais Próprios da empresa combinada com a avaliação das três instituições financeiras conclui-se que existiram ganhos com a fusão.

De modo a validar os resultados obtidos foi realizada uma *Relative Valuation*, que permitiu concluir que a avaliação é conservadora face à decorrente dos múltiplos de mercado. Para complementar a análise é avaliada a reação do mercado ao anúncio da fusão, revelando que o mercado já aguardava a fusão.

Com esta reestruturação, o Santander-Totta criou um único banco comercial cujo capital é diretamente gerido por uma holding portuguesa e o Grupo Santander alcançou uma quota de mercado de 11% tornando-se um dos maiores *players* em Portugal.

**Palavras-Chave**: Fusões e Aquisições, Sistema Bancário, Sinergias*, Equity Cash Flows*

**Classificação JEL:** G21, G34

# ABSTRACT

The current economic environment combined with the innumerous external factors that banks are exposed to lead to the evaluation of possible strategical alternatives to be implemented. One of the strategies that may be followed is the increase of the bank structure in order to reinforce the capital structure and obtain higher market share, improving income and eliminating redundant costs.

The merger between Santander Portugal, Totta & Açores and Crédito Predial Português occurred in 2004 and created Santander-Totta. During this period innumerous restructurings happened in the Portuguese banking system, in order to increase competitive advantage and create value for shareholders.

This project studies the merger of the three commercial banks and the motivations, expected gains and value creation for shareholders.

Potential synergies are computed through the Discounted Cash Flow Method with an Equity Cash Flow approach. By comparing the Equity Value of the combined company with the valuation of the three financial institutions, we conclude the existence of a merger gain.

To prove the accuracy of the obtained results a Relative Valuation is also performed, concluding that our valuation is conservative compared to the one derived from the market multiples. To complement the analysis the stock market reaction on the merger announcement is assessed, revealing that the market was already expecting the combination of the banks.

With this restructuration, Santander-Totta created a single commercial bank with its share capital directly held by a Portuguese holding and Santander Group reached 11% market share becoming one of the major players in Portugal.

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# GLOSSARY

APM – Arbitrage Pricing Model

AR – Abnormal Return

AAR – Average Abnormal Return

BBI – Banco Borges & Irmão

BCI – Banco de Comércio e Indústria

BCP – Banco Comercial Português

BES – Banco Espírito Santo

BFB – Banco Fonsecas & Burnay

BFE – Banco Fomento Exterior

BL – Beta Levered

BPA – Banco Português do Atlântico

BPI – Banco Português de Investimento

BPSM – Banco Pinto e Sotto Mayor

BSCH – Banco Santander Central Hispano

BSNP – Banco Santander Negócios de Portugal

BSP – Banco Santander de Portugal

BST – Banco Santander-Totta

BTA – Banco Totta & Açores

CAGR – Compounded Annual Growth Rate

CAPM – Capital Asset Pricing Model

CAR – Cumulative Abnormal Return

CAAR – Cumulative Average Abnormal Return

CGD – Caixa Geral de Depósitos

CMVM – Comissão de Mercado de Valores Mobiliários

CPP – Crédito Predial Português

CUF – Companhia União Fabril

D – Debt

DCF – Discounted Cash Flow Method

E – Equity

EBIT – Earnings before Interest and Taxes

EBITDA – Earnings before Interest Taxes Depreciation and Amortization

ECB – European Central Bank

EEC – European Economic Community

EPS – Earnings per Share

EV – Enterprise Value

FCFF – Free Cash Flows to the Firm

FCFE – Free Cash Flows to Equity

GDP – Gross Domestic Product

GN – Nominal Growth Rate

M&A – Mergers and Acquisitions

NOWC – Net Operating Working Capital

NPV – Net Present Value

OLS – Ordinary Least Square Method

P/B – Price to Book Value Ratio

PER or P/E – Price to Earnings Ratio

P/S – Price to Sales Ratio

R&D – Research and Development

Rd – Cost of Debt

Re – Cost of Equity

Rf – Risk Free rate

Rm – Return of Market

ROA – Return on Assets

ROE – Return on Equity

RONE – Incremental Return on new Equity in the residual period

SAN or SAN SM – Group Santander

SGPS – Sociedade Gestora de Participações Sociais

WACC – Weighted Average Cost of Capital

# 1. INTRODUCTION

Mergers and Acquisitions can be defined as the combination of companies where the main objective is to have a firm that is more valuable than the sum of its parts (Brealey and Myers, 2003). This business strategy is known as a corporate restructuring instrument that allows a company to take advantage of market opportunities, increasing their results and eliminating redundant costs (Hillier, Ross, Westerfield, Jaffe and Jordan, 2010; Clayman, Fridson and Troughton, 2012).

Some research shows that mergers and acquisitions normally happen in waves (Brealey and Myers, 2003; Koller, Goedhart and Wessecs, 2010). For instance, in Europe this type of restructuring presented a sharp increase with the introduction of Euro (Hillier et al., 2010).

In Portugal, the entrance in the European Economic Community (EEC) triggered innumerous restructurings. The internationalization of the economy and the increasing globalization encouraged the creation of legislation that aimed to harmonize European directives with national regulation, allowing a sharp increase of foreign investments that initiated a massive reorganization in the Portuguese economy, especially in the financial sector. The increase of foreign investments contributed to the subsequently privatization of state-owned banks, and 4 of the 7 major financial groups in Portugal decided to consolidate their activity by entering in Mergers and Acquisitions deals.

Group Santander (previously known as "Banco Santander Central Hispano", BSCH), one of the biggest players in the global financial market, was one of the important foreign banks that invested in Portugal. The presence of BSCH in Portugal started with the acquisition of 10% of "Banco de Comércio e Indústria", in 1988 (that later led to Santander Portugal). In 1994, BSCH became shareholder of "Banco Totta & Açores" (BTA) through the acquisition of "Banco Banesto". In 2000, through an agreement with António Champalimaud and the Portuguese state-owned bank Caixa Geral de Depósitos (CGD), BSCH acquired over 90% of BTA and 70% of "Crédito Predial Português" (CPP). On the same year, BSCH launched a public offer of acquisition for the remaining shares of both banks. At the end of 2000, the Spanish group held the majority of ownership in Santander Portugal, Totta & Açores and Crédito Predial Português

The main purpose of this project is to analyze the merger between Santander Portugal, Totta & Açores and Crédito Predial Português, which resulted in the development of the Santarder-Totta

brand, in 2004. Hence, the objective is to evaluate what were the merger motivations, calculate the expected gains (synergies) and the value created to shareholders of the new company. In order to accomplish the objectives previously stated, we use three methodologies: the Discounted Cash Flow (DCF) Method within an Equity Cash Flow Approach (to obtain the expected synergies), the Relative Valuation Method (to assess the accuracy of the previous valuation results), and a Stock Reaction analysis to the announcement of the merger (to conclude if there were abnormal returns in the event day).

The motivations to conduct this project are based on two perspectives. At an academic level, the objective is to apply the knowledge and skills acquired throughout the Master's to new situations of practical interest, assuming the adoption of the appropriate methodologies and strategies to solve a specific problem. At a personal level, the objective is to explore the Corporate Finance area, increasing knowledge in areas of interest such as companies' valuations and financial industry.

Regarding the structure of the project, we begin in Chapter 2 with the literature review of the main theoretical concepts underlying a M&A transaction, the main methodologies used to value companies (Discounted Cash flow Method and Relative Valuation) and the literature that supports the analysis of a Stock Market Reaction.

In Chapter 3, we analyze the Portuguese banking system and the macroeconomic environment, in order to contextualize the Portuguese scenario and major motivations taking into account the market situation.

Chapter 4 contextualizes the history of Group Santander, Totta & Açores and Crédito Predial Português, the entrance of Group Santander in Portugal, the reorganizations realized until the year of the merger and the analysis of the three financial institutions involved in the merger.

In Chapter 5 we present the data and methodologies used to value companies, focusing on a financial institution perspective. It is exposed the DCF Method through an Equity Cash Flow approach for financial institutions, the market multiples P/E and P/B and how the analysis of stock reaction to the announcement should be realized.

In Chapter 6, the case study is presented. We start by analyzing the case study objectives, the lifecycle of the merger, the deal structure from the main events that happened until the final merger in 2004, and the premiums paid at these main events. Afterwards, synergies in the merger are estimated through the valuation of the three commercial banks as separate entities

and the comparison with the combined company. After assessing the premiums paid and gains created with the merger, we conclude the analysis with the computation of value creation for the shareholders. In this chapter a Relative Valuation is also performed with the market multiples of financial institutions with similar size and capital structure, as well as a valuation of the stock reaction at the announcement date, for the acquirer and target companies.

Chapter 7 characterizes the results of the merger and the financial indicators by business segments of Santander-Totta, in order to conclude which contributed the most to the existence of an economic gain.

Finally, the Chapter 8 presents the motivations, the economic and operational gains of the merger and how it can be a solution for some financial institutions that are currently facing some difficulties and are unable to grow in the current market conditions. Some final remarks regarding valuation are also made, namely the 51% valorization of the combined firm which can be considered as conservative when compared with the market value obtained through the median market multiples P/E and P/B, used to assess the likely market value of Santander-Totta. At the end of the chapter we describe the major limitations of the project and where future research should be based.

## 2. LITERATURE REVIEW

In this review, the literature that supports Mergers and Acquisitions Deals (M&A Deals) is exposed.

According to Clayman, Fridson and Troughton (2012: 303) *"an acquisition is the purchase of some portion of one company by another"*. This can translate in the purchase of assets, purchase of a segment from other firm (for example a subsidiary), purchase of some shares or even the purchase of the entire company. *"A Merger represents the absorption of one company by another",* meaning that one of the companies ceases the activity (normally the smaller company, but there are some exceptions).

### 2.1. Motives and Reasons for M&A

Mergers and Acquisitions happen for innumerous reasons, where the major objective is creating value to shareholders (Andrade, Mitchell and Stafford, 2001; Alexandridis, Petmezas and Travlos, 2010; Hillier, Ross, Westerfield, Jaffe and Jordan, 2010). Some companies pursue gains with synergies and others earnings growth (Clayman et al., 2012). Diversification might also be a reason and some companies take this decision because their managers have motives to do so (Hillier et al., 2010; Clayman et al., 2012). Taking into consideration all mergers happened so far, it is possible to infer that not all of these motives and reasons transmit better results for the companies (Brealey and Myers, 2003; Hillier et al., 2010).

In the decision of conducting a merger, shareholders, managers and analysts should realize if the motives behind the merger are in line with the financial and operational effects that the merger will bring (Titman and Grinblatt, 2002; Clayman et al., 2012).

#### 2.1.1. Synergies

The existence of synergies is the most frequent justification for the premium that acquirer's companies' pay for a target company (Alexandridis et al., 2010; Hillier et al., 2010; Ismail, 2011; Clayman et al., 2012).

$$\text{Synergies} = VAB - (VA + VB) \qquad (2.1)$$

$V_{AB}$ = Whole Company

$V_A$ = Company A

$V_B$ = Company B

The creation of synergies happens when the wealth of the whole combined company (after the merger) worth more than the sum of company A and B (Bradley, Desai and Kim, 1988; Hillier et al., 2010). This tell us that the combined firm works more efficiently than the two previously separate firms (Hillier et al., 2010).

From the classification realized by Hillier et al. (2010: 787), synergies come from the rise of cash flows, where *"the possible sources of synergies fall into four basic categories: Revenues Enhancement, Cost reduction, Lower Taxes and Lower Capital Requirements"*:

$$\Delta CF = \Delta Rev_t - \Delta Costs_t - \Delta Taxes_t - \Delta Capital\ Requirements_t \qquad (2.2)$$

$\Delta Rev_t$ = Incremental revenue

$\Delta Costs_t$ = Incremental costs

$\Delta Taxes_t$ = Incremental taxes

$\Delta Capital\ Requirements$ = Incremental new investment required in working capital and fixed assets

**Revenue Enhancement** is one factor that explains the existence of Synergies. Synergies exist because we get better results in revenues with a combined company than with two separate companies (Hillier et al., 2010, Clayman et al., 2012). This improvement can result of an expanded market share, higher prices due to reduced competition (market or monopoly gains) or even due to strategic benefits (Bradley et al., 1988; Chatterjee and Lubatkin, 1990; Pautler, 2003; Hillier et al., 2010).

Synergies through **Cost Reduction** are the most common way to achieve it, once mergers and acquisitions normally result in layoff of staff and elimination of excessive resources. According to Clayman et al. (2012: 305) cost reduction is typically reached *"through economies of scale in research and development, procurement, manufacturing, sales and marketing, distribution, and administration"*. Other authors also justify the existence of cost reduction through economies of scope, economies of vertical integration, use of complementary resources, improvement of technologies and elimination of management that act at the expense of shareholders (Bradley et al., 1988; Andrade et al., 2001; Titman and Grinblatt, 2002; Pautler, 2003; Hillier et al., 2010).

Some companies consider a merger because this operation can translate in a **Tax Reduction** to the firm (Pautler, 2003; Hillier et al., 2010). There are cases where a company decides to acquire another in order to lever tax benefits through unused net operating losses (tax losses), unused debt capacity and use of surplus funds (Hillier et al., 2010).

A profitable acquirer (with significant tax liabilities) can benefit from merging with a target that has accumulated large amounts of tax losses. If the target firm has an unprofitable division, it will have a low tax bill and by merging in the right circumstances, we can offset the income in the acquirer and achieve lower taxes (Titman and Grinblatt, 2002; Hillier et. al 2010; Clayman et al., 2012). However, according to the law, an acquisition is not allowed if the only objective is to avoid tax payments (Hillier et. al 2010; Clayman et al., 2012).

It is also possible to have tax gains by unused debt capacity (Bruner, 1988; Hillier et. al 2010). If a firm does not have enough debt that makes marginal costs of financial distress equal to the marginal tax shield, it means that we can put more debt and achieve tax shields without having financial distress (Titman and Grinblatt, 2002; Hillier et al., 2010). Two companies can do this after a merger, if the acquirer has a high level of debt and the target has a low level that allows the acquirer to raise debt in order to create a bigger tax shield (Hillier et al., 2010).

By using surplus funds we can also have tax benefits (Bruner, 1988; Hillier et. al 2010). If a firm has cash flows after paying all taxes and after realizing all projects with positive Net Present Value (NPV), ideally, it should pay dividends or buyback shares (Bruner, 1988; Brealey and Myers, 2003; Hillier et al., 2010; Clayman et al., 2012). However, extra dividends will imply the payment of higher taxes. In other hand, a buyback of shares allows the payment of lower taxes (Brealey and Myers, 2003; Hillier et al., 2010). Nevertheless, this situation is illegal in some countries if a company only uses the repurchase of shares as a strategy to escape from taxes on dividends. In order to avoid higher taxes on dividends, a firm can acquire other firms with its excess of funds. However, this is considerate a bad reason for a merger, since we can buy a portfolio of efficient investments at a lower cost than a company (Hillier et al., 2010).

Finally, **Lower Capital Requirements** in a short and long perspective could happen. Before the merger, the acquirer and target companies had their respective head offices, after that all employees can be reallocated to one of the buildings, enabling the sale of the other, and by its turn, reducing fixed capital needs. If the companies under the merger belong to the same industry, they can combine some divisions, like their R&D or back office operations, allowing the sale of the facilities related to those departments. Finally, with the size increase of a firm, we usually assist to a decrease in the inventory-to-sales and the cash-to-sales ratio. Then, a merger can also contribute to economies of scale, which allows reducing the working capital (Hillier et al., 2010; Clayman et al., 2012).

### 2.1.2. Earnings Growth

An M&A Deal can create the appearance of synergies or growth that makes investors think that the company worth more than in the reality (Hillier et al., 2010; Clayman et al., 2012).

Most companies with high share value and P/E ratios look for target companies with a market value lower than its book value or with a low PER, in order to increase earnings.

Nevertheless, justifying a merger by the increase of earnings is a bad reason to get into this type of transaction.

When we assist to an increase of earnings as a result of a merger, instead of resulting from economic benefits of the combination of companies, it is stated as "bootstrapping earnings" (Clayman et al., 2012). This illusion of earnings growth happen when the buyer company has a P/E ratio higher than the target, and with the merger, the P/E of the buyer does not decrease (Titman and Grinblatt, 2002; Brealey and Myers, 2003; Rappaport, 2006; Mota and Custódio, 2007; Hillier et al., 2010; Clayman et al., 2012).

To better understand this thematic we can look at the following example, exposed by Hillier et al. (2010: 791-792):

| | Acquirer before merger | Target before merger | Acquirer after the merger | |
|---|---|---|---|---|
| | | | The market is 'smart' | The market is 'fooled' |
| EPS (€) | 1 | 1 | 1,43 | 1,43 |
| Price per Share (€) | 25 | 10 | 25 | 35,71 |
| PER | 25 | 10 | 17,5 | 25 |
| # Shares | 100 | 100 | 140 | 140 |
| Total Earnings (€) | 100 | 100 | 200 | 200 |
| Total market value (€) | 2500 | 1000 | 3500 | 5000 |

Table 1 – Earnings Growth Example
Source: Hillier, Ross, Westerfield, Jaffe, Jordan, 2010. *"Corporate Finance, First European Edition" (p.791-792),* McGraw-Hill.

We should notice that the acquirer company has a higher PER (25) than the target (10). At this example, the merger does not generate economic gains (synergies).

In an efficient market, the sum of each company should be equal to the combined company value (2500 + 1000 = 3500). In order to buy the 100 target's shares, the acquirer firm issue 40 shares (this value is known by dividing the target's market value, 1000, by the share price of the acquirer, 25*).* After the merger, the acquirer stays with 140 shares outstanding. The price of each acquirer's share remains the same (25) (once there were not economic gains) but the earnings per share changes to 1,43 (200/140) and the PER to 17,5 (25/1,43). This value is lower than before the merger, once the target firm presented a PER inferior to the acquirer. This situation represents an efficiently working market, once the share price remains unaffected and the PER decreases.

However, when the buyer company bootstraps earnings to 1,43, there could be circumstances where the market accepts the 43% increase in earnings per share as growth, which contributes to the same PER after the merger (25) (this should not happen once PER is an average of the acquiring high PER and the target low PER. If we are including a division with a lower growth, this value should drop). By applying a PER of 25, the combined firm value will increase to 5000 (25 ∗ 200) and the share price of the acquirer after the merger to 35,71 (5000/140). Once there are not expected synergies or other reasons to contribute to share price increases,

this situation should not happen. Nowadays, this does not happen on the market is efficient and reflect all new information, in order to adjust P/E ratios.

### 2.1.3. Diversification

Martin and Sayrak (2003: 38) agree with Hillier et al. (2010: 793), stating that *"diversification, by itself, cannot produce increases in value"*.

Company-level diversification states that a company is handled as a portfolio of investments in other companies (Clayman et al., 2012). We know that diversification can eliminate risk, however, it cannot eliminate systematic risk (once this cannot be eliminated, just reduced) (Chaterjee and Lubatkin, 1990; Hillier et al., 2010). The unsystematic risk can be eliminated with a merger, but in a well-functioning capital market, instead using widely diversified companies, investors can diversify their portfolios more easily and at less expense through the purchase of equity in different companies (Millier 1977; Chaterjee and Lubatkin, 1990; Clayman et al., 2012). Consequently, this is another invalid reason for a merger (Brealey and Myers, 2003; Hillier et al., 2010; Clayman et al., 2012).

According to Hillier et al. (2010: 793), *"diversification can produce gains to the acquiring firm only if one of two things is true"*. The first is when diversification reduces unsystematic risk volatility at a lower cost than making adjustments in personal portfolios. The second situation is when diversification reduces risk and contributes to increases of debt capacity (leading to more tax shields) (Hillier et al., 2010).

### 2.1.4. Managerial Motives

There are some reasons that take managers to proceed for a merger even if it does not create value to shareholders (Malatesta, 1983; Jensen, 1986; Pautler, 2003, Hillier et al., 2010; Berk and DeMarzo, 2011; Clayman et al., 2012; Park and Jang, 2013).

Starting by acquiring firms' managers, they may prefer to run a large and powerful company since their salary and prestige is correlated to the size of the firm (Hillier et al., 2010; Berk and DeMarzo, 2011; Clayman et al., 2012). They could enter into a merger to increase firm size and by its turn, collect higher revenues that would contribute to higher compensations (perks), namely, bonuses proportional to the size of the transaction or companies acquired (this is called "empire-building") (Eilert, 1976; Jensen, 1986; McCabe and Yook, 1997; Hillier et al., 2010; Ismail, 2011; Clayman et al., 2012; Park and Jang, 2013). Even if a merger or acquisition present a negative NPV, managers are disposed to accept this kind of business if there is any benefit or compensation for them (Hillier et al., 2010).

Another important point has to do with the existence of a considerable amount of free cash flows (Hillier et al., 2010; Ismail, 2011). After all positive investments are made, managers still have enough money to apply. Since managers are compensated for growth, they have an incentive to apply the excess cash flows in projects with negative NPV, even if it decreases shareholders value (Hillier et al., 2010). On the other hand, if managers receive a significant number of options representing shares of the company, they prefer to give up from mergers with negative NPVs. According to Hillier et. al. (2010: 811) *"the acquisitions by firms where managers receive lots of options create more value than the acquisitions by firms where managers receive few or no options"* because in this last situation, managers know that if there are losses, shareholders are the ones who support them.

Another motive is called "Hubris Hypothesis", where overconfident managers overvalue target companies but still pursue mergers with low chance to create value, since they believe that their ability to manage is good enough to create value to shareholders (Roll, 1986; Hillier et al., 2010; Berk and DeMarzo, 2011; Ismail, 2011; Graham, Harvey and Puri, 2013). However, this normally results in an overpayment for the target and in wealth transfer from acquirer to target shareholders (Schmitz, 2007: 11). According to studies realized by Berkovitch and Narayanan (1993), this motive result in value destruction for the combined and the acquiring firm (as a stand-alone firm) (referred in Schmitz, 2007: 11).

Managers of target firms also behave in their benefit. In the case of a positive premium, target shareholders will win with takeovers, but if managers know that there is the possibility of being fired after a merger, they will resist to the takeover. If they cannot resist, they will try to negotiate with the acquirer's firm for a good deal at the cost of the shareholders (Hillier et al., 2010; Clayman et al., 2012).

### 2.2. Forms of M&A Deals

According to Hillier et al. (2010: 795-796), there are different forms of M&A Deals:

• Merger: occurs when two or more companies combines the activity and ownership in a single company. After a merger, the acquiring firm maintains its name while target ceases to exist, since the buyer firm acquires all assets and liabilities.

• Consolidation: consists in a merger, except a new legal entity is created (acquiring and target cease to exist).

• Acquisition of Shares: results in the purchase of voting shares in return of cash, shares or other securities. This can start as a private offer made by acquiring's management and progress

to a tender offer (public offer to buy shares). It requires the voting from at least 50% of shareholders (Clayman et al., 2012)

- Acquisition of Assets: involves the purchase of target's assets. This does not mean that the target firm ceases to exist, once the acquirer might buy a specific division instead the whole company. By its turn, it is not required the voting from 50% of shareholders, with the exception of asset purchases that totalize over half the company's value (Clayman et al., 2012).

## 2.3. Types of M&A Deals

According to Brealey and Myers (2003: 930), there are different types of M&A Deals:

- Horizontal Merger/Acquisition: Acquirer and target firms belong to the same industry (they are direct competitors).
- Vertical Merger/Acquisition: Acquirer and target perform complementary activities and normally have a buyer-seller relationship (they belong to different phases of the value chain).
- Conglomerate Merger/Acquisition: Acquirer and target operate in unrelated industries.

## 2.4. Valuation adopted in M&A

In this section the phases of a merger valuation are going to be examined, starting by the valuation of the target firm, the existing synergies and finally the acquisition value.

It is important to take into account, though this type of valuation is similar to a project valuation, since the size of a merger is much larger (meaning more impact in financial, strategy and operational structure of a firm) this will undertake more risk of misevaluation (Titman and Grinblatt, 2002).

### 2.4.1. Value the target as a stand-alone firm

To evaluate the target we should start by estimating future cash flows and appropriate rates for discounting these cash flows (Titman and Grinblatt, 2002; Brealey and Myers, 2003; Kamstra, 2003). In order to forecast target cash flows we should look for historical data and predict the future cash flows for the stipulated time horizon (normally 5 years) (Clayman et al., 2012). This estimation could be realized through the compounded average growth return (CAGR), nominal growth rate, Cash-Flows trends, Revenue Growth, Expected profitability and Return on Equity. If the target firm is publicly traded we can compare the current market share price to our initial valuation (Titman and Grinblatt, 2002; Hillier et al., 2010). When the values are not similar, it means that the assumptions to forecast future cash flows and discount rates are not the most appropriate or that private information which the buyer firm may collect through further

analyses of the target's accounts is not included in share prices, or even, potential merger premiums are already included in share prices (Titman and Grinblatt, 2002; Hillier et al., 2010). However, the acquiring firm cannot rely exclusively on current stock price to compute the company's value (Titman and Grinblatt, 2002). The buyer firm will offer a premium [1] over the current share price of the target company, which tell us that additional value is created that compensates the acquirer pay a value greater than the target market value (Titman and Grinblatt, 2002; Clayman et al., 2012). The methods used to valuate future cash flows and discount rates are going to be explained in point 2.6 – Valuation Methods.

### 2.4.2. Value the Synergies

This is the most important phase of the valuation. The acquirer firm must evaluate synergies associated with the combination of the target and acquirer companies in order to realize how much the target is worth for the buying firm and then, estimate future cash flows created with synergies and the corresponding discount rates (Titman and Grinblatt, 2002; Hillier et al., 2010; Ismail, 2011).

The analyst making this valuation should assume that there are synergies which are certain and easier to predict (synergies from tax savings) and others that are risky, (synergies created through sales increases) (Titman and Grinblatt, 2002; Hillier et al., 2010). Besides that, we should have in consideration synergies that affect both firms (for example marketing synergies) and others that only affect the target (for example tax savings synergies). This is important since the cost of capital to use will be different. In the first case we use the weighted average of the two merging organizations, while in the second, the target's cost of capital. Analysts need to make some assumptions about the gains of the target for the acquirer, namely, increase of revenues resulting from the combination of companies, which makes this phase the most complicated of a merger valuation (Titman and Grinblatt, 2002).

### 2.4.3. Value the acquisition

This final step can be done by adding the present value of synergies to the discounted target's cash flows (Titman and Grinblatt, 2002; Hillier et al., 2010; Ismail, 2011). Ideally, the target should be bought if it can be purchased at a total cost lower than the combined value of the merger. Generally, it is paid the value of the target firm plus a premium (Titman and Grinblatt, 2002; Brealey and Myers, 2003). This value paid for the acquisition should be lower than the

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1 Premium is the portion of compensation received by target firm's shareholders. It is a value that is over the pre-merger market value of their shares (Clayman et al. 2012).

synergies created, in order to add value to acquiring shareholders (Synergies > $V_{target}$ + Premium).

## 2.5. Deal Structuring: Methods of Payment

The acquiring company can use two basic forms in order to buy target company's shares: Cash and Securities Trade (or a mix of both) (Clayman et al., 2012).

In a cash offering, the acquirer company trades cash for shares of the target company. In this type of transaction, the acquirer offers a premium over the price at which the shares are actually trading, ensuring certain shareholders agree to the sale (Rappaport and Sirower, 1999). The acquirer company can use the company's assets or can issue new debt to pay to the target firm (McCabe and Yook, 1997; Clayman et al., 2012).

In the securities offering, the most common is using acquirer's common stock (Clayman et al., 2012). The acquirer firm issues new stock and trades stock from its company for stock of the target company (Rappaport and Sirower, 1999). It might also be offer preferred shares or debt securities (Clayman et al., 2012).

### 2.5.1. Cash Offer

In a merger situation, one of the first things to think is whether there is an economic gain, meaning that *("(...) firms are worth more together than apart"*) (Brealey and Myers, 2003: 939). Taking into consideration the following example, exposed by Hillier et al. (2010: 795-798), we are going to see how a company should compute synergies, premiums and NPV, using cash as a form of payment.

| | Firm A– acquirer | Firm B – target | Combined Firm |
|---|---|---|---|
| Market Value | 500 | 100 | 700 |
| Number of Shares | 25 | 10 | - |
| Price per Share (€) | 20 | 10 | - |

The board of firm B will sell it if is offered 150 million euros in cash.
Table 2 – Cash Offer Example (values in millions of euros)
Source: Hillier, Ross, Westerfield, Jaffe, Jordan, 2010. "Corporate Finance, First European Edition", McGraw-Hill.

As already mentioned, to compute synergies we should consider the value of the whole firm less the sum of the stand-alone companies.

$$Synergies \ = \ PVAB - (PVA + PVB) \qquad (2.3)$$

$$Synergies \ = \ 700 - (500 + 100) \ = \ 100M$$

This restructuration creates 100 million in synergies. Besides that, we need to consider the cost of acquiring the target company. Once we are considering a cash situation, the cost is equal to the cash payment less the value of the target firm:

$$Cost \ (Premium) \ = \ Cash \ paid - PVB \qquad (2.4)$$

Cost $= 150 - 100 = 50M$

As the firm finances the acquisition with cash, the value after the acquisition is given by:

Value of Firm A after acquisition $=$ PVAB $-$ Cash paid $\hspace{3cm}$ *(2.5)*

Value of Firm A after acquisition $= 700 - 150 = 550M$

Price per Share after acquisition $= \dfrac{\text{Value of A after acquisition}}{\text{Nr of Shares}}$ $\hspace{2cm}$ *(2.6)*

Price per Share after acquisition $= {}^{550}\!/_{25} = 22€$

When the merger contributes to a higher share price for the acquirer company, it means that the merger should be realized (Brealey and Myers, 2003).

The NPV is the acquirer's gain and is measured by the difference between the synergies and the cost:

NPV $=$ Synergies $-$ Cost $\hspace{5cm}$ *(2.7)*

NPV $= 100 - 50 = 50M$

The synergies of 100 million are split between the acquirer (50 million from NPV) and the target (50 million from premium). In the market, the merger announcement should increase the stock value of the target company for 150 million (more 50%, considering the premium paid) and the acquirer value for 550 (more 10%). If the Acquirer's equity price falls after the announcement, the market will perceive that the merger benefits are doubtful or the acquirer company is paying too much for the target (Rappaport and Sirower, 1999; Brealey and Myers, 2003; Clayman et al., 2012).

**Target's stock price anticipates the Merger**

As we are discussing mergers it is important to take into consideration that investors could be expecting the acquirer company (A) to buy the target company (B). This expectation could overstate the stand-alone market value of company B, which means that investors are already incorporating some merger gains in the company's value right before the announcement (Brealey and Myers, 2003: 939-940). We can see an example in Annex 1.

### 2.5.1.1. Benefits and Issues of Cash Offer

| Benefits | Issues |
|---|---|
| Market price of the acquirer company reacts more favorably to announcements of cash acquisitions (Rappaport and Sirower, 1999; Titman and Grinblatt, 2002). | Cash Offer may signal the market to an undervaluation of shares (Rappaport and Sirower, 1999, Ismail 2011; Titman and Grinblatt, 2002). |

| Benefits | Issues |
|---|---|
| Cash offer may signal that the acquirer can get optimal financing terms in financial institutions (Hillier et al., 2010; Titman and Grinblatt, 2002). | In a Cash Offer, the acquiring shareholders assume the total risk that synergies will incorporate the premium paid to the target (Rappaport and Sirower, 1999; Albuquerque, 2011; Clayman et al., 2012). |
| Cash offer may indicate management confidence to complete a merger and to create value to shareholders (Rappaport and Sirower, 1999; Clayman e al., 2012). | Borrow funds increases the financial leverage and risk for acquiring firms. Typically, only large companies have cash available (Clayman et al., 2012). |
| The market interpret high levels of debt as a signal of high quality and future cash flows to the company (Ross, 1977; Park and Jang, 2013) | The target company's shareholders must pay capital gains in the exceeding between the price paid in the trade and the price paid when they first bought the shares (Rappaport and Sirower, 1999; Brealey and Myers, 2003; Clayman et al., 2012). |
| Cash offer is more favorable to the acquirer in terms of taxes. Offers the opportunity to revalue assets and increase depreciation expense for tax purposes (Rappaport and Sirower, 1999). | |

Table 3 – Benefits and Issues of a Cash Offer
Source:  presented with each table entry

### 2.5.2. Stock Offer

In a stock transaction the acquiring company issues new stock to pay for the target (Rappaport and Sirower, 1999). In this kind of transaction it is the exchange ratio that determines the number of shares that the acquirer should trade for each share of the target company. Exchange ratios are early negotiated for a range of stock prices, to include possible share prices fluctuations (Clayman et al., 2012). However, there could be situations where the company defines the value of the payment in the first place.

Continuing with the last example presented by Hillier et al. (2010: 795-798), two situations are going to be analyzed:

a.  Exchange Ratio is already determined: it is equal to 0,75:1

b.  Exchange ratio is unknown: we want to pay exactly 150 million euros

Considering the first situation, an exchange ratio of 0,75:1 means that acquirer firm (A) exchanges 7,5 million shares for 10 million shares of target firm (B). To do this, Firm A must issue 7,5 million new shares.

$$\text{New shares} = \text{Exchange Ratio} * \text{Number of Target's Shares} \qquad (2.8)$$

$$\text{New shares} = 0,75 * 10 \text{ million} = 7,5 \text{ million}$$

With this issuance, we set a total of 32,5 million Shares (25 million + 7,5 million).

The value paid for the acquirer firm depends on the exchange ratio, outstanding shares of the target company and the value of the stock given to the target shareholders, which will be the

value of the acquirer's firm shares after the announcement (Brealey and Myers, 2003; Hillier et al., 2010; Clayman et al., 2012).

It is very important to emphasize that we should use the price per share of the acquirer firm after the announcement and not the value before the merger (20€), since we need to take into account the synergies that will be created.

To compute the value after the merger announcement, we should consider the value of the combined firm divided by the number of shares (including the issue of new shares):

Share price acquirer after announcement $= \dfrac{\text{Value of acquirer+Value of Target+Synergies}}{\text{(Inicial Shares+New issued shares)}}$ *(2.9)*

Share price acquirer after annoucement $= {700}/{(25 + 7,5)} = 21,54$

Value Paid = Exchange Ratio * Target company's Shares *

Share price of Acquirer after announcement *(2.10)*

Value Paid $= 0,75 * 10M * 21,54 = 161M$

Premium $= 161M - 100M = 61M$

We can conclude that the value paid is higher with the issuance of shares than with the cash payment. The share price of the acquirer firm after the transaction is lower in an equity-to-equity transaction (in the cash transaction we had 22 euros for each share and now we have 21,54 euros), which allow us to conclude that the equity-to-equity transaction is more expensive than the cash operation. According to Brealey and Myers (2003: 942), other way to achieve the premium paid, is through the final ownership of the target firm in the combined firm.

Final Ownership of target in combined $= \dfrac{\text{New shares issued}}{\text{New shares issued+Old shares}}$ *(2.11)*

$$= {7,5}/{32,5} = 23\%$$

Gain target $=$ Final ownership of target firm * Value of combined firm $-$ Value of target firm

$$= 23\% * 700M - 100M = 61M \qquad \textit{(2.12)}$$

Gain acquirer $=$ Final ownership of acquirer firm *

Value of combined $-$ Value of acquirer (before merger) *(2.13)*

$$= \left({25}/{32,5}\right) * 700 - 500 = 39M$$

With the analyses of the stock exchange payment we realize that the cost of the merger is affected by merger gains, once synergies are included in the value of the stock given to target shareholders (equation 2.9). While in a cash payment, the cost is known from the start (Brealey and Myers, 2003).

Considering the second situation, from Hillier et al. (2010: 797) example, where equity-holders of company B only receive 150 million euros for the stock transaction. The objective is to find

the exchange ratio of an equity-to-equity transaction, considering a fixed payment for the trade of shares. If we only want to give 150 million euros for the shares that target shareholders will own in a combined firm, that worth 700 million euros, we are saying that the proportion of the target shareholders in the combined company is equal to 21,43%:

Value of target shareholders after merger = Proportion of shares in combined *

Value of combined                                                          *(2.14)*

$150$ = Proportion of shares in combined $* 700$

$<=>$ Proportion of shares in combined $= 21{,}43\%$

Applying equation 2.11, we can reach to the new shares issued, 6.819 shares.

$$0{,}2143 = \frac{\text{New shares issued}}{\text{New shares issued} + 25}$$

If we continue to assume that the target company had 10 million shares outstanding, we have an exchange ratio of 0,6819:1. With a total number of shares after the merger of 31.819 (25.000 plus 6.819) and a 700 million euros value of the combined firm, we reached a value per share of 22€, the same as we had realized the transaction with cash.

According to Berk and DeMarzo (2011), to have a positive NPV the company should have an Exchange Ratio lower than:

Exchange Ratio $< \frac{Pt}{Pa}(1 + \frac{T}{S})$                          *(2.15)*

Pt – Share Price of Target firm at the time of the announcement

Pa – Share Price of Acquirer firm at the time of the announcement

T – Pre-Merger Value of Target Firm

S – Synergies

### 2.5.2.2. Benefits and Issues of Stock oOfer

| Benefits | Issues |
|---|---|
| When the market overvalued acquirer's shares relative to the target, it is better to finance with stock (Clayman et al., 2012). | When a company believes the market is undervaluing its shares, it should not issue new shares to finance an acquisition (Rappaport and Sirower, 1999). |
| Target company's shareholders can profit from the potential synergy gains that acquiring shareholders expects to make above and beyond the premium, once they share risk with the acquirer shareholders (Rappaport and Sirower, 1999; Albuquerque, 2011; Clayman et al., 2012) | When the acquiring firm uses stock, managers of the target could realize that the firm is overpriced and ask for higher values (Rappaport and Sirower, 1999; Hillier et.al, 2010)<br>The investors will also interpret the stock offering as a signal of overvaluation (Ismail, 2011; Clayman et al., 2012; Park and Jang, 2013) |

| Benefits | Issues |
|---|---|
| Target's shareholders receive acquirer's stock without tax payment. Tax liability is deferred until target company's shareholders sell their new shares (Rappaport and Sirower, 1999; Brealey and Myers, 2003). | The acquisition through the issue of new shares dilute the ownership of existing shareholders in the acquirer firm (Rappaport and Sirower, 1999; Clayman et al., 2012). |

Table 4 – Benefits and Issues of a Stock Offer
Source:  presented with each table entry

## 2.6.  Valuation Methods

There are many different methods used for companies and analysts to realize a firm valuation. In this review it is going to be explained two of the most used, the Discounted Cash Flow Method and Relative Valuation Method (Koller, Goedhart and Wessecs., 2010; Clayman et al., 2012; Damodaran, 2012)

### 2.6.1. Discounted Cash Flow Method

According to Koller et al. (2010: 103), the Discounted Cash Flow Method is the most used model to evaluate a project or an M&A Deal "*because it relies solely on the flow of cash in and out of the company rather, than on accounting-based earnings*".

The Discounted Cash flow Method (DCF) estimates the value of a company by discounting the company's expected future free cash flows to the present (Jennergren, 2008; Koller et al., 2010; Clayman et al., 2012). This model became popular since it is the one that best valuates long term value creation and captures all elements that affect the value of a firm (Yao, Chen and Lin, 2005; Koller et al., 2010).

To evaluate a company we could choose to follow several variations inside this model. The most used is the Two-Stage Model, where we start by constructing a proforma financial statement (Clayman et al., 2012) In the First Stage, we select a time horizon (for example 5 years) where we can accurately estimate the free cash flows through the historical data previously collected and then discount them to the present (Albuquerque, 2011; Clayman et al., 2012). In the second stage, we estimate the free cash flows for a continuing value and then, we discount this residual value to the present (Jennergren, 2008; Clayman et al., 2012). The sum of the present free cash flows from both stages gives us the value that the company is worth in the present, the Enterprise Value of the Company (EV) (Clayman et al., 2012).

Inside DCF Method, there are some methodologies that we can follow: Free Cash Flow to the Firm (FCFF) and Free Cash Flow to Equity (FCFE) (Koller et. al, 2010; Clayman et al., 2012; Damodaran, 2012 ;).

### 2.6.1.1. Free Cash Flow to the Firm (FCFF)

In general, the FCFF states that the Enterprise Value of the firm is the sum of the present free cash flows discounted at the Weighted Average Cost of Capital (WACC) (Estridge and Lougee, 2007; Jennergren, 2008; Hillier et al., 2010; Valbom, 2012).

The FCFF represents the available funds to pay to all capital investors in the company (stockholders, Bondholders and preferred stockholders), after all operating expenses and all replacement and/or expansion investments in fixed assets and working capital are made (Brealey and Myers, 2003; Estridge and Lougee, 2007; Mota, Barroso, Nunes and Ferreira, 2010; Clayman et al., 2012; Damodaran, 2012).

This methodology inside the DCF Method is the most used since it is consistent with a constant debt ratio, which is incorporated in the calculation of the discount rate used, and avoids that the debt service and interest paid are considered in the calculation of cash flows (Mota et al. 2010). We can arrive at the FCFF with the following formula (Kaplan and Ruback, 1995; Mota and Custódio, 2007; Michalski, 2008; Damodaran, 2012):

$$FCFF = EBIT\ (1-t) + Depreciation\ \&\ Amortization\ -\ Capex\ Investments\ -$$
$$-\ Changes\ in\ Net\ Operational\ Working\ Capital\ Needs \qquad (2.16)$$

- Operating Income Less Adjusted Taxes – EBIT(1-t) is the profit that the company has after deducting the costs from the operational activities and after deducting taxes (Koller et al., 2010; Albuquerque, 2011).

$$EBIT\ =\ Revenues\ -\ Operating\ Costs\ -\ Depreciation\ \&\ Amortization \qquad (2.17)$$

- Depreciation & Amortization are costs that a company has with the investment in assets (tangible or intangible), over its useful life. This is added back once it is not a disbursed cost (cash expenses) but an accounting expense (Albuquerque, 2011; Damodaran, 2012).

- Capex Investments is the investment realized in the purchase of assets with a perspective of long permanency in the company. The company should make these investments to maintain a certain level of activity in terms of assets/fixed capital. We should take back this value once they are cash outflows (Koller et al., 2010; Albuquerque, 2011; Damodaran, 2012).

- Net Operating Working Capital Needs is the excess of operating current assets over operating current liabilities. A positive NOWC means that we need to finance our activity.

We should consider non-cash working capital once we are interested in cash flow effects (Mesquita, 2009; Damodaran, 2012).

$$Operating\ Current\ Assets\ =\ Accounts\ Receivable\ +\ Inventories\ +\ Prepaid\ Expenses \qquad (2.18)$$
$$Operating\ Current\ Liabilities\ =\ Accounts\ Payable\ +\ Accrued\ Expenses\ +\ Tax\ Payable \qquad (2.19)$$

To discount the free cash flows we use the weighted average cost of capital (WACC). This is a measure of cost of capital where the company's components of capital are proportionately weighted (Brealey and Myers, 2003; Mesquita, 2009; Koller et al., 2010; Clayman et al., 2012; Damodaran, 2012). Since in the computation of the FCFF we do not consider the cost of debt we should include both equity and debt costs in the discount rate, in order to realize the total costs that a company supports for additional capital (Mota and Custódio 2007; Koller et al.,2010; Clayman et al., 2012; Valbom, 2012). It is important to emphasize that an increase in WACC translates into a higher risk for the company.

$$\text{WACC} = \frac{E}{E+D} * re + \frac{D}{E+D} * rd * (1 - t) \qquad (2.20)$$

To compute the WACC we should take into consideration:

- <u>Company's Market Equity (E) and Market Debt (D):</u> The market Equity value is known by multiplying the number of outstanding shares by the market share price of the company (market capitalization) (Kaplan and Ruback, 1995; Koller et al., 2010). By its turn, Market Debt is the value of Long-Term Liabilities of the company, considering that "*short term debt is temporary, seasonal, or incidental financing or if it is offset by holdings of cash and marketable securities*", otherwise we should include short term debt *(*Brealey and Myers, 2003: 528).

According to Brealey and Myers (2003), we should use market values, once book values could be substantially different from market values. Besides that, according to Koller et al. (2010: 116) *"the book value of Debt is a reasonable proxy, unless the probability of default is high or interest rates have changed dramatically, since the debt was originally issued"*.

- <u>Cost of Debt (rd)</u> can be known by the Yield to Maturity of the company's bonds or through the risk free rate (rf) added with the credit spread that the company has attributed (Clayman et al., 2012; Valbom, 2012).

- <u>Taxes (t)</u> depend on the "Imposto Sobre o Rendimento Coletivo" (IRC) and the "derrama" (considering the valuation of Portuguese companies*)*.

- <u>Cost of Equity Capital (re)</u> is the profitability desired by shareholders. In order to estimate it we could take into account the Capital Asset Pricing Model (CAPM) (Jagannathan and McGrattan, 1995; Koller et al., 2010; Da, Guo and Jagannathan, 2012; Clayman et al., 2012).

There are various models to estimate the cost of capital, such as, Capital Asset Pricing Model (CAPM), Arbitrage Pricing Model (APM), etc. Although, according to Damodaran (2012: 77) *"We would argue that a judicious use of the capital asset pricing model, without an over*

*reliance on historical data, is still the most effective way of dealing with risk in valuation in most cases"*. The CAPM Model is used to determine the return that investors require for a given level of risk. The model was created by Sharpe (1964) and developed by Linter (1965) and Mossin (1966) (Albuquerque, 2011; Da et al., 2012).

The CAPM tell us that the expected rate of return on any security is equal to the risk-free rate (rf) added to the beta of the security (BL) times the market risk premium $[E(Rm)-rf]$ (Jagannathan and McGrattan, 1995; Koller et al., 2010; Damodaran, 2012):

$$E(ri) = rf + Bl\,[E(rm) - rf)] \hspace{4cm} (2.21)$$

To arrive at the cost of equity we should compute the following parameters:

- The risk free rate (rf) is the rate of return of an investment without risk. We should look for long-term government *default-free* bonds (Koller et al., 2010). Usually, it is used the 10-year government bond yield.

- Beta Leverage (BL) is a measure of the systematic risk of a security. Measures the sensibility of the share price to changes in the market (a stock with a 1,3 beta would rise by 30% if the market rose by 10% and fall by 30% if the market fell by 10%).

- The market risk Premium $[E(Rm)-rf]$ is the excess return that expected return on a market portfolio provides over a risk free rate. Until today, it was not defined a model to compute the market risk premium as the most appropriate. According to Koller et al. (2010: 242) we could *"(…)measuring and extrapolating historical returns, using regression analysis to link current market variables (…) and using DCF valuation, along with estimates of return on investment and growth"*, but the values range between 4,5% and 5,5% and are similar for companies within a country.

The Residual Value is the continuing value of the company, where we consider that the cash flows will grow at a steady rate perpetually (Kaplan and Ruback, 1995; Koller et al., 2010; Mota et al., 2010). We take into account the assumption that the company after the time horizon phase reaches a stable point and will have a constant growth (Jennergren, 2008).

$$\text{Residual Value} = \frac{\text{Ebit n }(1-t)*(1+gn)-\text{Invested Capital}*gn}{\text{WACC}-gn} \hspace{1.5cm} (2.22)$$

- $g_n$ is the nominal growth rate. To compute this we should consider the real growth rate of the economy ($gr_{eal}$) and the inflation rate (Kaplan and Ruback, 1995; Koller et al., 2010; Clayman et al., 2012; Damodaran, 2012).

$$(1+g_n)=(1+g_{real})*(1+\text{inflation}) \hspace{4cm} (2.23)$$

Finally, we arrive at the Enterprise value of a company:

$$EV = \frac{\text{FCFF1}}{(1+\text{WACC})^1} + \frac{\text{FCFF2}}{(1+\text{WACC})^2} + \cdots + \frac{\text{FCFFn}}{(1+\text{WACC})^n} + \frac{\text{Residual Value}}{(1+\text{WACC})^n} \hspace{1cm} (2.24)$$

According to Mota et al. (2010), the EV measures the entire business value. The Equity Value measures the value of a company's shares. It is different from Market Capitalization once it includes all equity interests of a company (such as convertible securities, unexercised stock options, etc). The Equity Value is given by (Estridge and Lougee, 2007; Mota et al., 2010):

$$\text{Equity Value} = \text{Enterprise Value} - \text{Market Value of Debt} + \text{Non} -$$

$$\text{Operating Assets} - \text{Minority Interests} \qquad (2.25)$$

If we divide this value by the number of shares outstanding, we have the price target of the company:

$$\text{Price Target} = \frac{\text{Equity Value}}{\text{Nr.of shares outstanding}} \qquad (2.26)$$

### 2.6.1.2. Free Cash Flow to Equity (FCFE)

An alternative methodology to the FCFF is the Free Cash Flow to Equity (FCFE) (Mota, et al., 2010). This methodology is based on the cash flow that is available to shareholders, after paying all operating expenses, all replacement and/or expansion investments in fixed assets and working capital are made and after paying debt requirements (Estridge and Lougee, 2007; Koller et al.,2010; Clayman et al., 2012; Damodaran, 2012).

We can arrive at the FCFE by the following formula (Mota et al., 2010):

$$\text{FCFE} = \text{Net Income} + \text{Depreciation \& Amortization} -$$

$$\text{Capex Investments} - \text{Changes in Net Operating Working Capital Needs} + \text{Variation in Debt}$$

$$(2.27)$$

- <u>Net Income</u> is the company's total earnings (profit of the company) and represents the accounting measure of the shareholders 'earnings of the year.
- <u>Variation in Debt</u> is the difference between new debt issued and debt repayments (Damodaran, 2012)
- The other indicators follow the same assumptions considered in the FCFF Methodology

Differently from the FCFF methodology, the discount rate to use is the Cost of Equity (computed through equation 2.21) (Kaplan and Ruback, 1995):

$$\text{PV of FCFE} = = \frac{\text{FCFE1}}{(1+\text{re})^1} + \frac{\text{FCFE2}}{(1+\text{re})^2} + \cdots + \frac{\text{FCFEn}}{(1+\text{re})^n} + \frac{\text{Residual Value}}{(1+\text{re})^n} \qquad (2.28)$$

The Residual Value can be computed through:

$$\text{Residual Value} = \frac{\text{Net Income n}(1+\text{gn}) - \text{Assets n}*\text{gn} + \text{Debt n}*\text{gn}}{\text{re} - \text{gn}} \qquad (2.29)$$

$$\text{Equity Value } = \text{ PV of FCFE } + \text{ Cash \& Marketable Securities}^{[2]} \tag{2.30}$$

$$\text{Price Target } = \frac{\text{Equity Value}}{\text{Nr.of shares outstanding}} \tag{2.31}$$

### 2.6.2. Relative Valuation Method

This method compares indicators of a company with indicators of similar companies in the market (Kaplan and Ruback, 1995; DePamphilis, 2011; Koller et al., 2010; Clayman et al., 2012). Through this valuation it is possible to compare if the estimated value of a company, through the Discounted Cash Flow Method, is in line with the major competitors and/or with the industry.

In this type of analysis we first need to define a group of comparable companies similar to the company that is being evaluated (similar industry, similar in size and capital structure) in order to compute relative values based on current market prices (Clayman et al., 2012).

Normally this type of valuation is based in company's Enterprise Multiples, which relates the market value of its debt and equity less cash and investments with other variables (Clayman et al., 2012).

Some examples are:

- Enterprise value to Free Cash Flow (EV/FCF)
- Enterprise value to EBITDA (EV/EBITDA)
- Enterprise value to EBIT (EV/EBIT)

EBITDA multiples are the most used since they do not consider depreciation, that is a noncash expense reflecting sunk costs and not future investment (Koller et al., 2010; Valbom, 2012).

Besides these, we can also use Equity Multiples that relates the stock's market price with other variables, such as:

- Price to earnings per share (Market price per share/Earnings per share)
- Price to book value per share (Market price per share /Book Value per Share)
- Price to Sales per share (Market price per share /Sales per Share)

The type of ratios that should be selected depends on the industry where the company belongs (Liu, Nissim and Thomas, 2002; Clayman et al., 2012). Although price to earnings per share (P/E) is very used, this is misleading by capital structure and non-operating gains and losses (Koller et al., 2010).

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[2] Assuming that the interest earned with these assets is not already included in the cash flows

It is important to take into consideration a key assumption. When we are evaluating a company we are using some comparable companies or transactions. We need to assume that these companies have expected cash flows growing exactly at the same rate (g) and with the same level of risk (r) as the firm that is under evaluation (Kaplan, and Ruback, 1995).

Taking into consideration that this is a simple approach, this type of valuation can present some issues, like, finding enough comparable firms that are listed and with a correct valuation, difficulties in the accounting for risk differences and we cannot find out if an entire industry is overvalued or undervalued (Koller et al. 2010; Clayman et al., 2012; Valbom, 2012).

### 2.7. Event Studies

According to Hillier et al. (2010: 807) *"There are a number of ways to measure value creation, but many academics favour event studies*".

Event studies use the transactions data to predict financial gains or losses associated with newly information. In an efficient financial market, it is expected that stock prices adjust quickly to new information and, through this, the price of a firm's stocks reflects all available information taking into account the expected future profitability of the firm (Fama, 1970; Andrade et al., 2001; Pautler, 2003).

To measure the value created in a merger deal we should analyze some empirical evidence. The short term event studies are the most reliable way to measure value creation for shareholders and to analyze if disclosure of information influences companies returns at merger announcements (Andrade et al., 2001; Hillier et al., 2010; Clayman et al., 2012).

According to MacKinlay (1997: 15), "*the abnormal return is the actual ex post return of the security over the event window minus the normal return of the firm over the event window*. While "*the normal return is defined as the expected return without conditioning on the event taking place"*. In short-term event studies, abnormal returns are estimated on and around the announcement of the merger (Hiller et al., 2010).

In events methodology, it is usually defined that the event day is the announcement date. Normally, the event window is larger than the event day, in order to allow the examination of periods surrounding the event. At least, it should be included the day of the announcement and the day after the announcement (once an event could happen after the close of the stock exchange) (MacKinlay, 1997). According to Brown and Warner (1985) and Lee and Varela (1997) we should consider an event window of 5 days before the announcement [-5,-1] and 5 days after the announcement [+1,+5].

If we want to analyze the reaction of the market prior to the actual announcement, we should look for pre-event abnormal returns [t1,0]. In the same way, if we want to realize if the market readjusted after the announcement, we should analyze the post-event day abnormal returns [0,t2].

The estimation period is the period where we collect the actual returns of a security and then, we use it to compute the parameters needed to estimate expected returns. Normally, it is used 120-250 days before the event window. The event window itself is not included in the estimation period to avoid influence of leaked information (MacKinlay, 1997).
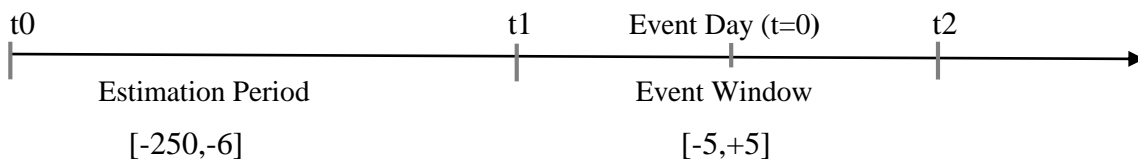


Figure 1 – Estimation Period, Event Window and Event Day of a Short-term Market Reaction
Source: Author

The literature from event studies recommends different models to estimate expected returns, as market models, mean-adjusted models and market-adjusted models (Peterson, 1989; MacKinlay, 1997). The most used is the Market model, which specifies that stock returns can be explained adequately by a broad market index (Barber and Lyon, 1997; MacKinlay, 1997). According to MacKinlay (1997: 15) this model specifies *"a stable linear relationship between the market return and the security return"*.

The regression is estimated using the returns on a given stock and the returns of a stock market index:

$$\widehat{R}t = \widehat{\alpha} + \widehat{\beta} * Rm, t + \varepsilon i \qquad\qquad t = 1,2,\dots,T \qquad\qquad\qquad (2.32)$$

$\widehat{R}_{t=}$ Return of the security in period "t"
$R_{M,t}=$ Return of the market index in period "t"
$\widehat{\alpha}=$ constant of regression
$\widehat{\beta}=$ Beta of the share that gives the slope coefficient associated with the market return
T = number of observations
$\varepsilon_=$ Residual term, with $E(\varepsilon it) = 0$ and $Var(\varepsilon it) = \sigma^2{}_{\varepsilon i}$

In order to estimate the parameters of the market model we could use the OLS Method (Ordinary Least Square) on the estimation period (Lee and Varela, 1997; MacKinlay, 1997). This method attempts to minimize the sum of squared differences between the estimated and observed data (residuals).

After achieving expected returns, we should compare it to the actual returns of a security, by computing the abnormal returns (AR):

$$AR \, (t = 0) = Rt_0 - \widehat{R}t_0 \tag{2.33}$$

$Rt_0$ − Actual Return

$\widehat{R}t_0$ − Expected Return

By using the market model, the above equation translates into:

$$AR \, (t = 0) = Rt - (\hat{a} + \widehat{\beta} * Rm, t) \tag{2.34}$$

Where $\hat{a}$ and $\widehat{\beta}$ are the coefficients of the regression, estimated by the OLS method.

Considering in the null hypothesis that an event does not have impact on the returns distribution, meaning that abnormal return is equal to zero, the distribution of probabilities in the sample of abnormal returns associated with a particular observation is given by:

$$AR_{it} \sim N(0, \sigma^2(AR_{it})) \tag{2.35}$$

The conditional variance is equal to:

$$\sigma^2(AR_{it}) = \sigma^2{}_{\varepsilon i} + \frac{1}{L1}\left[1 + \frac{(R_{mt} - \overline{R_m})^2}{L(Var(R_m))}\right] \tag{2.36}$$

$\sigma^2{}_{\varepsilon i}$ − variance of the residual returns of the associated regression to share i

$$\widehat{\sigma_{ei}^2} = \frac{1}{L1-2}\sum_{t=T0+1}^{T1} \left(R_{i\tau} - \hat{\alpha} - \hat{\beta}_i R_{m\tau}\right)^2 \tag{2.37}$$

$\overline{\overline{R}}_m$ − market average returns during the estimation period

$L1$ − dimension of estimation period measured by the number of sessions considered (T1-T0)

$Var(R_m)$ − variance of the rate of return of the stock market during the estimation period

Normally, after the computation of abnormal returns, these are grouped with the objective to infer about the event in analysis.

By computing the cumulative abnormal return (CAR) we are considering aggregation through time for an individual security (MacKinlay, 1997):

$$CAR = \sum_{t=t1}^{t2} AR_t \tag{2.38}$$

The distribution of probabilities from the cumulative abnormal returns of a security between "t1" and "t2" is given by:

$$CAR_t(t1, t2) \sim N(0, \sigma^2(t1, t2)) \tag{2.39}$$

The asymptotic variance is given through:

$$\sigma^2(t1, t2) = (t2 - t1 + 1)\sigma^2{}_{\varepsilon i} \tag{2.40}$$

Considering in the null hypothesis that cumulative abnormal returns are equal to zero, the distribution of probabilities in the sample of cumulative abnormal returns is given by:

$$CAR_{(t1,t2)} \sim N(0, \sigma^2(t1, t2)) \tag{2.41}$$

Tests with one event observation are not likely to be useful, so we could compute average abnormal returns. For that, we should assume the inexistence of overlapping information from the included securities in the event window (MacKinlay, 1997).

The average abnormal return (AAR) is the aggregation across securities:

$$AAR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{it} \qquad (2.42)$$

The asymptotic variance is given through:

$$Var(AAR_t) = \frac{1}{N^2}\sum_{i=1}^{N} \sigma^2{}_{\varepsilon i} \qquad (2.43)$$

To aggregate in two dimensions, time and across securities, we should consider the cumulative average abnormal returns (CAAR):

$$CAAR(t1, t2) = \frac{1}{N}\sum_{i=1}^{N} CAR \qquad (2.44)$$

The asymptotic variance is given through:

$$Var\big(CAAR(t1, t2)\big) = \frac{1}{N^2}\sum_{i=1}^{N} \sigma^2(t1, t2) \qquad (2.45)$$

To study the significance, we should apply the following statistic (MacKinlay, 1997):

$$\theta 1 = \frac{CAAR_t}{\big(Var(CAAR\ (t1,t2))\big)^{\frac{1}{2}}} \sim N(0,1)\ [3] \qquad (2.46)$$

## 2.8. Who wins with a merger, acquirer or target firms?

It is important to have an idea about who wins more in mergers. To analyze the reaction of stock prices at the announcement day we can look at different event windows. The research suggests that it could be estimated three days around the merger announcement [-1,+1], five days around the merger [-5,+5] or a longer window beginning several days before the announcement and finish at the close of the merger [-20, Close] (Brown and Warner, 1985; Lee and Varela, 1997; Andrade et al., 2001).

After analyzing some empirical evidence it is possible to conclude that in the short run, mergers create value for shareholders of target companies and it is the target shareholders that capture the majority of the gains from tender offers[4] (Bradley et al., 1988; Andrade et al., 2001; Pautler, 2003; Campa and Hernando, 2004; Koller et al., 2010; Clayman et al., 2012).

According to a study realized by Andrade et al. (2001) over 3688 completed mergers, between 1973 and 1998, target companies have average abnormal returns of 16% on the three day window [-1,+1] and around 24% on the larger window [-20, Close]. In contrast, the gain for the

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3 This follows a simple t test equal to $\frac{\bar{x} - \Delta}{\frac{s}{\sqrt{n}}} \approx t_{(T-2)}$

4 Tender offer is an offer made directly to the shareholders to buy shares at a premium above the current market price

acquiring shareholders is much less certain (Andrade et al., 2001; Pautler, 2003). Most of the acquiring companies present a negative abnormal return, on average -0,7% on the three days window [-1,+1] and -3,8% on the larger window [-20, Close] (Andrade et al., 2001). These is explained by the fact that acquiring firms financed with stock are normally associated with negative abnormal returns during the announcement (Andrade et al., 2001; Pautler, 2003). Managers prefer to issue equity when they perceive that the market is overvaluing the stock of the company, but this takes investors to perceive their strategy and push down the stock price (Andrade et al., 2001). It is important to notice that in the announcement period acquiring firms that use stock financing, represent a combination of a merger announcement and an equity issue announcement, which affect the returns (Andrade et al., 2001). If we breakdown the analyzes realized to acquiring firms (at the announcement) with and without stock financing, we can see that the negative average abnormal returns are limited to stock financing, on average -1,5%. In cash financing mergers, the acquirer companies present positive abnormal returns, but small or near zero (around 0,4%) (Bradley et al., 1988; Andrade et al., 2001; Pautler, 2003). Consequently, it is important to separate stock-financed mergers from the others, before making a final judgment (Clayman et al., 2012).

According to Mitchell, Pulvino and Stafford (2004), one of the major reasons that could explain the negative returns for acquiring firms in mergers financed with stock, is the price pressure arising from merger arbitrage transactions (Ismail, 2011).

Based on the announcement date, mergers do create value for shareholders of combined firms, but in this period the clear winners were the target shareholders (Bradley et al., 1988; Andrade et al., 2001; Pautler, 2003). The conclusions from short term event studies were by itself, a reliable source of information. However, some long-term event studies present negative abnormal returns over 3 to 5 years after the merger is completed, and this causes doubts on the previous conclusion taken with the short term events (Andrade et al., 2001).

Some companies with surplus cash but without investment opportunities prefer to make acquisitions instead of distributing dividends due to tax costs (Bruner, 1988; Brealey and Myers, 2003; Hillier et al., 2010; Clayman et. al, 2012). However, as we have seen before, an acquisition is not always the best strategy. Analysts must examine the operational strengths that a merger could bring in order to determine if there will be any synergies for the acquirer company (Clayman et al., 2012)

# 3. CONTEXT OF THE PORTUGUESE MARKET

In the following chapter the evolution of the Portuguese banking system between 1980 and 2004 is presented, as well, an analyses of the economic environment in Portugal.

## 3.1. Evolution of the Portuguese banking system

It is important to contextualize the Portuguese banking system, in order to realize if there are some strategically decisions behind a merger.

The banking business environment in Portugal was characterized by diverse changes in banking structure, organization and strategies (Silva, 2010). Beside the changes, the tradition and innovation were always side-by-side and the banking history always had a considerable weight in the sector (Mendes, 2002).

To better understand the efficiency of the sector, without being too exhaustive, the 80's, 90's and the beginning of the XXI century are going to be analyzed, once these periods represented significant changes in the level of competition faced by financial institutions (Boucinha and Ribeiro, 2007).

In the beginning of the 80's, there were 16 financial institutions in Portugal. From the total number of financial institutions, 13 were governed by the state (where "Caixa Geral de Depósitos" (CGD) was responsible for the majority of captured resources), and the remaining 3 were foreign banking institutions (Silva, 2010).

After this period, there was a massive restructuring in the sector. Portugal joined to European Economic Community (EEC) in 1986, and with the internationalization of the economy, there were a lot of foreign investments in our country (Mendes, 2002; Silva, 2010). Besides that, the openness of the sector and the increasing globalization encouraged the creation of legislation that aimed to harmonize European directives and regulations with national regulation (Silva, 1995; Banco de Portugal, 2008; Silva, 2010). The constant globalization allowed an increase of the number of financial institutions (Mendes, 2002; Silva, 2010).

| Year | 1983 | 1987 | 1990 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| National institutions | 13 | 17 | 20 | 30 | 31 | 35 | 33 | 34 | 29 | 30 | 32 |
| Foreign institutions | 3 | 9 | 13 | 15 | 19 | 20 | 24 | 25 | 29 | 27 | 28 |
| Total | 16 | 26 | 33 | 45 | 50 | 55 | 57 | 59 | 58 | 57 | 60 |

Table 5 – Number of Financial Institutions in Portugal from 1983-2002
Source: Mendes, 2002; Carvalho, 2007; Associação Portuguesa de Bancos, Boletim Informativo nº34, 2004; Banco de Portugal, 2008

From the previous table we can see that the number of banks operating in Portugal grew from 16 to 60, between 1983 and 2002. This growth came from foreign and national banks, the majority with a small dimension and reduced number of branches *(Silva, 1995; Silva, 2010).*

In the 90's, with the entrance of new banks in Portugal, the state-owned banks were subsequently privatized. In 1989, the market share of state-owned banks, in total assets, were 84%, 42% in 1992, 20% in 1997 and 22% in 2001, being CGD the only state-owned bank *(*Mendes, 2002; Boucinha and Ribeiro, 2007; Silva, 2010; Palhinha, 2011). The most important privatizations were "Banco Totta & Açores" (BTA) (1989-96), "Banco Português do Atlântico" (BPA) (1990-95), "Banco Espírito Santo" (BES) (1991-92), "Banco Comercial Português" (BCP) (1991-92), "Banco Fonsecas & Burnay" (BFB) (1991-93), "Crédito Predial Português" (CPP) (1992), "União de Bancos Portugueses" (1993), "Banco Pinto e Sotto Mayor" (BPSM) (1994-1995) and "Banco de Fomento Exterior" (BFE) (1996) (Alexandre, 2004).

Besides the privatizations in the sector, the 90's and the beginning of the XXI century, were characterized by the consolidation of banks that joined under the same management independent institutions with the intention to acquire market share (Mendes, 2002; Alexandre, 2004; Silva, 2010; Bonfim, Barros, Kim and Martins, 2011).

The major transactions in the sector were:

1992:

• Reacquisition of Group Mundial Confiança by António Champalimaud [5] (where BTA and CPP, financial institutions that just had been privatized, were integrated in 1995) and acquisition of BPSM;

1996:

• Acquisition of "Banco Mello" by BCP;

• Acquisition of BPA by BCP that created Group BCP/Atlântico;

1997:

• Acquisition of the investment bank "Chemical Service" by António Champalimaud;

1999:

• Merger of "Banco Fomento Exterior" (BFE), "Banco Fonsecas & Burnay" (BFB) and "Banco Borges & Irmão" (BBI) that originated "Banco Português de Investimento" (BPI);

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5 António Champalimaud was a Portuguese entrepreneur of the XX century.

2000:

- Dissolution of Group Mundial Confiança formed by Mundial Confiança, BPSM, "Banco Totta e Sotto Mayor Inv.", BTA, CPP and Chemical Finance;

- Acquisition of BTA and CPP by "Banco Santander Central Hispano" (BSCH);

- Acquisition of BPSM by BCP, and consequent integration in Group BCP/Atlântico;

- Acquisition of Mundial Confiança and "Banco Totta e Sotto Mayor Inv." by CGD;

- Merger between BCP and BPA;

2001:

- Merger between CGD and "Banco Ultramarino";

The beginning of the XXI century was especially significant once 4 of the 7 major financial groups were involved in major transactions (Bonfim et al., 2011).

The extent of these mergers and acquisitions initiated massive changes in the Portuguese banking system, with implications on the balance of credit markets. The major implications were in the granting of credit, interest rates charged and strategic effects among financial agents (Bonfim et al., 2011).

These restructuration's allowed a market share concentration in 5 banking groups (CGD, BCP, BES, BTA and BPI) where 50% was concentrated on two of the major Portuguese banking groups CGD and BCP (Carvalho, 2007). In the table below we can see indicators from the 5 major banking groups:

| Financial Institutions | Assets | Captured Resources | Equity | Net Income |
|---|---|---|---|---|
| CGD | 72.579.285 | 58.389.547 | 3.550.177 | 269.060 |
| BCP | 68.528.026 | 46.470.258 | 2.960.311 | 239.136 |
| BES | 44.081.680 | 31.282.232 | 2.131.260 | 131.765 |
| BTA | 30.692.439 | 19.290.562 | 1.639.614 | 135.409 |
| BPI | 23.691.244 | 16.955.497 | 1.391.765 | 86.680 |

Table 6- Banking Institutions in June 2004 (before merger of BTA, BSP, CPP) (values in thousands of euros)
Source: Associação Portuguesa de Bancos, Boletim Informativo nº34, 2004; Carvalho, 2007

The globalization process also boosted the growth of foreign banks. Between 1991 and 2004, foreign banks increased their market share from 5 to 20% (Boucinha and Ribeiro, 2007). The acquisitions realized by BSCH contributed to the importance of foreign entities in the Portuguese banking system, allowing a market share of 10% to BSCH with the acquisition of BTA and CPP (Carvalho, 2007).

We can conclude that the beginning of the XXI century was characterized by innumerous mergers and acquisitions giving the banking market a nature of homogeneity, guided by a

scenario of liberalization and globalization initiated in the 80's by the Single European Act (Silva, 2010).

## 3.2. Portuguese Economic Environment

After analyzing the first years of the XXI century, we realize that there was a contraction of the Portuguese economy. The economy reached its weakest point in the second quarter of 2003, when the confidence of economic agents reached minimum levels, coinciding with a period of decline in the European economy.

| Values in percentage | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|---|
| GDP (growth rate) | 3,4 | 1,7 | 0,4 | -1,2 | 1,1 |
| Private Consumption (growth rate) | 2,9 | 1,2 | 1,1 | -0,5 | 2,4 |
| Public Consumption (growth rate) | 4,1 | 3,3 | 2,3 | -0,4 | 2,0 |
| Investment  (growth rate) | 2,4 | 1,2 | -5,1 | -9,7 | 1,8 |
| Exports (growth rate) | 7,8 | 1,4 | 2,0 | 4,0 | 4,5 |
| Imports (growth rate) | 5,5 | 1,1 | -0,2 | -0,9 | 6,8 |
| Inflation | 2,9 | 4,4 | 3,6 | 3,3 | 2,4 |
| Unemployment | 3,9 | 4,1 | 5,1 | 6,3 | 6,7 |
| Public Deficit (% GDP) | -2,8 | -4,4 | -2,7 | -2,8 | -3,2 |
| Current and Capital Account Balance (% GDP) | -8,9 | -8,9 | -5,7 | -3,6 | -5,9 |
| Public Debt (% GDP) | 53,3 | 55,8 | 58,4 | 60,3 | 58,7 |

Table 7 – Economic Indicators In Portugal, 2000-2004
Source: INE; Ministry of Finance; Banco de Portugal, 2008; Banco Santander-Totta 2004-2005; Caixa Geral de Depósitos 2004

In 2004 the activity slightly recovered, showing a 1,1% increase of GDP versus a decrease of 1,2% in the previous year. This growth was supported by the domestic demand, mainly by the increase of private consumption that reflected the improvement of economic agents, in connection with a more favorable international economic environment and with punctual events as "Euro 2004". On the other hand, there has been a recovery of investment (+1,8%), which occurred for the first time since 2001.

Additionally, imports grew rapidly (+6,8%), surpassing the evolution that would be expected based on domestic demand. Although exports reached an appreciable growth (+4,5%), the external deficit deteriorated, influenced by imports of capital goods and consumer goods which increased significantly, mainly due to the recovery of domestic demand. This recovery generated an increase in the financing needs of the economy (5,9% of GDP face to 3,6% in the previous year) and an estimated reduction in the rate of personal savings of disposable income from 11,7% to 11%.

The conduct of the fiscal policy was in the third consecutive year subject to comply with the limit of 3% of GDP for the budget deficit. In 2004, the public deficit presented a deterioration to 3,2% of GDP. Despite the level of revenue being in line with expectations, expenditures

showed an accelerated growth. Thus, extraordinary sources of revenue were necessary, such as the inclusion of pension funds of several companies with public capital (especially from CGD) in "Caixa Geral de Aposentações".

Inflation continued to slowdown, falling to an average of 2,4%, compared to 3,3% in 2003 and 3,6% in 2002. The decrease resulted from the combination of euro appreciation against major currencies, with implications on prices of imported goods, and from a slowdown in unit labor costs which allowed to compensate for the acceleration of energy prices seen in 2004.

The increase on unemployment reached 6,7%, which was reflected in moderate salary growth (lower than 3%), thus allowing a deceleration in the service's prices (around 3,8%).

Despite the moderate economic activity, we also assisted to the growth stabilization of monetary aggregates, with particular emphasis on credit, influenced by low interest rates.

|  | 2003 | 2004 |
|---|---|---|
| Total domestic Credit (a) (growth rate) | **6,6%** | **7,4%** |
| Mortgage Credit (growth rate) | 11,8% | 10,5% |
| Consumer Credit and Other Purposes (a) (growth rate) | 2,3% | 4,5% |
| Corporate Credit (growth rate) | 2,7% | 4,1% |
| Total Deposits (b) (growth rate) | **1,0%** | **3,2%** |
| Retail Depositors (b) (growth rate) | -0,2% | 2,9% |

Table 8 – Credits and Deposits in Portugal, 2003-2004
Source: Banco de Portugal – Boletim Estatistico 2003
(a) Annual variation from balances adjusted by the "Banco de Portugal"
(b) Variation based on month end balances
Note: In the analyzes of the behavior of credit aggregates values were included Securitized credit, which the banking system amounted to 16.100 million euros at the end of year, which represents about 8% of domestic credit.

The Total Domestic Credit, noted a slight acceleration in the annual variation, from 6,6% to 7,4%, supported by more dynamic corporate credits and consumer credit. The growth rate of mortgage loans stabilized around 10,5%, declining from 11,8%. Consumer credit, after a contraction in 2002 and 2003 began to recover in 2004, in line with the improving of private consumption. The growth of corporate credit also stabilized around 4,1% (face to 2,7% in the previous year).

Deposits in the banking system recorded an annual growth of 3,2% (face to 1%), with emphasis on the expansion of retail deposits (including emigrants) with +2,9% against a retraction of 0,2% in the previous year. The overall growth of resources was below the credit growth (3,2% vs 2,7%).

The liquidity gap of the banking system recorded a new extension to 60 billion (a deterioration of 12 billion, compared to 2003). However, banks reduced the need for external financing and looked for additional forms of financing over the external debt. The issuance of securities re-

emerged as the prime source of funds, together with the securitization of credit, which in 2004 reached a higher outstanding balance of 12 billion Euros.

At the end of 2004, short term market interest rates presented a great stability maintaining slightly above the reference rate of the European Central Bank (ECB) of 2%. For longer terms, interest rates registered a decline, reflecting the less favorable expectations regarding growth of the Euro zone.
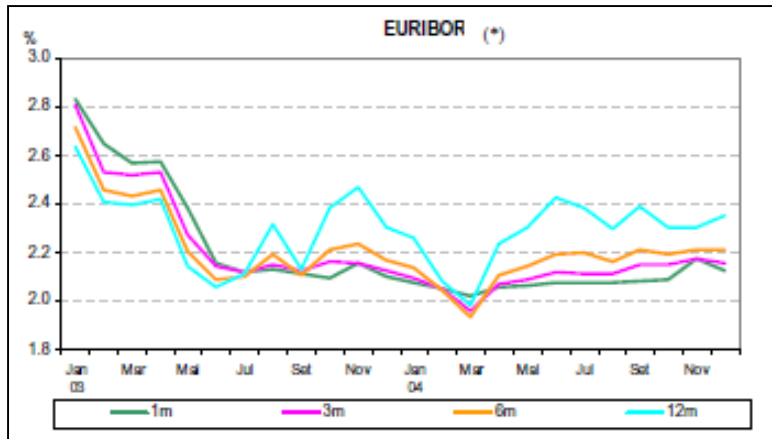


Figure 2 – Evolution of Euribor in 2004
Source: Banco de Portugal; Caixa Geral de Depósitos 2004
* End of month values

The greater stability of the nominal interbank interest rates, in 2004, influenced the behavior of active and passive interest rates charged by banks, which remained stable and close to the levels observed in the previous year.

Therefore, the interest rate on new loans (1 year), for amounts above 1 million euros, granted to Non-Financial Corporations, was 3,53% in December, versus 3,59% in homologous period. While interest rates for mortgage loans was respectively 3,39% and 3,43%. In deposit rates, the interest rates for deposits "up to 2 years" for private individuals remained stable, 1,99% and 1,98%, respectively, in December 2003 and 2004.

Concerning the exchange evolution, the Euro appreciated against the dollar, reflecting the imbalances in the US economy relative to the external and public deficit. At the end of the year, Euro recorded a value of 1,36 dollars against 1,26 from the previous year.

In annual average terms, the European currency appreciated by 10% and 2,7%, against the U.S. dollar and Japanese yen, respectively, and a depreciated of 1,9% against the pound sterling.
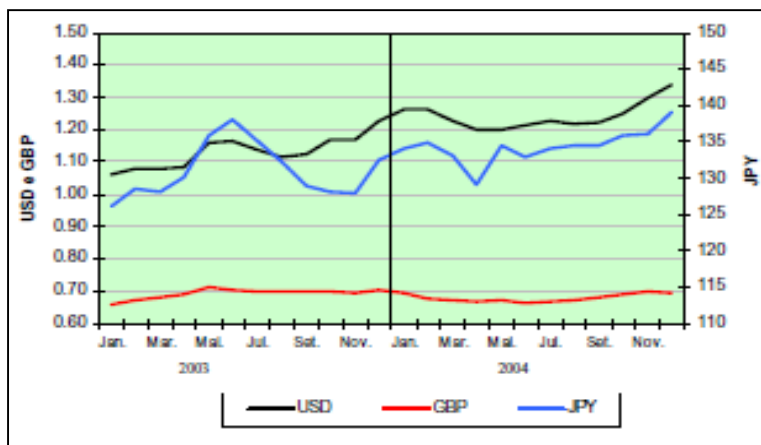
Figure 3 – Evolution of Euro's exchange rates (monthly average values)
Source: Banco de Portugal; Caixa Geral de Depósitos 2004

The evolution of stock market indexes during 2004 was modest compared to 2003. The best performances in Europe belonged to the stocks of Madrid and Milan, with increases of 17% and in Lisbon where the PSI-20 reached an increase of 12,6%.

In the Portuguese market, PSI-20 recovered after a sharp decrease, achieving at end of the year a gain of 12,6%. From the shares of PSI-20 just one ended the year with losses, while eight had earnings higher than 30%. The dynamism of the secondary stock market was also evident in the growth of turnover (+46%) and its market capitalization (+24%).

The activity in the bond market in terms of the Stock Exchange reduced significantly, where the traded amount was reduced by half.

The yields on the Portuguese long-term debt fluctuated during the first half of 2004, but took on a clear downward trend in the second half of the year, declining from 4,47% (in June) to 3,86% (in December). The differential relative to German rates, which stood at around 15 bp in the first half of the year, narrowed by the end of the year to about 5 bp (This analysis was performed based on macroeconomic environment presented in the 2003's, 2004's and 2005's Account Reports from Group Totta, Santander-Totta and Caixa Geral de Depósitos).

## 4. GROUP SANTANDER, TOTTA & AÇORES AND CRÉDITO PREDIAL PORTUGUÊS

In this chapter are presented the history and an analysis of the financial institutions involved in the merger.

### 4.1. History of Group Santander

Group Santander (SAN) is a Spanish group created in 1857. It is a bank with more than 150 years of history whose investments prevailed in Europe and South America. Santander is an example of globalization, its geographical diversification, breadth of its financial operations, team composition and management model allowed the creation of a diverse and prestigious financial group.

Its strategic line has been consistent over the years, considering the commercial banks as the main source of income, taking into account the specific characteristics of the local markets where it is implemented, with high market demand and customer knowledge in every country where it is settled (Neto, 2010). Besides the leadership status in South America, the group established important partnerships in Europe with Royal Bank of Scotland, in United Kingdom, Société Générale, in France, San Paolo-IMI, in Italy, and Commerzbank, in Germany (Diário da República, 2003).

In 1999, Group Santander merged with "Banco Central Hispano" creating "Banco Santander Central Hispano" (BSCH), which became the largest bank in Spain. This denomination characterized the bank until 2007, when the name was changed for "Santander".

Today, it is the biggest financial group from the Iberian Peninsula and South America and one of the biggest European banks in terms of market capitalization. The bank has its shares quoted in innumerous stock exchanges: Madrid, México, Milan, New York, Lisbon, London and Buenos Aires.

### 4.2. History of Totta & Açores

"Banco Totta & Açores" (BTA) was a Portuguese Financial Institution created in 1970, through the merger of "Banco Lisboa & Açores" and "Banco Totta-Aliança", two financial institutions leaders in the Portuguese sector at that time.

Until the innumerous nationalizations that happened after the revolution in Portugal, in 1974, this financial institution was managed by "Companhia União Fabril" (CUF). In 1975, in line with innumerous others banks, BTA was declared as a state-owned bank. After the entrance of Portugal in European Economic Community (EEC), the bank was privatized as a consequence

of the general movement of capitalization under the Privatizations Plan of government owned companies.

With the privatization, there were a lot of foreign proposals for acquisition, namely, by "Banco Banesto" that acquired a percentage of ownership from BTA. After some distress in this last financial institution and consequent integration in Group Santander, the ownership of BTA was transferred to BSCH.

In 1995, BTA was incorporated in Group Mundial Confiança until the division and sale of the group realized by Champalimaud to Group Santander and Caixa Geral de Depósitos, in 2000.

### 4.3. History of Crédito Predial Português

The financial institution Crédito Predial Português was created in 1864, with the denomination of "Companhia Geral do Crédito Predial Português" and the major object of this entity was the issue of mortgage bonds and loans that represented the financing of real estate transactions.

In 1962, the denomination was changed for Crédito Predial Português and the major activity of the bank was changed for real estate promotion. After the Portuguese revolution in 1974, the bank was nationalized, and in 1976 the Portuguese government integrated "Banco Agrícola e Industrial Viseense".

In 1992 the bank was privatized, through a public offer for sale, where Totta & Açores acquired majority ownership. After that, the bank was integrated in Group Mundial Confiança, until the division and sale of the group realized by Champalimaud to Group Santander and Caixa Geral de Depósitos, in 2000.

### 4.4. Santander in Portugal

The entrance of BSCH in Portugal happened in 1988, through the acquisition of 10% of ownership in "Banco de Comércio e Indústria" (BCI) (Diário da República, 2003; Neto, 2010; Liberato, 2011*).* The participation became a majority in 1993, when was launched a tender offer. At the same year "Banco Santander de Negócios Portugal" was created. In 1994, BCI took a deep internal restructuration and integrated the Spanish group due to the international economic environment at that time.

In 1998, the denomination was changed to "Banco Santander Portugal" (BSP) and the bank was delisted from the stock exchange once it was integrated in Santander global brand (Neto, 2010; Liberato, 2011).

The Spanish group BSCH realized innumerous acquisitions in Spain, where one was the acquisition of "Banco Banesto", in 1994. This implied a percentage of ownership in "Banco

Totta & Açores" (BTA) (Diário da República, 2003; Neto, 2010; Liberato, 2011). After a deep analysis of this transaction it was concluded that the ownership in BTA exceeded the legal limit imposed by law on foreign investments in Portugal. This led to the sale of the participation to Group Champalimaud, in 1995, and the consequent integration in Group Mundial Confiança (Diário da República, 2003; Neto, 2010; Liberato, 2011). After these, BSCH looked for ways to increase the participation in Portugal and redefined the strategy to invest in the Portuguese market.

In May 1999 an opportunity appeared, when António Champalimaud looked for foreign allies to expand the business. At that time, Group Champalimaud held an important participation in Group Mundial Confiança, formed by Mundial Confiança, "Banco Pinto & Sotto Mayor" (BPSM), "Banco Totta & Açores" (BTA), "Crédito Predial Português" (CPP) and "Banco Chemical Finance" (Liberato, 2011).

In June, an agreement between BSCH and Champalimaud was realized, to which the Portuguese government opposed. To fulfill the ideals of the Portuguese government, in November 1999, another agreement characterized by four phases was realized (CMVM, 1999a.; Liberato, 2011):

- 1st: phase: Champalimaud agreed to sell the majority of Group Mundial Confiança (Mundial Confiança, BPSM, BTA, CPP and BCF) to BSCH, in exchange of 4% of ownership;
- 2nd phase: BSCH agreed to resell Group Mundial Confiança to CGD;
- 3rd phase: BSCH repurchased BTA and CPP;
- 4th phase: CGD launched a public offer of acquisition for the remaining institutions.

These allowed the entrance of BSCH in the Portuguese conglomerate and the participation of Group Champalimaud in the business developed in Portugal by the Spanish Group Santander (Diário da República, 2003; Neto, 2010). Although, this agreement caused some concerns in the Portuguese government. To ensure the legality, both groups appealed to European Commission once this was a transnational operation (Diário da República, 2003; Neto, 2010; Liberato, 2011).

In January 2000, the agreement was considered legal since it contributed to the construction of a market without barriers (Diário da República, 2003; Neto, 2010; Liberato, 2011). BSCH was authorized to acquire 51,8% of Group Mundial Confiança with the commitment to alienate it to CGD. For its part, CGD assured the subsequent sale to BSCH of the capital from BTA and CPP. In March, Champalimaud announced that had transferred to BSCH its direct and indirect ownership in Group Mundial Confiança, receiving in exchange 151.846.636 newly issued

shares of BSCH, as approved by shareholders (CMVM, 2000a). Through this, the first phase of the agreement was completed.

In April 7th, 2000, BSCH ceased the allocation of the indirect ownership of 53,05% in BPSM, 94,38% in BTA and 70,57% in CPP, by selling over 50% of capital of Mundial Confiança to Parbanca SGPS, SA (subsidiary of CGD) (CMVM, 2000 b-d).

To complete its part of the agreement BSCH repurchased the participation of 94,38% in BTA and 70,57% in CPP (held by BPSM) (Diário da República, 2003; CMVM, 2000 e-f). The remaining capital was dispersed in the stock exchange. Through this, BSCH reinforced the position in the Portuguese banking system with a market share of 10% (Diário da República, 2003; Neto, 2010; Liberato, 2011).

In April 18th , BSCH (through its subsidiary Santusa Holding, SL) announced a public offer of acquisition for the remaining shares of BTA and CPP (CMVM, 2000 g-o), offering 28,2€ and 14,35€ per share, respectively. Through this public offer of acquisition BSCH took control, direct and indirectly, of 98,6% of BTA and 100% of CPP. These acquisitions were just finished at December 31st and November 24th 2000, respectively. At the end of the transaction, since BSCH owned over 90% of ownership, CPP was integrated in BTA and delisted from the stock exchange.  After these announcements BSCH used the holding Foggia, SGPS, S.A. (100% held by BSCH), in order to separate the banking activity from the other activities developed by the group and send the message of a solid integration with a clear management.

At December 20th, it was celebrated a notarial deed, to increase the capital of Foggia, SGPS, S.A.. This increase was fully subscribed by BTA with the shares held in CPP, corresponding to 70,66% of capital. With this transaction, BTA hold 20,8669% of the share capital of Foggia, SGPS, S.A.. At the same day, through the acquisition of ownership from Holbach, Ltd., Ausant Merchant Participations, G.M.B.H. and Itasant, SGPS in "Banco Santander de Negócios de Portugal" (BSNP) and from Ausant Holding Gesellshaft, M.B.H in "Banco Santander Portugal" (BSP), Foggia, SGPS, S.A. owned 99,99% of the share capital of BSNP and 82,06% of BSP. Still on the same day, BTA acquired from Santusa Holding, SL through its subsidiary Petrofinac SGPS, SA, 29,34% of the share capital of CPP (Diário da República, 2003).

At December 26th, the general Assembly of BTA approved an increase of capital fully subscribed by BSCH, that had as counterpart the delivery of 79,13% of the share capital of Foggia, SGPS, S.A. to BTA (CMVM, 2000p) With these acquisitions BTA held 100% of Foggia, SGPS, S.A., since it already owned 20,87% (Diário da República, 2003).  Through the full control of Foggia, SGPS, S.A., BTA started to hold: 70,66% of CPP; 99,99% of BSNP and 82,06% of BSP. With this restructuration, the participations of BSCH in Portugal stayed under

control of BTA (head of Group Totta in Portugal). At the end of 2000, directly and indirectly, BSCH controlled 98,6% of BTA, 100% of CPP, 99,99% of BSNP and 82,06% of BSP. This corporate restructuring allowed the stability of the Group, as well as providing to market and entities, an adequate transparency and supervision on a consolidated basis, reflecting management of various institutions concentrated in the control of a single financial institution, Totta & Açores (Group Totta).

At the end of 2001, BSCH controlled 99,35% of BTA (through its participations and Santusa Holding), 100% of CPP (through Foggia, SGPS and Petrofinac, SGPS), 99,99% of BSNP (through Foggia, SGPS) and 85,14% of BSP (through Foggia, SGPS and Petrofinac, SGPS). At the end of 2002, the participations of BSCH remained the same, with the exception of CPP, where the ownership of Foggia, SGPS and Petrofinac, SGPS were shared with Taxagest SGPS, SA and Totta Finance SGPS, S.A. (both subsidiaries of BSCH). At June 30th, 2003 BSCH exercised an option to acquire 12,74% of BSP held by the Royal Bank of Scotland Group Plc. As a result, BSCH increased its stake in BSP to 97,68%.

## 4.5. Analysis of the financial institutions involved in the merger

Group Totta centralized most of the BSCH holdings in Portugal, once it held the majority stake in "Santander Portugal" (BSP), "Santander de Negócios Portugal" (BSNP) and "Crédito Predial Português" (CPP) through Foggia, SGPS,S.A.. Therefore, it is important to study the performance of the group, before the merger in 2004. In this chapter we analyze the business segments, shareholder structure, behavior of the shares, subsidiaries and associated companies and economic indicators of the group.

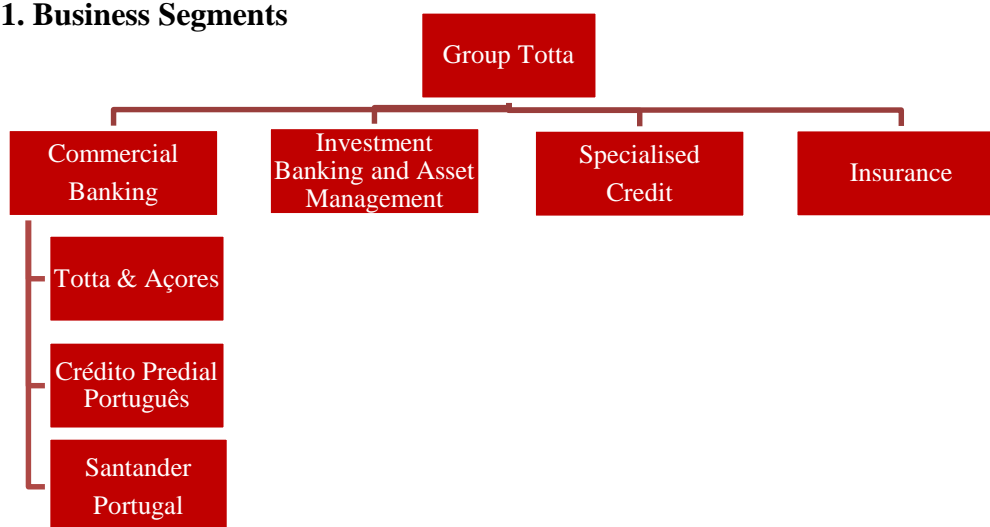### 4.5.1. Business Segments



Figure 4 – Business segments of Group Totta
Source: "Banco Totta & Açores", Account Report 2003

In 2003, the three commercial banks had a national network of 570 branches and exchange offices. The Group also maintained offices in London, Luxembourg, Bissau Guinea, Cayman Islands and Madeira.

### 4.5.2. Shareholder and Organizational Structure

| Shareholder | Nr of shares | % |
|---|---|---|
| BSCH – Participations | 78.021.776 | 73,7254 |
| BSCH – Santusa Holding | 27.129.169 | 25,6353 |

Table 9 – Shareholder structure of Group Totta, at December 31st, 2003
Source: "Banco Totta & Açores", Account Report 2003

In Annex 2 we can see the organizational structure of Group Totta.

### 4.5.3. Subsidiaries

Group Totta owned the total ownership of Foggia, SGPS, S.A. and Totta Seguros. It is important to have in mind that through Foggia, SGPS, S.A., Totta had indirect participation in several financial institutions.

| Companies | Indirect Ownership | Net Assets | Equity | Net Income |
|---|---|---|---|---|
| Foggia, SGPS, S.A | | | | |
| • CPP | 94,79% | 14.077.826 | 646.830 | 51.549 |
| • BSP | 85,45% | 4.901.637 | 317.118 | 36.747 |
| • BSNP | 100% | 1.638.310 | 136.279 | 21.044 |
| • Taxagest, SGPS | 1% | 84.325 | 37.010 | 13.634 |
| • Totta – Crédito Especializado | 83,19% | 1.395.956 | 84.759 | 13.722 |
| Taxagest, SGPS | | | | |
| • CPP | 5,21% | | | |
| BSNP | | | | |
| • BSN Dealer | 100% | 22.672 | 13.743 | 754 |
| • Santander Gest | 100% | 1.391 | 896 | 151 |
| • Taxagest SGPS | 99% | | | |
| • Santander Gestão de Ativos SGPS | 100% | 23.518 | 21.349 | 6.995 |
| • Santander Pensões | 100% | 4.323 | 3.395 | 1.817 |
| • Santander Imovest | 100% | 4.323 | 3.395 | 1.817 |
| • Santander – SGFIM | 100% | 17.900 | 10.687 | 3.942 |

Table 10 – Subsidiaries of Group Totta (values in thousands of euros)
Source: "Banco Totta & Açores", Account Report 2003

With the exception of CPP and BSP (and the respective subsidiaries), these were not included in the merger but in the new holding created. By splitting-off Foggia, SGPS and Totta Seguros from BTA, we can realize that Santander-Totta would be constituted by a commercial segment (BTA, CPP and BSP) and the segments of Investment Banking, Specialized Credit and Insurance would be integrated in a new holding, Santander-Totta SGPS.

### 4.5.4. Behavior and rating of the shares

In the following graphic it is possible to observe the evolution of Group Totta's shares between January 2000 and October 2004 (delisted from stock exchange since this date).
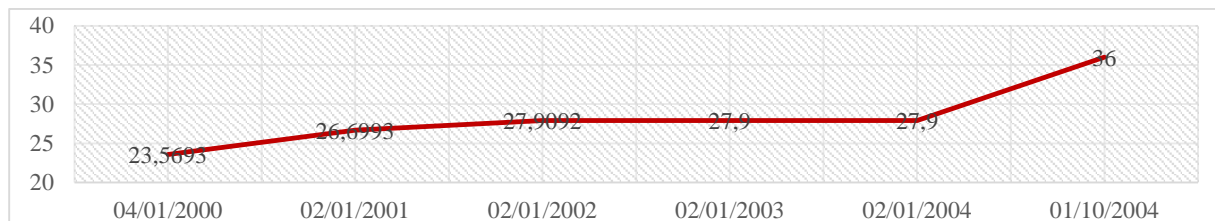


Figure 5 - Shares of BTA between 2000 and 2004
Source: Bloomberg

We can see that the shares did not presented a negative variation. After the announcement of the merger of the three financial institutions, in January 2004, the shares registered a sharp increase, maintaining the trading price of 36€ until being delisted. Regarding the rating, Group Totta is assessed by the independent and prestigious entities Fitch-IBCA, Moody's and Standard and Poor´s (rating analysis in Annex 3).

### 4.5.5. Economic indicators

The year of 2003 was marked by an unfavorable economic environment, characterized by a significant contraction of the business market and the deterioration of the economic conditions, with direct impact on investment and borrowing capacity of the families.

Despite that, Group Totta showed strong growth in terms of turnover and results. This was due to a proactive business strategy, based on a solid growth model with a differentiated offer and value-added in new products and services, based on an efficient cost structure.

We can examine several indicators regarding the balance sheet and the income statement to value the performance this group, before the split-off of the group in 2004.

| | 2000 | 2001 | 2002 | 2003 | Variation 2003-2002 |
|---|---|---|---|---|---|
| **Activity and Leverage** | | | | | |
| Net Assets (million euros) | 23.166 | 27.366 | 26.864 | 28.851 | 7,40% |
| Loans to customers (net) (million euros) | 16.465 | 19.240 | 20.638 | 17.758 | -13,95% |
| Resources from customers in balance sheet (million euros) | 15.495 | 18.382 | 18.281 | 19.026 | 4,08% |
| Loans to customers/Assets | 71,1% | 70,3% | 76,8% | 61,6% | -15,2 pp |
| Resources from customers/Debt | 69,4% | 70,8% | 72% | 70,3% | -1,7 pp |
| Transformation Ratio | 106,3% | 104,7% | 112,9% | 93,3% | -19,6 pp |
| **Profitability and Efficiency** | | | | | |
| Operating Income (million euros) | 860 | 926 | 913 | 923 | 1,10% |
| Operating Costs (million euros) | 457 | 467 | 417 | 403 | -3,2% |
| Cost to Income | 53,1% | 50,4% | 45,6% | 43,7% | -1,9 pp |
| Net Income (million euros) | 149 | 199 | 210 | 241 | 14,76% |
| ROE | 14,7% | 19,1% | 20,1% | 18,9% | -1,2 pp |

| | 2000 | 2001 | 2002 | 2003 | Variation 2003-2002 |
|---|---|---|---|---|---|
| ROA | 0,6% | 0,7% | 0,8% | 0,8% | 0 pp |
| **Solvability** | | | | | |
| Solvency Ratio ("Banco de Portugal") | 11,4% | 11,8% | 11,6% | 10,5% [1] | -1,1 pp |
| Core Tier I | 8,7% | 7,9% | 8,3% | 7,5% [1] | -0,8 pp |
| **Market Indicators** | | | | | |
| P/B | 2,67 | 2,82 | 2,32 | 1,97 | -15,09% |
| PER | 18,77 | 14,81 | 14,14 | 12,24 | -13,44% |
| Market capitalization (million euros) | 2.784 | 2.940 | 2.963 | 2.953 | -0,34% |
| Market value per share (euros) | 26,509 | 27,92 | 27,9 | 27,9 | 0,36% |
| Book value per share | 9,9 | 9,9 | 12,05 | 14,17 | 17,59% |
| **Credit Quality** | | | | | |
| Overdue Credit to Clients / Total Credit | - | - | 2,0% | 1,8% [2] | -0,3pp |
| Overdue Credit over 90 days / Total Credit | - | 2% | 1,8% | 1,7% [2] | -0,1pp |
| Credit in default [3] / Total Credit | - | - | - | 1,7% [2] | - |
| Coverage of overdue credit by provisions | - | - | 120,9% | 140,6% | +19,7pp |
| Coverage of overdue credit over 90 days by provisions | - | 144,6% | 138% | 147,1% | +9,1pp |
| Coverage of default credit [3] | - | - | - | 143% | - |

Table 11 – Financial indicators of Group Totta, 2000-2003

Source: "Banco Totta &Açores" account reports, 2000 to 2003; Author's computation

1) Does not include results of the year itself. Considering results from 2003, the ratios would be: BP : 11.8% and Tier I : 8.8%
2) Includes 2 securitization operations of 3.700 million euros
3) Overdue Credit over 90 days + doubtful loans

Starting by the analysis of Activity and Leverage indicators, Net Assets stood in 28.851 million euros, at end of December 2003, representing a growth of 7,4% over the previous year. Loans to customers (net) amounted 17.758 million euros, in 2003. This value was mainly due to mortgage credit (core business of CPP) that registered an increase of 15% (compared with the homologous) and consumer credit that grew around 26%, since new credit campaigns were launched with dispersion of the risk. The resources from customers rose 4% and amounted 19.026 million euros. The strategy defined for the capture of resources was based on the launch of structured products and insurance capitalization in parallel with investment funds, as well, as the launch of innovative products with mixed remuneration. The transformation ratio reflects the weight of loans in relation to total deposits. By definition, the higher the value of the ratio, the greater the leverage of the Bank. Group Totta presented a ratio of 93,3%, in 2003, which reflect a greater number of customer deposits compared to loans to third parties. Compared to the previous value of 112,9%, shows an improvement of 19,6 pp.

Regarding Profitability and Efficiency indicators, these are particularly important as indicators of management efficiency and measure of the company's ability to generate results. Due to careful risk management of interest rates and the increase of business volume on the balance sheet, Operating Income reached 923 million euros, an increase of 1,1%. The reduction of Operating Costs by 3,2%, reflected the impact of processes rationalization involving

simplification and automation of operational processes, renegotiation of contracts with suppliers and increase of use of complementary channels. By its turn, Cost to income improved to 43,7%, due to the reduction of Operating Costs and the positive development of Operating Income.

Consolidated Net Income presented a growth of 14,8% to 241 million euros, due to the increase of Net Interest Income (explained by the strategic stake in financial disintermediation products such mutual funds and insurance that had effects in the increase of Net Commissions), the reduction of costs and the increase of operating income. Return on Equity (ROE) indicates the performance of the capital invested in the company measured by the ratio between the results for the year and total equity. This ratio reached 18,9% in 2003, a decrease of 1,2 percentage points, due to the increase in capital by 22,4%. Return on Assets (ROA) expresses the efficiency of a company in using its assets to generate earnings. This reached 0,8% (same value as the previous year).

The Solvability Ratios measure if an institution has sufficient capital to sustain operating losses and still honor the capital of depositors, functioning as a safety margin to cover unexpected losses. According to the rules from Bank of Portugal, the solvency ratio reached 11,8%. The ratio Core Tier I reached 8,8% (considering the values of the year), accomplishing a ratio superior to the 8% minimum established for Portuguese Banks (full computations in Annex 4). Regarding Market indicators, Group Totta presented a Price to Book value ratio of 1,97, which tells us that the shares are valued 1,97x its book value. The P/E ratio reached 12,24, which means that investors were willing to pay 12,24€ for every earning of the group. The group's market capitalization was valued in 2.953 million euros and each share in 28€.

The most frequently used indicators for measuring credit quality and the type of credit policy followed by a financial institution are Overdue Credit ratio and the Coverage Ratio by provisions. By analyzing the Overdue loans over total loans, we realize that 1,8% of the total credit must be regularized. Analyzing the same ratio over 90 days, the value decrease for 1,7%. These shows an improvement of 0,3 p.p. and 0,1 p.p., respectively, comparing to 2002. The coverage of overdue credit by provisions improved from 120,9% to 140,6%, in 2003. The coverage of overdue credit over 90 days by provisions improved from 138% to 147,1%, keeping in line with the prudential criteria adopted by the Group. Overall, the credit in default presents a coverage ratio over 143% (In Annex 5, we can analyze the income statements by business units of the group).

# 5. DATA AND METHODOLOGIES

In this chapter are presented the data and methodologies that supported the realization of this project.

## 5.1. Equity Cash Flow Valuation

When companies are trying to evaluate the existence of synergies, they need to make some forecasts and assumptions to compute the value added by the incorporation of the target firm. In this case, since the merger in question has already happened we could determine the value of each financial institution prior the merger and compare it to the real value of the combined group.

To perform the evaluation of a merger we should use the Enterprise Discounted Cash Flow Method. As already stated in the literature review, the most used approaches for non-financial institutions are the Free Cash Flow to the Firm and Free Cash Flow to Equity. According to Copeland et al. (2000: 261) and Koller et al. (2005: 664-669) we should use the Equity Cash Flow Approach for valuing financial institutions. The raw material in financial institutions is the money captured from depositors which is then converted into the finished product loans to costumers. This causes confusion between the financial and the operating result. To simplify and avoid this problem we should take the assumption that the cash flow to retain is in an Equity view (once we cannot separate the valuation of operations from interest income and expense). Besides that, in the enterprise approach we use the concept of invested capital, where we focus on the operating assets of a company and not in the way that assets of a company are financed. Yet, in a financial institution the core business are financial decisions, since these explains how banks generate earnings (Koller et al., 2005). Therefore, instead using the enterprise DCF approach, we should compute the Equity Cash Flow as follows:

$$\text{Equity Cash Flow} = \text{Net Income} - \text{Increase in Equity} + \text{Other Comprehensive Income} \qquad (5.1)$$

The previous formula started with Net Income since this represents the earnings available to shareholders after all expenses paid, including debt payments. However, we should have in mind the concept of cash flow and not net income by itself. It is important to consider equity variations, once as a financial institution grows, the level of equity should change otherwise its debt-to-equity ratio would rise. Increases in equity reduce equity cash flow once it means that the company is putting aside earnings that could be paid to shareholders (Koller et al., 2005). It is complicated to conclude about the amount of equity needed to face the growth of a company but we can forecast equity in relation to variations on other balance sheet items. Since a financial institution will increase or decrease both its assets and liabilities in the course of its operations,

the following equation represents the approach to forecast the variation in equity that affects equity cash flow (Koller et al.; 2005):

Equity Cash Flow = Net Income − Variations in Assets + Variations in Debt            *(5.2)*

In order to compute the synergies associated with the merger of the three financial institutions, we should compute the Equity Value, for 2003, of the Combined Firm (BST) and compare it to the sum of Equity Values, for 2003, of each of the three financial institutions (BTA, BSP and CPP). For the computation of equity cash flows, we should consider two different periods (as announced in the literature review), the time horizon and residual value.

We started with data collection from the account reports of BTA, CPP and BSP (stand-alone companies). From these, it was collected the financial statements from 1999 to 2003, namely, consolidated balance sheets and income statements, that were the base of the work as historical data. Taking into account the historical, we are going to forecast Equity Cash Flows of the stand-alone companies to a time horizon of 5 years, from 2004 to 2008. In order to keep the level of equity-to-assets and debt-to-equity ratio unaffected, the nominal growth rate is going to be used to forecast each financial item of the companies in analysis (equation 2.23) (Annex 6).

For the combined financial institution, since the merger had already happened, we are going to analyze the financial statements of BST in order to collect real data, for the time horizon between 2004 and 2008.

For the Residual Value, we consider a steady growth after 2008. In the literature review we presented the non-financial institutions approach to compute it. To follow an equity approach and compute this value for financial institutions we must follow the formula below:

$$\text{Residual Value} = \frac{\text{Net Income}\left(1-\frac{gn}{rone}\right)}{(re-gn)}$$            *(5.3)*

gn = growth of net income in the residual period

rone = Incremental return on new equity in the residual period

re = levered cost of equity

We are going to assume that the incremental return on new equity equals the return on equity for the residual value, and use this as a proxy.

To discount the Equity Cash Flows, the cost of equity is going be used. For this purpose we should use the Capital Asset Pricing Model (CAPM), equation 2.21. In order to realize the computations was collected the end of year Portuguese risk-free rate (government default-free bond) and expected market return (based on PSI-20), between 2004 and 2009 (Annex 7 and 8). Once Group Totta ceased to exist in 2004, a beta of 1 was assumed for the stand-alone companies BSP, BTA and CPP, meaning that the group has the same volatility as the market.

Between 2006-2007 and 2008-2009, respectively, it was considered betas between 1,1 and 1,3, since this period was characterized by an economic crisis that affected most financial institutions (Annex 7). For the combined company, we collected the leverage betas, between 2004 and 2009, through the ticker "Sant PL", denomination of group Santander in Euronext Lisbon (Annex 8). After computing Equity Cash Flows to the provisional period and discounting them to 2003, we reach Equity Values. By applying the number of shares from each financial institution on 2003, we should reach a target price (equation 2.31).

To realize if the company is creating value, in each year, we could use following formula:

$$\text{Economic Profit} = \text{Equity} * (\text{ROE} - \text{Cost of Equity}) \tag{5.4}$$

## 5.2. Relative Valuation Method

To verify if the valuation numbers computed through the Equity Cash Flow Valuation are accurate, we should compare them with market multiples. For evaluating the financial institutions, the equity multiples P/E and P/B ratios are going to be used:

$$\text{P/E} = {\text{Share Price}_{t=0}} / {\text{EPS}_{t=1}} \tag{5.5}$$

$$\text{P/B} = {\text{Share Price}_{t=0}} / {\text{Book Value}_{t=0}} \tag{5.6}$$

The P/E ratio compares the current share price with the earnings per share of a company. In general, when a company has a high P/E, it means that investors are expecting higher incomes, growth, or lower risk. This market multiple indicates the value that an investor is willing to pay per euro of earnings. The P/B ratio compares the current share price of a company to its book value per share. This multiple can reveal low-priced stocks, which disclose to investors that the asset value is undervalued, or that the company has a low return on assets or on equity.

For the valuation of the market multiples we are going to use median instead average values, since in a sample of multiples there could be companies with small profit or equity that culminates in extremely high multiples. Once there are companies that may be doing better or worse than the standard of the industry and can distort the pattern, the solution is to work with median values. In order to compute the possible market value of Santander-Totta, the median multiples of BES, BCP, BPI and BTA (companies from the same industry and with similar capital structure, size and importance in the Portuguese market, at the end of 2003) are going to be considered. Group Santander is also included in order to consider the group where BST was integrated. In accordance with the median multiples of the market, the possible Market Value of Santander-Totta should follow:

$$\text{Possible Market Value}_{t=0} = \text{Median P/E (market)} * \text{Net Income}_{t=1} \text{ (company)} \tag{5.7}$$

$$\text{Possible Market Value}_{t=0} = \text{Median P/B (market)} * \text{Equity}_{t=0} \text{ (company)} \tag{5.8}$$

## 5.3. Stock Market Reaction to the Announcement

Abnormal returns are computed through the difference between the actual equity return and the expected return, computed through the market model. In order to compute the expected returns, 250 observations are going to be considered, starting 5 days before the announcement date, an estimation period of [-255,-6] days.

The stock indexes PSI-20 and IBEX 35 are going to be used to value BTA and CPP, and BSCH, respectively. The abnormal returns are going to be computed for an event window of 11 days [-5,+5]. In order to analyze the existence of abnormal returns at the announcement day (t=0), taking into consideration the event window, we could compute the Cumulative abnormal returns between the first and last day of the event window [-5;+5] and analyze the difference between the average returns of the pre-event day period [-5;-1] and the average returns of the post-day event period [+1;+5] (Purnanandam and Swaminathan, 2006; Mellaci and Petrokas, 2012; Nagem and Hudson, 2013).

Afterwards, we should test the following hypothesis:

H0: The average of the Cumulative Abnormal returns from all the events between [-5;+5] is equal to zero, meaning that there were not abnormal returns in the event window.

H1: The average Cumulative Abnormal returns from all the events between [-5;+5] is different from zero, meaning that that there were abnormal returns in the event window.

To test the significance we could apply a simple t-test:

$$\text{t test} = \frac{\bar{x} - \Delta}{\frac{\sigma(x)}{\sqrt{n}}} \approx t_{(T-2)} \qquad (5.9)$$

$\bar{x}$- Average of the cumulative returns
$\Delta$ – Value to be tested (in this case zero)
$\sigma$ – Standard deviation from the difference
N –size of sample

H0: the average of the Cumulative Abnormal returns in [-5;-1] is statistically equal to the average of the Cumulative Abnormal returns in [+1;+5].

H1: the average of the Cumulative Abnormal returns in [-5;-1] is statistically different from the average of the Cumulative Abnormal returns in [+1;+5].

To test the significance we could apply the following test:

$$\text{Paired t test} = \frac{\bar{d} - \Delta}{\frac{\sigma(d)}{\sqrt{n}}} \approx t_{(T-2)} \qquad (5.10)$$

$\bar{d}$- Difference between pre-event Cumulative Abnormal returns and post-event Cumulative Abnormal returns.

If the average of the post-period is different and higher than the pre-period, it means that there were abnormal returns at the announcement and there was an unexpected shares value behavior.

# 6. CASE STUDY

## 6.1. Case Study Objectives

The main objective of this project is to determine whether the merger between the three commercial banks created value to shareholders or not. We start by analyzing the lifecycle of the merger once this restructuration involved the spin-off of the previous Group Totta, through the transfer of Foggia, SGPS, S.A and Taxagest SGPS to a new holding and the transfer of the business units of investment banking and insurance. Then, the deal structure of the main events that happened in the history of Santander in Portugal are analyzed:

- Acquisition of 94,38% stake in BTA and 70,57% in CPP, realized by BSCH at April 7th 2000;

- Public offer of acquisition realized through Santusa Holding, SL (subsidiary of BSCH) for the remaining shares of BTA and CPP, at April 18th 2000;

- Acquisition of 12,74% stake in BSP, realized by BSCH at June 30th 2003;

- Merger between the three commercial banks (BTA, CPP and BSP), concluded at December 16th, 2004.

After that, the premiums paid and the closing day prices of each financial institution are also going to be analyzed. Therefore, the synergies in the merger of the three commercial banks are going to be estimated through the use of the Discounted Cash Flow Method based on an Equity Cash Flow Approach. After the computation of premiums paid and synergies, we must realize if there was value created to shareholders. For that, it is necessary to assess if the synergies offset the premiums paid and the restructuration costs associated with the merger.

In order to check for the accuracy of the valuation we decided to perform a Relative Valuation with market multiples from financial institutions with similar size and capital structure. Another important point in a merger analysis is the evaluation of the stock reaction of the acquirer and target companies, in order to understand how the market reacted to the announcement.

## 6.2. Lifecycle of the Merger

We have seen that BSCH had direct and indirect participation in Santander Portugal, Totta & Açores and Crédito Predial Português, through Group Totta.

In January 20th, 2004 the previous financial institutions announced another possible corporate restructuration, with the merger of the three commercial banks that constitute Group Totta (CMVM, 2004a). With the aim of clarifying the market and customers in general, Group Totta confirmed the choice of this multi brand strategy (Totta, Crédito Predial and Santander) adapted

to the needs of different customer segments and markets. At August 19th, Group Totta announced in a general assembly the decisions made to all shareholders (CMVM, 2004b):

- Spin-off of Group Totta, by separating retail banking activities from holding activities, with which should be constituted a new SGPS;

- Merger of BTA (the remaining from the splitting) and BSP, for incorporation into CPP;

- The shareholders from BTA ("BSCH Participações" and "Santusa Holding, SL") should participate in the capital of the new holding in the proportion of the shares owned in BTA. Which should guarantee the same market capitalization for each shareholder;

- The capital from CPP should be increased through the issuance of new shares in BTA and BSP. These increase of the number of shares should follow the exchange ratio of 0,3145 for BTA and 0,9242 for BSP;

- BSCH through its subsidiary "Santusa Holding, SL" (shareholder of BTA) committed to purchase all shares from minority shareholders of BTA and BSP that wanted to sell these. It was offered 36 euros for BTA shares and 22,74 euros for BSP, the fair value of the shares since shareholders had appraisal rights, which allowed them to demand an acquisition at a fair value.

At October 15th, the merger was approved and consisted in two main events: the concentration of the majority of stock holdings in a single stock holdings' management company and the concentration in a single entity of Totta e Açores, Crédito Predial Português and Santander Portugal. This merger is then a consolidation, since it involved the creation of a new legal entity and required 2/3 of votes from shareholders to the approval of the merger. Since the consolidation was realized between three financial institutions, we can consider it an horizontal merger, once the companies involved belong to the same industry.

At December 16th, 2004 the merger started with the spin-off of Group Totta through the segregation of Totta Seguros and Foggia, SGPS, in order to incorporate the new holding Santander-Totta, S.G.P.S.

After that, it took place a merger by incorporating BTA, BSP and the remaining participations of Group Totta, in CPP. The companies under the merger adopted the designation of Santander-Totta S.A. (BST).

Through the share capital of the absorbing company CPP (280 million euros) and the new shares issued in BTA and BSP that allowed an increase of capital around 166.431.00 euros and 143.380.000 euros, respectively, the share capital of Santander-Totta was formed, as we can see in following table:

| | CPP | BTA [1] | BSP | BST |
|---|---|---|---|---|
| Share capital excluding own shares | 280.000.000 | 105.827.500 | 155.138.000 | **589.810.510** |
| Nominal value per share | 5 | 1 | 5 | **1** |
| Number of shares | 56.000.000 | 105.827.500 | 31.027.592 | **589.810.510** |
| Shareholders' Funds on 30.06.04 | 656.535.762 | 390.503.475 | 336.339.097 | |
| Shareholder's Funds on 31.12.04 | | | | 1.559.475.000 |
| Book value per share | 11,72 | 3,69 | 10,84 | **2,65** |
| Exchange Ratio | | 0,3145 | 0,9242 | |
| New shares issued | | 33.282.281 | 28.675.821 | **61.962.102** |
| Increase in Capital | | 166.431.405 | 143.379.105 | **309.811.510** |

Table 12 – Capital from the new financial institution Santander-Totta
Source: Account Report from "Banco Santander-Totta"2004 and author computations
[1] Values after the spin-off of BTA

The new shares issued can be computed through equation 2.8, exposed in the literature review.
New shares issued (BTA) = 0,3145 ∗ 105.827.500 = 33.282.281

New shares issued (BSP) = 0,9242 ∗ 31.027.592 = 28.675.821

The increase of capital was realized, with a nominal value of 5 euros a share:

Increase in capital (BTA) = 33.286.281 ∗ 5 = 166.431.405

Increase in capital (BSP) = 28.675.821 ∗ 5 = 143.379.105

It was established a merger reserve to record the difference between the equity of BSP and Totta (after spin-off) and the capital increased (Annex 9).

The difference between Group Totta before and after the spin-off corresponds to the book value of the participations of Foggia, SGPS, S.A. and Totta Seguros, as we can see in the following table:

| | Nr of shares | Book value (values in thousands of euros) |
|---|---|---|
| Foggia, SGPS, S.A | 210.053.923 | 1.486.294 |
| Totta Seguros, SA | 22.500.000 | 22.500 |
| | | **1.508.794** |

Table 13 - Impact of the spin-off in Totta & Açores
Source: "Banco Santander-Totta", Account Report 2004

The process of the merger is still characterized by the increase of capital in Foggia, SGPS, S.A., totally subscribed by Santusa Holding, SL (with the corresponding shares that have been assigned from the capital of Santander-Totta S.A.).

With the spin-off, BTA that previously held 100% of Foggia, SGPS, S.A. ceased their participation and Foggia, SGPS new shareholders were Santander-Totta SGPS and Santusa Holding, SL.

To allow the concentration of the majority of ownership, the shareholders BSCH and Santusa Holding, SL transferred all shares to Foggia, SGPS, S.A.. This last transaction was realized in order to concentrate the shares in a single entity, once Foggia, SGPS, S.A. would be included

in the merger (being integrated in Santander-Totta SGPS). This would allow Santander-Totta SGPS to assume direct control of almost all Santander-Totta.

### 6.3. Deal Structure

#### 6.3.1. Acquisition of BTA and CPP stake (April 7th, 2000)

Due to the agreement realized with António Champalimaud and Caixa Geral de Depósitos, at April 7th 2000, BSCH repurchased 94,38% of BTA and 70,57% of CPP.

The purchase of 94,38% of BTA recorded a transaction value of 1.156,72 million euros (Annex 10). According to Bloomberg, the transaction value was computed through the equity announced plus the net debt of the target company. By its turn, the equity value was computed through:

Equity Value = (% sought * shares outstanding + number of ex options) *

announced deal price − option exercise value                                    *(6.1)*

This transaction was characterized by cash and stock terms:

- 6,0149 million euros in cash;

- 101,0456 million shares of BSCH, trading at approximately 11,3879 euros.

Value Paid = 6.014.900 + (101.045.600 * 11,3879) = 1.156.720.000 euros

Considering the share capital of 60.000 million escudos (current currency) in 1999, and a nominal value per share of 1000 escudos, we reached 60.000.000 shares. By taking into consideration the average quotation of the last 20 observations in the stock exchange, we can compute the market value of the corresponding shares to be acquired:

Market Value = 56.628.000 * 26,235 = 1.485.635.580

Considering the market value and value paid, through equation 2.4 we can compute the implied premium:

Premium = 1.156.720.000 − 1.485.635.580 = − 328.915.580

By its turn, the acquisition of 70,57% of CPP happened for 298,61 million euros (Annex 11). The terms of the deal are undisclosed. Considering the share capital of 33.000 million escudos, in 1999, and a nominal value per share of 1000 escudos, we reached 33.000.000 shares. By taking into consideration the average quotation of the last 20 observations in the stock exchange, we can compute the market value of the shares to be acquired:

Market Value = 23.288.100 * 13,823 = 321.911.406

Considering the market value and value paid, through equation 2.4 we can compute the implied premium:

$$Premium = 298.610.000 - 321.911.406 = -23.301.406$$

According to Bloomberg, the operations did not registered any premiums, probably, once these acquisitions resulted from the agreement realized in the previous year between BSCH, António Champalimaud and CGD, imposed by the Portuguese government (Annex 10 and 11). This could mean that BTA and CPP's shares already reflected the valorization from the acquisition (the market anticipated the acquisition). Since we achieve negative premiums, it will be considered a null value.

### 6.3.2. Public offer of acquisition for BTA and CPP (April 18th, 2000)

In April 18th, 2000, Santusa Holding, SL (subsidiary of BSCH) announced a public offer of acquisition for the remaining shares of BTA and CPP. For each share of BTA it was offered 28,2€ and for CPP 14,35€ (CMVM, 2000l) (Annex 12 and 13). Both transactions were launched in April, but just concluded at December 31st, 2000 and November 24th, 2000, respectively.

The acquisition of BTA translated into 4,22% of ownership and registered a transaction value of 40,61 million euros, with a cash payment corresponding to 28,20€ per share.

Looking at the announcement day, the price paid per share implied a 1,4% premium versus BTA last day price of 27,8092€. Comparing to the end of the transaction, the price paid implied 6,38% premium versus BTA last price of 26,509€.
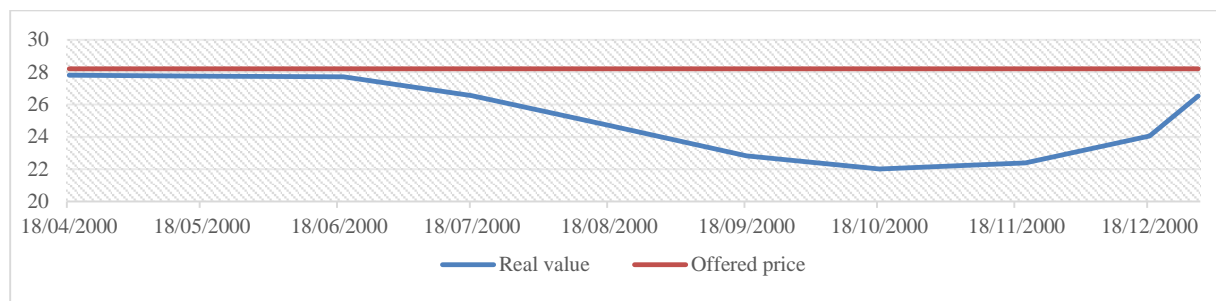


Figure 6- Real Value vs Offered Value, April 18th – December, 31st, 2000, BTA

Source:  Bloomberg

According to Bloomberg, the announced deal price offered a valorization of 6,54% compared to 20 day pre-announced average prices. By comparing this premium to the offered price of 28,2€ we conclude that we have a valorization of 6,54% over 26,4689€.

By valuing the company at 40,61 million euros (equity plus net debt) and offering 28,2€ per share, we can conclude that BSCH acquired 1.440.071 shares. Considering the average quotation of the last 20 observations in the stock exchange, we reach:

$$Market\ Value_{BTA} = 1.440.071 * 26,4689\ € = 38.117.095,29€$$

The premium should be obtained by taking the corresponding market value of 4,22% from BTA to the cash paid (Equation 2.4):

Premium = 40.610.000€ − 38.117.095€ = 2.492.906 €

In CPP, 8.830.097 shares were acquired until July 2000, allowing BSCH to hold 97,4% of CPP (acquisition of 26,74% of ownership). In November, 2000, 852.133 shares were acquired, totalizing an ownership of 100% (acquisition of 2,58%).

The acquisition of CPP translated into 29,34% of ownership and registered a transaction value of 138,94 million euros, also with a cash payment, corresponding to 14,35€ per share. At the announcement day, the price paid per share implied a 1,49% premium versus CPP last day price of 14,14€. Comparing to the end of the transaction, the price paid implied a 2,8% premium versus CPP last price of 13,96€.
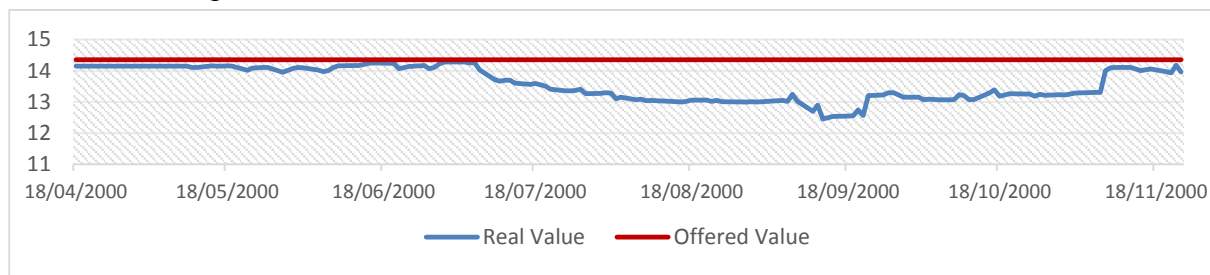


Figure 7- Real Value vs Offered Value, April 18th – November, 24th, 2000, CPP
Source: Bloomberg

According to Bloomberg, the announced deal price offered a valorization of 3,69% compared to 20 day pre-announced average prices. By comparing this premium to the offered price of 14,35€ we conclude that we have a valorization of 3,69% over 13,8393€.

By valuing the company at 138,940 million euros at 14,35€ a share, we can conclude that BSCH acquired a total of 9.682.230 shares. Considering the average of the last 20 observations in the stock exchange, we reach:

Market Value$_{CPP}$ = 9.682.230 ∗ 13,8393 € = 133.995.287€

The premium is obtained by comparing the corresponding market value of 29,34% from CPP with the cash paid (Equation 2.4):

Premium = 138.940.000€ − 133.995.287€ = 4.944.714,86 €

It is important to notice that the shares of CPP were delisted from the stock exchange since November, 24th. BSCH owned more than 90% of the company, which allowed to launch a compulsory offer. With this public offer, BSCH became owner of 98,6% of BTA and 100% of CPP.

The fact that BSCH already were a major shareholder in BTA and CPP, explains why the premiums paid were low.

### 6.3.3. Acquisition of BSP stake (June 30th, 2003)

In June 30th, 2003 BSCH exercised an option in order to acquire the remaining 12,74% of "Banco Santander Portugal" (3.964.876 shares) hold by The Royal Scotland Bank Plc (CMVM, 2003a). The transaction registered a value of 90,12 million euros and was fully realized with cash (Annex 14).

BSP is delisted from the stock exchange since the integration in Santander brand. For this reason, we could not compute the premium implied in this transaction. By acquiring 12,74% of BSP for 90,12M euros, BSCH valued the bank at 707,4M euros and each share at 22,74€.

### 6.3.4. Merger between BSP, BTA and CPP (December 16th, 2004)

The merger was announced in January 20th, 2004, but only at August 19th the terms were approved by the shareholders (CMVM, 2004c). The terms were already mentioned in the lifecycle of the merger, but it is important to highlight that BSCH, through its subsidiary Santusa Holding, SL, committed to buy to minority shareholders the remaining shares of BTA and BSP.

The share price offered for BTA was the fair value, considering the trading value in the market of 36€. For BSP, it was offered the same share price as the acquisition of 12,74% to Royal Bank, 22,74€.

The definition of the offer was based on the fact that previous shareholders were entitled to appraisal rights, which allow them to demand an acquisition at the fair value.

Until that day, BSCH, directly and indirectly owned the majority of capital from BTA and BSP, with the exception of 0,64% and 2,07%, respectively.

The offer for BTA shareholders was valid for a period of 3 months, being restricted to a total amount of 24.253.200€, equivalent to the total shares owned by minority shareholders (673.700 shares). The offer for BSP shareholders was also valid for a period of 3 months, being restricted to a total amount of 14.538.887€, equivalent to the total shares owned by minority shareholders (639.353 shares).

Considering the acquisition of all the dispersed shares, the merger involved a transaction value of 38.792.087 euros, at a fair value.

## 6.4. Equity Cash Flow Valuation

### 6.4.1. Valuation of the stand-alone financial institutions

Taking into account the historical data of each financial institution (Annex 15) and the nominal growth rates, as explained in point 5.1, we forecasted the financial items necessary to compute Equity Cash Flows (equation 5.2):

| BTA | Forecasted Values | | | | |
|---|---|---|---|---|---|
| | 2004 | 2005 | 2006 | 2007 | 2008 |
| Variation of Debt | 1.064.560 | 905.381 | 1.348.261 | 1.350.482 | 824.601 |
| Variation of Assets | 1.134.498 | 964.862 | 1.436.837 | 1.439.204 | 878.775 |
| Net Income | 250.728 | 258.803 | 270.828 | 282.874 | 290.228 |
| Equity Cash Flow | 180.790 | 199.323 | 182.252 | 194.151 | 236.055 |

Table 14 – Equity Cash Flow to BTA (values in thousands of euros)
Source: Authors Computation

| Santander Portugal | Forecasted Values | | | | |
|---|---|---|---|---|---|
| | 2004 | 2005 | 2006 | 2007 | 2008 |
| Variation of Debt | 180.454 | 153.471 | 228.544 | 228.920 | 139.778 |
| Variation of Assets | 193.114 | 164.239 | 244.578 | 244.981 | 149.585 |
| Net Income | 40365 | 41665 | 43601 | 45540 | 46724 |
| Equity Cash Flow | 27.704 | 30.897 | 27.566 | 29.479 | 36.917 |

Table 15 – Equity Cash Flow to Santander Portugal (values in thousands of euros)
Source: Authors Computation

| Crédito Predial Português | Forecasted Values | | | | |
|---|---|---|---|---|---|
| | 2004 | 2005 | 2006 | 2007 | 2008 |
| Variation of Debt | 544.500 | 463.083 | 689.606 | 690.742 | 421.766 |
| Variation of Assets | 570.302 | 485.027 | 722.284 | 723.474 | 441.752 |
| Net Income | 56.739 | 58.566 | 61.287 | 64.013 | 65.677 |
| Equity Cash Flow | 30.937 | 36.622 | 28.609 | 31.281 | 45.691 |

Table 16 – Equity Cash Flow to Crédito Predial Português (values in thousands of euros)
Source: Authors Computation

The cost of equity was computed as explained in point 5.1.

| Group Totta | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|
| Beta Leverage | 1 | 1 | 1,1 | 1,1 | 1,3 | 1,3 |
| RF | 4,22% | 4,39% | 4,70% | 4,02% | 3,97% | 4,07% |
| Expected Market Return | 8,77% | 10,31% | 9,77% | 10,80% | 12,36% | 11,58% |
| Country Risk Premium *[1*(rm-rf)]* | 4,55% | 5,92% | 5,08% | 6,78% | 9,36% | 7,51% |
| Equity Risk Premium *[Beta*(rm-rf)]* | 4,55% | 5,92% | 5,57% | 7,46% | 10,91% | 9,76% |
| Cost of Equity (re) | 8,77% | 10,31% | 10,27% | 11,48% | 14,88% | 13,83% |

Table 17 - Cost of Equity to Group Totta
Source: Bloomberg

To compute the residual value we used equation 5.3, explained in point 5.1. In the nominal growth rate, it was considerate the value of 2008, assuming a steady growth since this date (Annex 6).

| BTA | 2009 |
|---|---|
| Net Income (thousands of euros) | 297.774 |
| Growth rate in the residual period | 2,6% |
| ROE | 13,58% |
| Cost of Equity | 13,83% |
| Residual Value  (thousands of euros) (2008) | 2.143.154 |

Table 18 – Residual Value to BTA
Source: Authors computation

| Santander Portugal | 2009 |
|---|---|
| Net Income (thousands of euros) | 47.939 |
| Growth rate in the residual period | 2,6% |
| ROE | 12,07% |
| Cost of Equity | 13,83% |
| Residual Value  (thousands of euros) (2008) | 334.853 |

Table 19 – Residual Value to Santander Portugal
Source: Authors computation

| Crédito Predial Português | 2009 |
|---|---|
| Net Income (thousands of euros) | 67.385 |
| Growth rate in the residual period | 2,6% |
| ROE | 8,33% |
| Cost of Equity | 13,83% |
| Residual Value  (thousands of euros) (2008) | 412.578 |

Table 20 – Residual Value to Crédito Predial Português
Source: Authors computation

By discounting Equity Cash Flows at the cost of equity to 2003 (the year before the merger) we reached the Equity Value.

| BTA | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Residual |
|---|---|---|---|---|---|---|---|
| Equity Cash Flow | | 180.790 | 199.323 | 182.252 | 194.151 | 236.055 | 2.143.154 |
| PV  Equity Cash Flow | | 166.210 | 166.121 | 137.746 | 131.626 | 139.304 | 1.264.749 |
| Equity Value | 496.962 [1] | | | | | | |
| Nr. Shares | 105.827.500 | | | | | | |
| Price Target (Euros) | 4,7 | | | | | | |

Table 21 – Equity Value to BTA (Values in thousands of Euros)
Source: Authors computation
[1] After deducing the value of Foggia SPGS, SA and Totta Seguros

The consolidated balance sheet of BTA included the participations of the subsidiaries Foggia, SGPS, Totta Seguros, and consequently, other indirect participations.

Since Foggia, SGPS and Totta Seguros were split from Group Totta, these were excluded from the computation of the Equity Value by removing their book value (presented in table 13) in order to accurately compare the equity value from the three stand-alone financial institutions with Santander-Totta. Without the value of these subsidiaries, it is estimated an Equity Value of 496.962.000 euros and a price target of 4,7€, in 2003.

The last price registered for BTA, in 2003, was 27,9 euros. This last result included the whole group, therefore, it is not comparable to our price target. We can take as reference the book value of the shares after the spin-off, of 3,69 euros (table 12).

| Santander Portugal | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Residual |
|---|---|---|---|---|---|---|---|
| Equity Cash Flow | | 27.704 | 30.897 | 27.566 | 29.479 | 36.917 | 334.853 |
| PV Equity Cash Flow | | 25.470 | 25.750 | 20.834 | 19.985 | 21.786 | 197.609 |
| Equity Value | 411.434 | | | | | | |
| Nr. Shares | 31.116.036 | | | | | | |
| Price Target (Euros) | 13,22 | | | | | | |

Table 22 – Equity Value to Santander Portugal (Values in thousands of Euros)
Source: Authors computation

For BSP, it is estimated an Equity Value of 411.434.000 euros and a price target of 13,22 euros, in 2003. Santander Portugal is delisted from the stock exchange since 1996, when was integrated in the Spanish Group Santander. As reference, we can look for the book value of 10,84 euros after the spin-off of BTA (table 12).

| Crédito Predial Português | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Residual |
|---|---|---|---|---|---|---|---|
| Equity Cash Flow | | 30.937 | 36.622 | 28.609 | 31.281 | 45.691 | 412.578 |
| PV Equity Cash Flow | | 28.442 | 30.522 | 21.623 | 21.207 | 26.964 | 243.476 |
| Equity Value | 772.234 | | | | | | |
| Nr. Shares (2003) | 56.000.000 | | | | | | |
| Price Target (Euros) | 13,79 | | | | | | |

Table 23 – Equity Value to Crédito Predial Português (Values in thousands of Euros)
Source: Authors computation

For CPP, it is estimated an Equity Value of 772.234.000 euros and a price target of 13,79 euros, in 2003. CPP is delisted from the stock exchange since November 2000, when was acquired by BSCH and included in BTA. The last trading result was 13,86 euros (November 23rd, 2000). The book value of the shares after the spin-off of BTA was 11,72 euros (table 12).

### 6.4.2. Valuation of the combined financial institution

For the analysis of the combined company we consider the same period (from 2004-2008), in order to compare the analysis of the stand-alone financial institutions.

It is important to notice that the merger happened at December 16th 2004, starting to produce accounting results from that date. For this computation we considerate the audited results from 2004, that only included 15 days of results from the incorporated companies BTA and BSP. The results from the rest of the year were included in a merger reserve. Regarding the subsidiaries of BTA and BSP, these were integrated by a consolidation method and were only take into account the last 15 days of the year income.

In the following table, we can observe the computation of Equity Cash Flow between 2004 and 2008:

| Santander-Totta | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|
| Variation of Debt | | 614.114 | -479.880 | 4.177.818 | 2.085.938 |
| Variation of Assets | | 659.117 | 84.511 | 4.252.864 | 2.339.728 |
| Net Income | 54.672 | 296.996 | 353.914 | 387.619 | 438.401 |
| Equity Cash Flow | 54.672 | 251.993 | -210.477 | 312.573 | 184.611 |

Table 24 – Equity Cash Flow to Santander-Totta
Source: Authors computation

Equity Cash Flow in 2006 is negative, once new equity capital was raised.

The computation of equity cost was computed as explained in point 5.1.

| Santander- Totta | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|
| Beta Leverage | 0,980 | 0,745 | 1,003 | 0,911 | 1,116 | 1,272 |
| RF | 4,22% | 4,39% | 4,70% | 4,02% | 3,97% | 4,07% |
| Expected Market Return | 8,77% | 10,31% | 9,77% | 10,80% | 12,36% | 11,58% |
| Country Risk Premium *[1*(rm-rf)]* | 4,55% | 5,92% | 5,06% | 6,78% | 8,39% | 7,51% |
| Equity Risk Premium *[Beta*(rm-rf)]* | 4,46% | 4,41% | 5,08% | 6,18% | 9,36% | 9,55% |
| Cost of Equity (re) | 8,68% | 8,80% | 9,78% | 10,20% | 13,34% | 13,62% |

Table 25 – Cost of Equity to Santander-Totta
Source: Bloomberg

To compute the residual value we used the equation 5.3, explained in point 5.1. In the nominal growth rate, it was considerate the value of 2008, assuming that banks reached a steady growth since this date (Annex 6).

| Santander-Totta | 2009 |
|---|---|
| Net Income (thousands of euros) | 452.996 |
| Growth rate in the residual period | 2,6% |
| ROE | 16,59% |
| Cost of Equity | 13,62% |
| Residual Value (thousands of euros) (2008) | 3.400.510 |

Table 26 – Residual Value to Santander-Totta
Source: Authors computation

By discounting Equity Cash Flows at the cost of equity to 2003 (the year before the merger) we reached the Equity Value.

| Santander-Totta | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Residual |
|---|---|---|---|---|---|---|---|
| Equity Cash Flow | | 54.672 | 251.993 | -210.477 | 312.573 | 184.611 | 3.400.510 |
| PV Equity Cash Flow | | 50.305 | 213.110 | -162.142 | 218.504 | 113.866 | 2.097.388 |
| Value Creation | | -80.664 | 155.833 | 141.841 | 158.777 | 105.337 | |
| Equity Value | 2.531.030 | | | | | | |
| Nr. Shares (2003) | 589.810.510 | | | | | | |
| Price Target (Euros) | 4,29 | | | | | | |

Table 27 – Equity Value to Santander-Totta (Values in thousands of Euros)
Source: Authors computation

It is estimated that, in 2003, Santander-Totta had an Equity Value of 2.531.030.000 euros and a price target of 4,29 euros. Through equation 5.4, we can estimate if the financial institution is creating or destroying value. Besides 2004 (that only accounted with 15 days after the merger), the financial institution created value systematically.

### 6.4.3. Synergies

By comparing the Equity Value of Santander-Totta and the sum of the Equity Values from the three commercial banks, we can take as conclusion the existence of synergies.

| | 2003 |
|---|---|
| Equity Value BST | 2.531.030 |
| Equity Value BSP | 411.434 |
| Equity Value CPP | 772.234 |
| Equity Value BTA (After spin-off) | 496.962 |
| **Synergies** | **850.400** |

Table 28 – Synergies of the merger (values in thousands of euros)
Source: Authors computation

We conclude that the merger of the three commercial banks created 850 million euros of synergies, pointing to a valorization around 51%.

## 6.5. Economic Value Added

The economic value added to the acquirer shareholders is not translated into the obtained synergies. Besides the value of merger gains we need to have into consideration the total merger premiums paid and restructuration costs associated with the merger. The restructuration costs are already included in the accounting of Santander-Totta. Although, it is important to have in mind that the major costs associated with a merger are Integration Costs (software, hardware and marketing), Termination Costs (associated to layoffs and early retirements) and Consulting, Audit and Legal Costs (associated costs with the merger presented in Annex 16).

Regarding the premiums, we saw that BSCH only paid over the fair value at April 18th, 2000, with the tender offer realized to BTA and CPP. The acquisition realized at April 7th was an imposition of the Portuguese government (agreed in the previous year) and the merger at December 16th, 2004, was realized in order to establish a single commercial structure and a Portuguese holding that should manage the bank according with the Portuguese law, which could explain the inexistence of premiums, once the market may have anticipated the acquisitions. The fact that BSCH already were a major shareholder in BTA and CPP, explains why the premiums paid at April 18th were low.

The gain for the sellers, corresponds to the premiums paid by BSCH:

| Gain for Seller Shareholders | Gain for BTA | Gain for CPP |
|---|---|---|
| Share Acquisition Price | 28,200 | 14,35 |
| Market Value Prior to the Acquisition | 26,4689 | 13,8393 |
| Gain (or Premium) per Share | 1,7311 | 0,5107 |
| Premium as a % of Prior Market value | 6,54% | 3,69% |
| Total Gain for the Sellers | 2.492.906 | 4.944.715 |

Table 29 – Economic value added to seller shareholders (values in euros)
Source: Authors computation

For the acquirer, the economic value added corresponds to the computed synergies less the premiums paid.

| Gain for acquirer shareholders | |
|---|---:|
| PV of Synergies | 850.400.000 |
| Prior Market Capitalization of BSCH | 49.077.977.600 |
| Prior Market Capitalization | |
|   BTA | 38.117.095 |
|   CPP | 133.995.285 |
| Total Value after the Acquisition | 50.100.489.980 |
| Acquisition Price | |
|   BTA | 40.610.000 |
|   CPP | 138.940.000 |
| Difference | 49.920.939.980 |
| Prior Market Capitalization of BSCH | 49.077.977.600 |
| Value Created to BSCH Shareholders | 842.962.380 |

Table 30 – Economic value added to acquirer shareholders (values in euros)
Source: Authors computation

## 6.6. Relative Valuation Method

To compute the implied multiples for BST we used equations 5.5 and 5.6, presented in point 5.2.

| | Equity Value | Net Income | Equity | P/E | P/B |
|---|---|---|---|---|---|
| BST | 2.531.029.745 | 296.996.000 | 1.559.000 | 8,52 | 1,62 |

Table 31 –Implied multiples for Santander-Totta
Source: Account Report and own computations

By computing P/E and P/B ratios we achieved a value of 8,52x and 1,62x, respectively. This tell us that BST has a market value 8,52 higher than its earnings and that its shares were trading for a value 1,62 higher than the book value. As mentioned, the median values of BES, BCP, BTA, BPI and Santander were used to evaluate and reinforce the DCF valuation.

| | Share Price | # Shares | Book Value | Equity | Market Capitalization | Net Income | EPS |
|---|---|---|---|---|---|---|---|
| BST | 4,3 [1] | 589.810.510 | 2,64 | 1.559.000 | 2.531.030 [1] | 296.996 | 0,5 |
| BES | 3,51 | 1.111.649 | 1,67 | 1.861.607 | 3.900.000 | 250.200 | 0,23 |
| BCP | 1,77 | 3.020.267 | 0,83 | 2.517.241 | 5.345.873 | 437.654 | 0,14 |
| BTA | 27,90 | 105.800 | 14,17 | 1.499.069 | 2.951.820 | 241.233 | 2,28 |
| BPI | 2,92 | 760.000 | 1,86 | 1.413.375 | 2.219.000 | 163.800 | 0,24 |
| SANT SM | 9,39 | 4.768.000 | 6,43 | 30.665.424 | 44.771.520 | 2.610.800 | 0,63 |

Table 32 – Indicators of Santander-Totta and comparable companies (values in thousands of euros)
Source: Bloomberg
1) Implied value computed through Equity Cash Flow Valuation

| Equity Approach | P/E | P/B |
|---|---|---|
| BES | 15,59 | 1,86 |
| BCP | 12,22 | 2,12 |
| BTA | 12,24 | 1,96 |
| BPI | 12,41 | 1,57 |
| SAN SM | 14,87 | 1,46 |
| Median | 12,41 | 1,86 |

Table 33 - Market Multiples of comparable companies (values from 2003).
Source: Bloomberg

Looking for the market, we reached a median value of 12,41x and 1,86x for P/E and P/B, respectively. By computing the median market multiples we can reach the possible market value of Santander-Totta and compare it to the valuation realized. To compute the possible market value we used equations 5.7 and 5.8, explained in point 5.2.

| Multiples | Denominator | Possible Market Value | Equity Value Santander-Totta [1] |
|-----------|-------------|----------------------|----------------------------------|
| P/E | 296.996.000 | 3.685.423.364 | 2.531.029.745 |
| P/B | 1.559.000.000 | 2.899.740.000 | 2.531.029.745 |

Table 34 - Market Capitalization of Santander-Totta through multiples valuation (values in euros)
Source: Authors Computations
[1] Estimated through Equity Cash Flow Valuation

We can conclude that the possible market value obtained with the median market multiples P/E and P/B is well above the valuation realized through the Equity Cash Flow Method, by at least 15% (according to P/B) and up to 46% (according to P/E). Therefore, the valuation obtained with the DCF Method is quite conservative when compared to relative market value.

## 6.7. Stock Market Reaction to the Announcement

### 6.7.1. Acquisition of BTA and CPP stake (announced at April 7th, 2000)

It is important to analyze the reaction for the acquirer firm BSCH and for the targets BTA and CPP. To analyze the expected returns it was considered an estimation period between 25th March 1999 (t=-255) and 30th March 2000 (t=-6, five days before the announcement).

In this study we used PSI 20 and IBEX 35 as market indicators (indicated in point 5.3). However, there are other global indexes that could be used (Annex 17).

The real returns of each share and the linear regressions computed to estimate the expected returns can be consulted in Annex 18.

| | BTA | | | | CPP | | | | BSCH | | | |
|---|-------|------|-------|------|-------|------|------|------|-------|-------|-------|-------|
| | AR | test | CAR | Test | AR | test | CAR | test | AR | test | CAR | Test |
| -5 | 3,13% | 1,02 | 3,13% | 0,31 | 2,21% | 1,05 | 2,21% | 0,32 | -1,86% | -1,26 | -1,86% | -0,38 |
| -4 | -0,13% | -0,04 | 3,00% | 0,29 | 0,59% | 0,28 | 2,80% | 0,40 | 1,84% | 1,25 | -0,02% | 0,00 |
| -3 | -1,28% | -0,42 | 1,71% | 0,17 | 0,40% | 0,19 | 3,20% | 0,46 | 1,75% | 1,19 | 1,73% | 0,35 |
| -2 | 1,27% | 0,41 | 2,99% | 0,29 | 0,40% | 0,19 | 3,60% | 0,52 | -0,23% | -0,16 | 1,50% | 0,31 |
| -1 | -0,13% | -0,04 | 2,85% | 0,28 | -2,49% | -1,18 | 1,11% | 0,16 | -4,54% | **-3,08** | -3,04% | -0,62 |
| **0** | **1,77%** | **0,57** | **4,62%** | **0,45** | **-0,33%** | **-0,16** | **0,77%** | **0,11** | **0,73%** | **0,50** | **-2,30%** | **-0,47** |
| 1 | 0,61% | 0,20 | 5,22% | 0,51 | 1,10% | 0,52 | 1,87% | 0,27 | 1,93% | 1,31 | -0,37% | -0,08 |
| 2 | 1,15% | 0,37 | 6,38% | 0,62 | 1,74% | 0,82 | 3,60% | 0,52 | 0,21% | 0,14 | -0,16% | -0,03 |
| 3 | -0,10% | -0,03 | 6,28% | 0,61 | 0,15% | 0,07 | 3,75% | 0,54 | 0,69% | 0,47 | 0,54% | 0,11 |
| 4 | -0,16% | -0,05 | 6,11% | 0,60 | -0,08% | -0,04 | 3,67% | 0,53 | 1,65% | 1,12 | 2,19% | 0,45 |
| 5 | 0,42% | 0,14 | 6,53% | 0,64 | 0,94% | 0,44 | 4,61% | 0,66 | 0,38% | 0,26 | 2,56% | 0,52 |

Table 35 - Abnormal and Cumulative Abnormal Returns of BTA, CPP and BSCH at April 7th, 2000
Source: Authors computation

At the announcement date, we realize an abnormal return (AR) of 1,77% for BTA (Equation 2.34), not statistically significant for a significance level of 5%. This means that the null hypothesis that the AR in the announcement date is equal to zero is not rejected, meaning that the market did not react to the acquisition realized by BSCH.

By analyzing CPP, we can realize that the AR at the announcement date was negative (-0,33%). Comparing to positive abnormal returns before the announcement, this may indicate leakage of information before the event. However, the results computed are not statistically significant, for a significance level of 5%.

For BSCH, we can realize an abnormal return of 0,73% at the announcement date, not statistically significant, for a significance level of 5%. In the day before the announcement, BSCH presented a negative abnormal return of -4,54%, being statistically significant for 5% significance level. This negative reaction may indicate leakage of information regarding the announcement of the acquisition.

We should take as conclusion that the market did not react atypically to the acquisition of BTA and CPP, once this was part of an agreement realized between António Champalimaud, BSCH and CGD in the previous year. We should have in mind that the market may have anticipated the acquisitions and BTA and CPP's shares already included the associated valorizations.

To analyze the existence of abnormal returns at the announcement date, considering the event window, we can compute the Cumulative abnormal returns between the first and last day of the event window [-5;+5] and analyze the difference between the average of the pre-event day period [-5;-1] and post-day event period [+1;+5], as explained in point 5.3.

To test the first hypothesis announced in point 5.3, we used equation 5.9. The following table shows the test results for the average of the Cumulative abnormal returns in the event window [-5;+5] for BTA (results of CPP and BSCH can be consulted in Annex 19):

| t-Test 1-sample | |
|---|---|
| Confidence Level | 0,95 |
| N | 11 |
| **Average** | **0,59%** |
| T | **-1,650** |
| p - One sided | 0,065028 |
| **p - two sided** | **0,130057** |

Table 36 - Significance test of the average cumulative returns at event window, in BTA at April 7th 2000
Source: Authors computation

By analyzing the results of the three financial institutions (BTA, CPP and BSCH), we realize that the average of Cumulative abnormal returns in the event window is not statistically

significant, for a significance level of 5%. Meaning that there were not abnormal returns in the event window [-5;+5].

For testing the second hypothesis announced in point 5.3, we used equation 5.10. The following table shows the test results for the difference between the average of the Cumulative abnormal returns in [-5;-1] and the average of the Cumulative abnormal returns in [+1;+5]:

| | *Before* | *After* |
|---|---|---|
| Mean | 0,005704 | 0,003823 |
| Variance | 0,000287 | 2,93E-05 |
| Observations | 5 | 5 |
| Df | 4 | |
| t Stat | **0,278** | |
| P(T<=t) one-tail | 0,397 | |
| T Critical one-tail | 2,132 | |
| **P(T<=t) two-tail** | **0,795** | |
| T Critical Two-tail | 2,776 | |

Table 37- Significance Test for the difference between average cumulative returns, in BTA at April 7th, 2000
Source: Authors computation

The result of the test, in BTA, indicates that the average of Cumulative abnormal returns in [-5;-1] is statistically equal to the average of Cumulative abnormal returns in [+1,+5], for a significance level of 5%. This means that there were not abnormal returns at the announcement, considering the event window. For CPP and BSCH we reached the same results, once we do not reject the null hypothesis, which indicates abnormal returns equal to zero at the announcement period (Results in Annex 19).

### 6.7.2. Public offer of acquisition for BTA and CPP (announced at April 18th, 2000)

The second important event was the public offer launched for BSCH to the remaining shares of BTA and CPP, announced at 18th April 2000. This stock market reaction will not be valued since the previous acquisitions in April 7th has impact on these dates, not being possible to take conclusions about this acquisition in an independent way.

### 6.7.3. Acquisition of Santander Portugal stake (realized at June 30th, 2003)

In June 2003, we had the acquisition of 12,74% of BSP. The bank is delisted from the stock exchange since integrated in Santander brand at 1998. As this consisted in the exercise of an option will not be studied.

### 6.7.4. Merger between BSP, BTA and CPP (announced at January 20th, 2004)

The restructuration of the three commercial banks was announced in the market at January 20th. At this dates, it is important to analyze the acquirer BSCH and the target firm BTA (CPP is delisted from stock exchange since November 24th, 2000). To analyze the reaction of the market

at the date of the announcement (t=0) it was considered an event window between January 6th, 2003 (t=-255) and 8th January 2004 (t=-6, five days before the announcement).

The real returns of each share and the linear regressions computed to estimate the expected returns can be consulted in Annex 20.

| Event Day | BTA | | | | BSCH | | | |
|---|---|---|---|---|---|---|---|---|
| | AR | Test | CAR | Test | AR | test | CAR | Test |
| -5 | 0,72% | **12,47** | 0,72% | 3,76 | 1,10% | 1,48 | 1,10% | 0,45 |
| -4 | -0,71% | **-12,37** | 0,01% | 0,03 | -1,50% | **-2,01** | -0,39% | -0,16 |
| -3 | 0,00% | 0,03 | 0,01% | 0,04 | -0,85% | -1,14 | -1,24% | -0,50 |
| -2 | 0,00% | 0,05 | 0,01% | 0,05 | -1,65% | **-2,22** | -2,90% | -1,17 |
| -1 | 0,01% | 0,12 | 0,02% | 0,09 | -1,98% | **-2,66** | -4,88% | -1,97 |
| **0** | **0,00%** | **-0,06** | **0,01%** | **-0,07** | **-1,73%** | **-2,33** | **-6,61%** | **-2,68** |
| 1 | 0,00% | 0,06 | 0,02% | 0,09 | -0,49% | -0,65 | -7,10% | -2,87 |
| 2 | 0,00% | 0,00 | 0,02% | 0,09 | 0,47% | 0,63 | -6,63% | -2,68 |
| 3 | 0,00% | 0,03 | 0,02% | 0,10 | 0,29% | 0,38 | -6,35% | -2,57 |
| 4 | 0,00% | 0,05 | 0,02% | 0,12 | -1,17% | -1,57 | -7,51% | -3,04 |
| 5 | 0,00% | -0,06 | 0,02% | 0,10 | -0,35% | -0,47 | -7,86% | -3,18 |

Table 38 - Abnormal and Cumulative Abnormal Returns of BTA and BSCH at January 20th[th], 2004
Source – Authors Computations

In the merger announcement, BTA presented an abnormal return of 0,00%, meaning that the market did not react to the announcement. On the contrary, five days before the merger, the market presented an abnormal return of 0,72%, being statistically significant at a 5% level of significance, which may demonstrate leakages of information regarding the announcement. One day after this, the market readjusted and presented a negative abnormal return (-0,72%), being this statistically significant for 5% level of significance.

For BSCH, the abnormal return at the announcement date was -1,73%, meaning that the market did not react positively to the announcement, being this result statistically significant for a significance level of 5%. Four days before the announcement, the abnormal return was already negative in -1,50% compared to 1,10% in the day before. This results remained negative until the announcement date, being statistically significant for a 5% level. We can conclude that the Portuguese market was already expecting a new restructuration of this group once there were no abnormal returns at the announcement. Regarding BSCH shares, these presented a negative reaction to the acquisition, probably due to the fact that the three commercial banks will be managed by a Portuguese holding and under Portuguese law.

After testing the significance for the average of cumulative returns in the event window (first hypothesis presented in point 5.3), we conclude that BTA presented average abnormal returns equal to zero during the event window (Annex 21).

| t-Test 1-sample | |
|---|---|
| Confidence Level | 0,95 |
| N | 11 |
| Average | -0,71% |
| **T** | **2,342** |
| p - One sided | 0,020612 |
| **p - two sided** | **0,041223** |

Table 39- Significance test of the average cumulative at event window, in BSCH at January 20th 2004
Source: Authors computation

By analyzing the results of BSCH, we realize that the average of cumulative abnormal returns in the event window is statistically significant, for a significance level of 5%. This means that there were abnormal returns during the event window [-5;+5].

Next, we analyze the results of the difference between the average of the cumulative abnormal returns in [-5;-1] and the average of the cumulative abnormal returns in [+1;+5], for BTA and BSCH.

For BTA we conclude that abnormal returns are equal to zero at the announcement period, once we do not reject the null hypothesis (Results in Annex 21).

For BSCH we present the results in the following table:

| | *Before* | *After* |
|---|---|---|
| Mean | -0,00976 | -0,0025 |
| Variance | 0,000152 | 4,29E-05 |
| Observations | 5 | 5 |
| Df | 4 | |
| **t Stat** | **-1,176** | |
| P(T<=t) one-tail | 0,152 | |
| T Critical one-tail | 2,132 | |
| **P(T<=t) two-tail** | **0,305** | |
| **T Critical Two-tail** | **2,776** | |

Table 40 - Significance Test for the difference between average cumulative returns, in BSCH at January 20th 2004
Source: Authors computation

The result of the test indicates that the two averages are statistically equal, for a significance level of 5%. This means that there were no abnormal returns at the announcement, considering the event window [-5;+5].

According to these findings, there were abnormal returns during the event window but they do not seem to be related to the announcement of the deal.

# 7. RESULTS OF THE MERGER

In this chapter, are described the shareholders and organizational structure, business segments, shares behavior and economic indicators of Santander-Totta.

## 7.1. Shareholders and Organizational Structure

The merger created the new financial institution Santander-Totta and the new holding Santander-Totta SGPS. At the end of 2004, the combined company Santander-Totta was represented by 589.810.510 shares, with a nominal value of 1 euro, totally subscribed and paid by:

| Santander-Totta | Nr of shares | % of Equity participation |
|---|---|---|
| Foggia, SGPS, S.A | 573.905.405 | 97,3 |
| Taxagest, SGPS, SA | 14.593.315 | 2,47 |
| Others | 1.265.375 | 0,23 |
| Own shares | 46.415 | 0,002 |

Table 41– Shareholder Structure of Santander-Totta
Source: "Banco Santander-Totta" Accounts Report, 2004

Regarding Santander-Totta SGPS, S.A., the capital was represented by 1.508.794.421,25 euros and 150.879.442.125 shares, with a nominal value of 0,01 euro each.

| Santander-Totta SGPS | Nr of shares | % of Equity participation |
|---|---|---|
| Santusa Holding, SL | 150.572.770.240 | 99,7967 |
| Others | 306.671.885 | 0,2033 |

Table 42 – Shareholder Structure of Santander-Totta SGPS
Source: "Banco Santander-Totta" Accounts Report, 2004

The holding capital was paid through the delivery of shares, corresponding to the participations of capital in Foggia, SGPS, S.A and Totta Seguros, S.A. that previously belonged to BTA assets (as we saw in table 11).

At the end of 2004 there was the following distribution of ownership:

- Santander-Totta, SGPS held 76,27% of Foggia, SGPS, S.A and 100% of Totta Seguros;
- Foggia, SGPS, S.A owned 97,3% of BST and Taxagest SGPS 2,4742%.

Through Foggia, SGPS, S.A, Santander-Totta, SGPS indirectly hold interests in several subsidiaries, where the most important are the following: 76,10% of BST, 76,27% of BSNP, 76,27% of Taxagest, SGPS and 76,24% of "Totta Crédito Especializado".

In 2005, with the integration of Foggia, SGPS, in the new holding, Santander-Totta SGPS, became the direct owner of 97,3% of Santander-Totta.

## 7.2. Business Segments

Through the direct and indirect participations, Santander-Totta, SGPS was organized as follows:
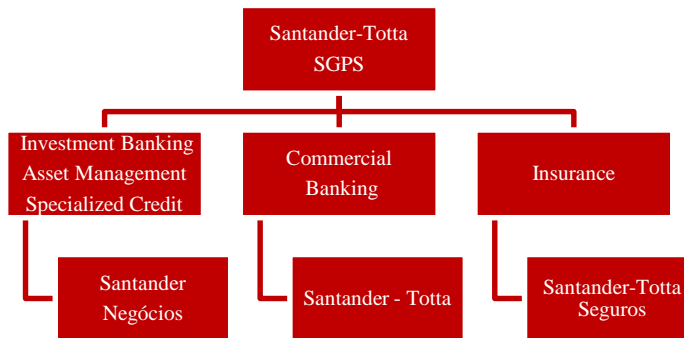


Figure 8 – Organization of Group Santander in Portugal
Source: "Banco Santander-Totta" Account Report, 2004

In Annex 22 we can see the organizational structure of Santander-Totta.

## 7.3. Shares Behavior

Although it was created a new holding that had the majority of ownership of Santander-Totta, this new financial institution was integrated in the Spanish Group Santander (SAN). To analyze the shares behavior we can examine the quotation of Group Santander in Euronext Lisbon (with the ticker SANT PL). The rating of Santander-Totta can be consulted in Annex 23.
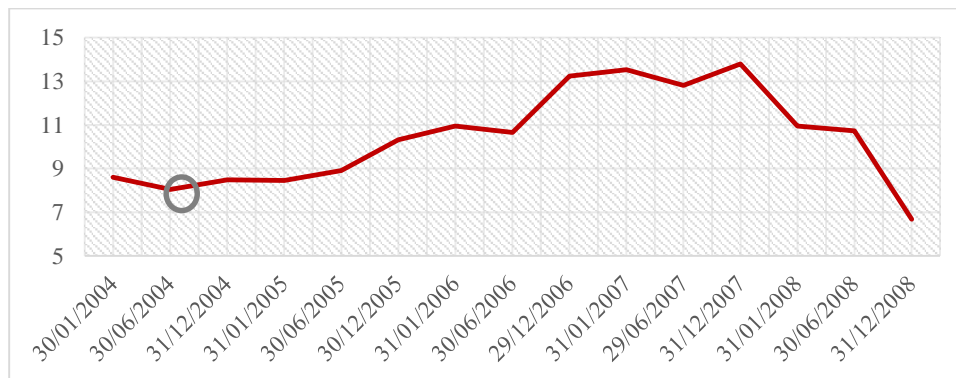


Figure 9 – Shares Behavior of Group Santander (Euronext Lisbon)
Source: Bloomberg

## 7.4. Economic Indicators

Through past computations, we concluded the existence of synergies around 850 million euros. By analyzing the financial indicators of Santander-Totta we can realize which indicators most contributed to the existence of synergies.

In order to examine the performance of the company in 2004, the proforma results were considered. This assumed the inclusion of the whole year results from the incorporated companies BTA and BSP and consequently, from their subsidiaries.

In chapter 4 we analyzed the financial indicators of Group Totta before the spin-off. However, in order to analyze the performance of the merger is important to compare the values of the new financial institution with the values of Group Totta after the spin-off, once the merger did not included Foggia, SGPS, S.A, Totta Seguros and their subsidiaries. For that, we included the proforma statements from the elements regarding 2003, through the aggregation of the results from the three commercial banks, without the subsidiaries that left BTA.

| | 2003 (1) | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|---|
| **Activity and Leverage** | | | | | | |
| Net Assets (million euros) | 32.254 | 32.803 | 33.462 | 33.546 | 37.799 | 40.139 |
| Loans to customers (net) (million euros) | 16.515 | 13.975 | 25.477 | 26.362 | 27.917 | 30.009 |
| Resources from customers in balance sheet (million euros) | 22.579 | 22.600 | 16.128 | 17.027 | 18.613 | 16.593 |
| Loans to clients/Assets | 51,2% | 42,6% | 76,1% | 78,6% | 73,7% | 74,8% |
| Resources from clients/Debt | 73% | 72,3% | 50,6% | 54,3% | 52,3% | 44,1% |
| Transformation Ratio | 73,1% | 61,80% | 158% | 154,8% | 150% | 180,9% |
| **Profitability and Efficiency** | | | | | | |
| Operating Income (million euros) | 822 | 869,7 | 892,8 | 1.007 | 1.092 | 1.070 |
| Operating Costs | 382 | 385 | 401 | 423 | 426 | 435 |
| Cost to Income | **46,4%** | **44,3%** | **44,9%** | **42%** | **39,1%** | **40,7%** |
| Net Income (million euros) | **188,4** | **237,6** | **297** | **353,9** | **387,6** | **438,4** |
| ROE | **16,7%** | **18,0%** | **25,6%** | **27%** | **24%** | **25,4%** |
| ROA | 0,6% | 0,7% | 0,9% | 1,1% | 1% | 1,1% |
| **Solvability** | | | | | | |
| Solvency Ratio ("Banco de Portugal") | - | 9,50% | 10,8% | 10,9% | 10% | 10,3% |
| Core Tier I | - | 7,2% | 6,8% | 5,8% | 6,1% | 6,7% |
| **Credit Quality** | | | | | | |
| Overdue Credit to Clients / Total Credit | 1,8% | 1,5% | - | - | - | - |
| Overdue Credit over 90 days / Total Credit | 1,7% | 1,4% | - | - | - | - |
| Coverage of overdue credit | 145,9% | 182,1% | - | - | - | - |
| Coverage of overdue credit over 90 days | 152% | 194,8% | - | - | - | - |

Table 43 – Financial indicators of Santander-Totta (values in thousands of euros)
Source: "Banco Santander-Totta" account reports, 2004 to 2008; Author's computation
1) After spin-off

| Variations | 03/04 | 04/05 | 05/06 | 06/07 | 07/08 | Average |
|---|---|---|---|---|---|---|
| **Activity** | | | | | | |
| Net Assets | 1,7% | 2,0% | 0,3% | 12,7% | 6,2% | **4,6%** |
| Loans to Customers (net) | -15,4% | 82,3% | 3,5% | 5,9% | 7,5% | **14,1%** |
| Resources from Customer | 0,1% | -28,6% | 5,6% | 9,3% | -10,9% | **-4,9%** |
| **Profitability** | | | | | | |
| Operating Income | 5,8% | 2,7% | 12,8% | 8,4% | -2,0% | **5,5%** |
| Net Income | **26,1%** | **25,0%** | **19,2%** | 9,5% | 13,1% | **18,6%** |

Table 44 – Variations from major financial indicators of Santander-Totta
Source: Author's computation

Regarding Activity indicators, Net assets stood at 32.803 million euros, at end of December 2004, representing an average growth of 4,6% in the period between 2003 and 2008. Loans to customers (net), presented a major variation between 2004 and 2005 and an average growth of 14,1%, justified by consumer and mortgage credits (with an average growth of 17% and 9%,

respectively) (detail of total loans in Annex 24). This is as a positive result, once the volume of mortgage credits registered a sharp decrease in the Portuguese economy. The resources from customers presented a negative evolution, registering an average -4,9% in the analyzed period (depositors increase on average 5,6% and debt securities presented an average decrease of 20,92%, as we can see in Annex 25).

The weight of loans in total assets were in order of 60 to 70% (with exception in 2004). By their turn, resources from clients represented an average of 50% of the total debt of the company.

Regarding Leverage indicators, the transformation ratio (degree in which deposits are transformed into credits) presented a positive result of 61,8%, in 2004, telling us that there were more deposits than credits in the bank. This ratio presented higher results since 2005, which reflected lower capacity in the transformation of deposits into credits. These should be in a maximum of 120%, in order to reduce the degree of leverage and increase other sources of funds.

Looking at profitability indicators, Operating Income presented a moderate growth in order of 5,5%, due to careful risk management of interest rates and the increase of business volume on the balance sheet. Operating costs presented an increase but a lower progression compared to operating income. By analyzing the Cost to Income, this showed some improvements, justified by the evolution of costs being inferior to the evolution of the operating income. This ratio could be lower if it were not included the costs associated with the change of the bank's image and the openness of new branches.

We can realize that the major objective of the merger was achieved once the financial institution increased Net Income, in average, by 19%. The major impact happened between 2004 and 2005, with a 25% increase. These improvements were simultaneously driven through a dynamic commercial activity, assisted with added-value products, strict control of structural costs, prudent management of risk and liquidity and the maintenance of the quality of the loan portfolio, in a context of strong competition and difficult economic legal changes, which adversely affected the income earned. Mainly, the improvement of the performance of Net Interest Income (+4,97%), Net Commissions (+4,3%), Results of financial operations (+163%), in parallel with the review of personnel expenses and other administrative expenses contributed to the average increase of 19%. In Annex 26 we can see the financial items that contributed to higher income and lower costs.

Return on Equity stood between 18-25% and ROA at 1%, presenting the highest results in 2006. These showed some improvements, compared to a ROE of 16,8% and a ROA of 0,6%, for Group Totta in 2003.

The solvability indicators presented a solvency ratio near 10%. The core tier I ratio registered a stable performance, in order of 6-7% (full computations in Annex 27).

By analyzing the ratios of credit quality, we realized that the new financial institution BST, in 2004, improved the overdue credit to 1,5% and overdue credit over 90 days to 1,4%. The coverage of overdue credit by provisions also improved to 182% and 195% in overdue credit over 90 days.

It is important to realize from Retail, Commercial and Global Banking & Markets segments, the impact each had in the improvement of each financial indicator (full computations in Annex 28). By analyzing the table in annex, we can realize that Retail Banking is the segment with highest importance within the organization.

| | Retail Banking | | | |
|---|---|---|---|---|
| | 2005 | 2006 | 2007 | 2008 |
| **Operating Income** | **671.903** | **745.380** | **817.860** | **889.154** |
| *Weight in total* | *75,45%* | *74,22%* | *75,15%* | *82,97%* |
| **Net Income** | **175.498** | **198.275** | **277.653** | **360.506** |
| *Weight in total* | *59,23%* | *56.02%* | *71,63%* | *82,23%* |
| **Credit to Clients** | **15.946.296** | **18.049.886** | **20.667.315** | **20.759.491** |
| *Weight in total* | *62,59%* | *68,47%* | *74,03%* | *69,18%* |
| Mortgage Credit | 12.933.000 | 14.192.160 | 15.463.446 | 15.988.455 |
| Consume Credit | 947.000 | 1072160 | 1.399.292 | 1.547.890 |
| Others Credits | 2.066.296 | 2.784.834 | 3.804.577 | 3.223.146 |
| **Resources in BS** | **11.924.633** | **11.062.357** | **11.214.283** | **14.296.304** |
| *Weight in total* | *66,80%* | *45,61%* | *43,60%* | *52.25%* |
| From clients | 10.536.313 | 9.590.405 | 9.882.727 | 13.243.775 |
| Responsibilities by securities | 1.388.320 | 1.471.952 | 1.331.556 | 1.052.529 |

Table 45 – Contribution of Retail Banking to major financial items
Source: Account Report from BST, between 2005-2008

In conclusion, there was an improvement of global performance through the rationalization of the central services (namely, the increase in funds and loans), profitability growth, cost efficiency, improvement of the asset quality indices, soundness of net worth structure and risk management.

# 8. CONCLUSION

This project studies the merger of the three commercial banks that originated Santander-Totta, and the consequent motivations, expected gains and value added to shareholders of the new company.

One of the main goals of this project was to assess the synergies associated with the merger of the three financial institutions, in 2004. To compute the gains associated with the merger, we used the DCF Method based on an Equity Cash Flow approach, reaching a market value of 2.531 million euros to Santander-Totta and synergies around 850 million euros, a valorization of 51% comparing with the valuation of the previous three financial institutions as separate entities.

By performing a Relative Market Valuation, through the median market multiples of the major players in the Portuguese market, we can conclude that our valuation can be considered as conservative. The possible market value obtained with the median market multiples P/E and P/B is well above the one suggested through the Equity Cash Flow Method, by at least 15%, according to P/B and up to 46%, according to P/E.

By analyzing the premiums paid, we realized that BSCH only paid over the fair value in the public offer of acquisitions of BTA and CPP, which are not substantial comparing to the value of the estimated synergies. This can be justified by the fact that BSCH already had most of ownership in the target financial institutions since the agreement realized with António Champalimaud and CGD, due to the imposition of the Portuguese Government. The small premiums paid suggest that the shares of the banks were probably undervalued when considering the full incorporation of synergies in the share price.

Regarding the stock reaction to the merger announcement, we conclude that the market was already expecting the transaction, since the shares from BTA did not show any abnormal returns (BSP and CPP were delisted from stock exchange since 1998 and 2000, respectively). Regarding BSCH, we conclude the existence of negative abnormal returns until the announcement, which indicates that probably there were leakages of information regarding the merger deal. Yet, when the difference of the average of cumulative abnormal returns between the pre-event day period [-5;-1] and the post-event day period [+1;+5] was computed, we realize that the average of the cumulative abnormal returns in the pre-event day period is statistically equal to the average of the cumulative abnormal returns in the post-event day period, meaning that there were no abnormal returns at the announcement of the merger. According to these

findings there were abnormal returns before the announcement of the deal but they do not seem to be related to the event itself.

Besides the economic value added, there were other earnings for the company and shareholders. The reorganization of the group created one corporate culture and a common technological and operating basis from the physical and functional integration of the areas which support the networks. At the same time, was maintained the offer of differentiated commercial products adapted to the needs of the different segments of the target markets.

With the integration of the commercial areas, there was a better integration of the value chain, which generated higher returns over the long-term. On the other hand, the reorganization contributed to increase income in retail products for private consumers and mutual funds, mortgage credit and insurance products. Income increase was the major strategic goal of the management team, the focus was on income growth while the cost base and risk premium should be maintained.

With this merger, the goal of creating a single bank with all the group's commercial activity, and its share capital directly held by a managing company with head office in Portugal and governed by the Portuguese law was reached, allowing an adequate and concerted organization of the Group. With the merger of the three commercial banks and the creation of a new holding that included the investment banking and insurance area, Group Santander in Portugal reached 11% market share, which allowed a more competitive and stronger commercial approach.

Nowadays, this could be faced as a strategic option for banks increase their competitive advantage and face the innumerous external factors that are exposed to, namely, the crisis of Portuguese debt that led to the reinforcement of the capital structures both by shareholders and through the Program for Economic and Financial Assistance.

The elaboration of this project revealed some limitations. In order to compute the merger gains it was used the DCF Method based on an Equity Cash Flow approach and this was straightforward since Equity Cash Flows were computed through Net Income and Assets and Debt variations (corresponding to increases of equity).

In order to forecast the values of the stand-alone companies, growth was used as key driver. For that purpose, the same nominal growth rate was applied to the three indicators in the analysis of Equity Cash Flows, in order to not change the equity-to-assets and debt-to-equity ratios, so that new equity issues were not required.

The Equity DCF approach allows us to realize if financial institutions are creating or destroying value, however it is not possible to understand how and where it creates value. Besides that, we cannot conclude about the impact of leverage and business risks on the cost of equity and the cost of holding equity risk capital. We carried out a basic analysis of the main economic indicators of Santander-Totta, and concluded that Net Interest Income had improved. However, we cannot determine if this is due to higher rates in lending funds than the bank pays or due to maturity incompatibilities from using short-term borrowing and long-term lending, which usually does not create value.

Regarding the Relative Valuation, the financial institutions used to compute the market multiples are similar in capital structure, size and market share in Portugal. However, Santander-Totta is a commercial bank and only includes the retail banking segment (the banking investment and insurance areas were integrated in a new holding) and the remaining financial institutions are represented in the market as a group. Once we do not have enough information to ungroup the different segments of the financial institutions, in order to compare the cash flows from the commercial segments, this presents a limitation of this valuation, which can affect the obtained results.

The analysis of financial institutions becomes very complex because they have a very diversified portfolio, cyclical activities (namely, trading and fee-based business) and are usually highly leveraged. For further studies, it is recommended the use of an Economic Spread Model, which allows us to understand where and how the company is creating value. For that, it is necessary to deal with more complex information regarding customer spread and maturity mismatch income, for each of the business lines and different maturities (in mortgage loans, corporate loans, consumer loans, credit loans, deposits, straight debt, hybrid debt, etc.).

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   i. http://web3.cmvm.pt/sdi2004/emitentes/docs/fsd0139.pdf (accessed on March 2014)
   j. http://web3.cmvm.pt/sdi2004/emitentes/docs/fsd1221.pdf (accessed on March 2014)
   k. http://web3.cmvm.pt/sdi2004/emitentes/docs/fsd1090.pdf (accessed on March 2014)
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      (accessed on March 2014)
   m. http://www.cmvm.pt/cmvm/sdi/registos%20da%20cmvm/registos%20de%20actos/20
      00/pages/20000609b.aspx (accessed on March 2014)
   n. http://www.cmvm.pt/cmvm/sdi/registos%20da%20cmvm/registos%20de%20actos/20
      00/pages/20001215e.aspx (accessed on March 2014)
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      inter_financeiros.aspx (accessed on April 2014)

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   b. http://web3.cmvm.pt/sdi2004/emitentes/docs/FR3351.pdf (accessed on April 2014)
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# 10. ANNEXES

- <u>List of Annexes</u>

**Annex 1 - Target's stock price anticipates the Merger**

Assuming that B's share price rises 2€ from rumors of a merger and the value of the company before the merger is already influenced by this, we can look for the following example:

|  | Firm A- acquirer | Firm B – target |
|---|---|---|
| Market Value | 500 | 100 |
| Number of Shares | 25 | 10 |
| Price per Share (€) | 20 | 10 |

Table 1 – Example - Anticipation of the Merger (values in millions of euros)
Source: Values from Hillier et al. (2010; p.796). Example based on Brealey and Myers (2003; p. 940).
Synergies = 100

If the acquirer intends to pay 150 million for B, the merger cost will be:

Cost = (150 − 100) = 50 m

However, the intrinsic value of B is overvalued by 20 million (2 ∗ 10 million). Its true value should be 80 million (100 million − 20 million).

Then, the true value of the acquirer's cost is:

Cost = (150 − 80) = 70 m

Once there are synergies in a value of 100 million euros, the transaction still makes sense for the acquirer shareholders.

**Annex 2 - Organizational Structure of Group Totta**
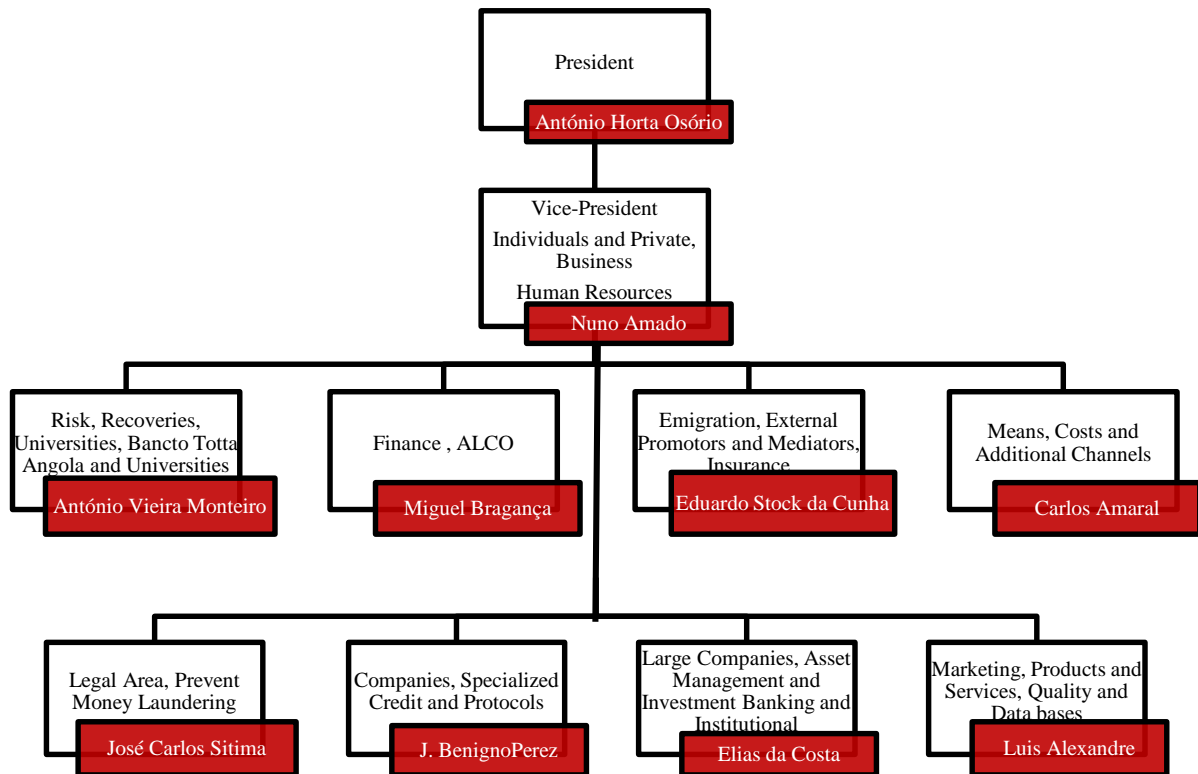


Table 2- Organizational Structure of Group Totta
Source: "Banco Totta & Açores", Account Report 2003

## Annex 3 - Rating of Group Totta

|  | Fitch – IBCA | Moody's | S&P's |
|---|---|---|---|
| Short Term | F1 | P1 | A1 |
| Long Term | A+ | A1 | A+ |
| Outlook | Stable | Stable | Stable |

Table 3- Rating of Group Totta
Source: "Banco Totta & Açores", Account Report 2003

## Annex 4 - Solvency Ratios of Group Totta

|  | 2003 | 2002 | Var. |
|---|---|---|---|
| Total Own Capital | 1.997M | 2.136M | -6,5% |
| Own Capital | 1.430M | 1.527M | -6,4% |
| Aditional Capital and deductions | 567M | 609M | -6,8% |
| Weighted off-balance assets | 18.985M | 18.424M | +3,0% |
| Solvency Ratios (Banco Portugal) | 10,5% | 11,6% | -1,1 p.p |
| Tier I | 7,5% | 8,3% | -0,8 p.p |

Table 4 – Computation of Solvency Ratios
Source: "Banco Totta & Açores", Account Report 2003

$$\text{Solvency Ratio} = \frac{\text{Total Own Capital}}{\text{Weighted off} - \text{balance assets}}$$

$$\text{Tier I} = \frac{\text{Own Capital}}{\text{Weighted off} - \text{balance assets}}$$

## Annex 5- Income Statement by Business Units of Group Totta

|  | Commercial Banking | Specialized Credit | Investment Banking | Asset Management | Insurance | Holdings and financial invest | Others | Total |
|---|---|---|---|---|---|---|---|---|
| Intermediation Margin | 414.429 | 23.356 | 38.498 | 441 | - | 670 | 23.527 | 500.922 |
| Service Margin | 228.033 | 4.159 | 15.664 | 12.979 | - | (53) | 243 | 261.025 |
| Investment Margin | 57.559 | (1) | 20.532 | (8) | 3.465 | 6.810 | (27.672) | 60.685 |
| Other costs | (4.684) | (218) | (97) | (21) | - | (0) | (74) | (5.094) |
| Before Transformation Results | 695.338 | 27.297 | 74.596 | 13.392 | 3.465 | 7.427 | (3.975) | 817.539 |
| Transformation Costs | (435.240) | (7.399) | (13.460) | (3.584) | - | (33) | 34 | (459.682) |
| Operational Result | 260.098 | 19.897 | 61.136 | 9.808 | 3.465 | 7.394 | (3.941) | 357.857 |
| Other Provisions | (29.976) | (672) | 2586 | (754) | - | 1574 | (6.823) | (34.065) |
| Alienation of Financial Equity | 10.251 | - | - | - | - | - | 1.111 | 11.362 |
| Other Extraordinary results | (17.896) | 143 | (438) | 399 | - | 12 | (989) | (18.768) |
| Earnings before taxes and minorities interests | 222.476 | 19.369 | 63.283 | 9.453 | 3.465 | 8.980 | (10.642) | 316.385 |
| Taxes | (29.666) | (5.647) | (7.975) | (3.426) | - | - | - | (46.713) |
| Minority Interests | - | - | - | - | - | - | (28.449) | (28.449) |
| Net Income | 192.811 | 13.722 | 55.309 | 6.028 | 3.465 | 8.980 | (39.092) | 241.223 |

Table 5- Financial indicators by segment of the group
Source: "Banco Totta & Açores", Account Report 2003

## Annex 6 - Nominal Growth rates

| | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|
| Growth rate of GDP (market price) | 1,50% | 0,90% | 1,50% | 1,90% | 0,00% |
| Rate of Change Index of Consumer Prices | 2,40% | 2,30% | 3,10% | 2,50% | 2,60% |
| Nominal growth rate | 3,94% | 3,22% | 4,65% | 4,45% | 2,60% |

Table 6- Nominal growth rate between 2000 and 2008
Source:http://www.gpeari.min-financas.pt/arquivo-interno-de-ficheiros/economia-portuguesa/2009/Anexo-

Estatistico-2009.pdf-1

## Annex 7 - Beta, Equity Risk Premium and Risk Free Rate to Group Totta
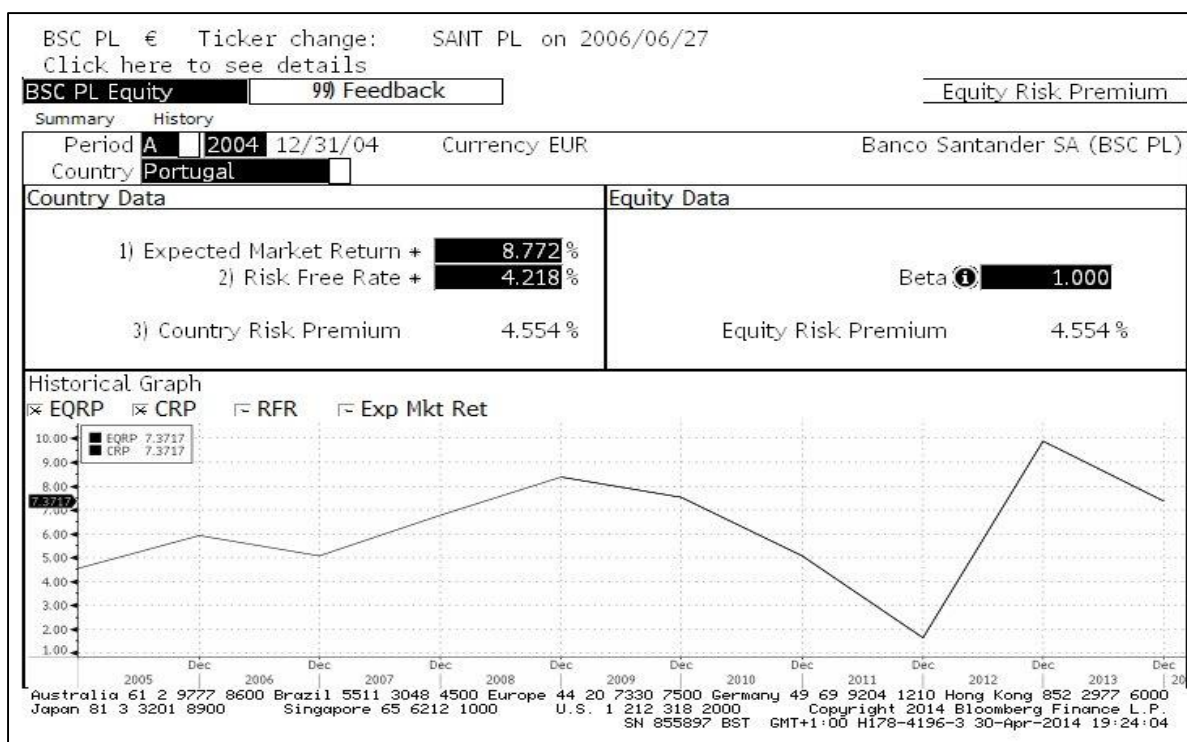


Table 7- Beta, Equity Risk Premium, Risk Free Rate to Group Totta, 2004
Source: Bloomberg
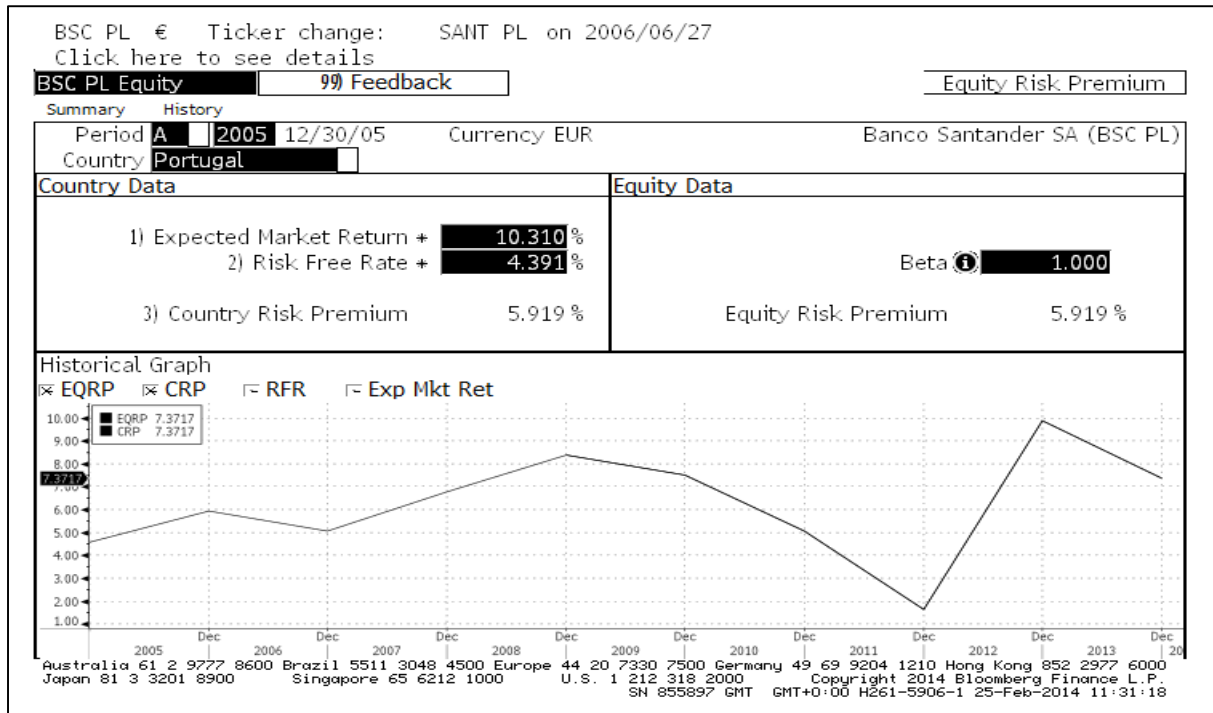
Table 8- Beta, Equity Risk Premium, Risk Free Rate to Group Totta, 2005
Source: Bloomberg
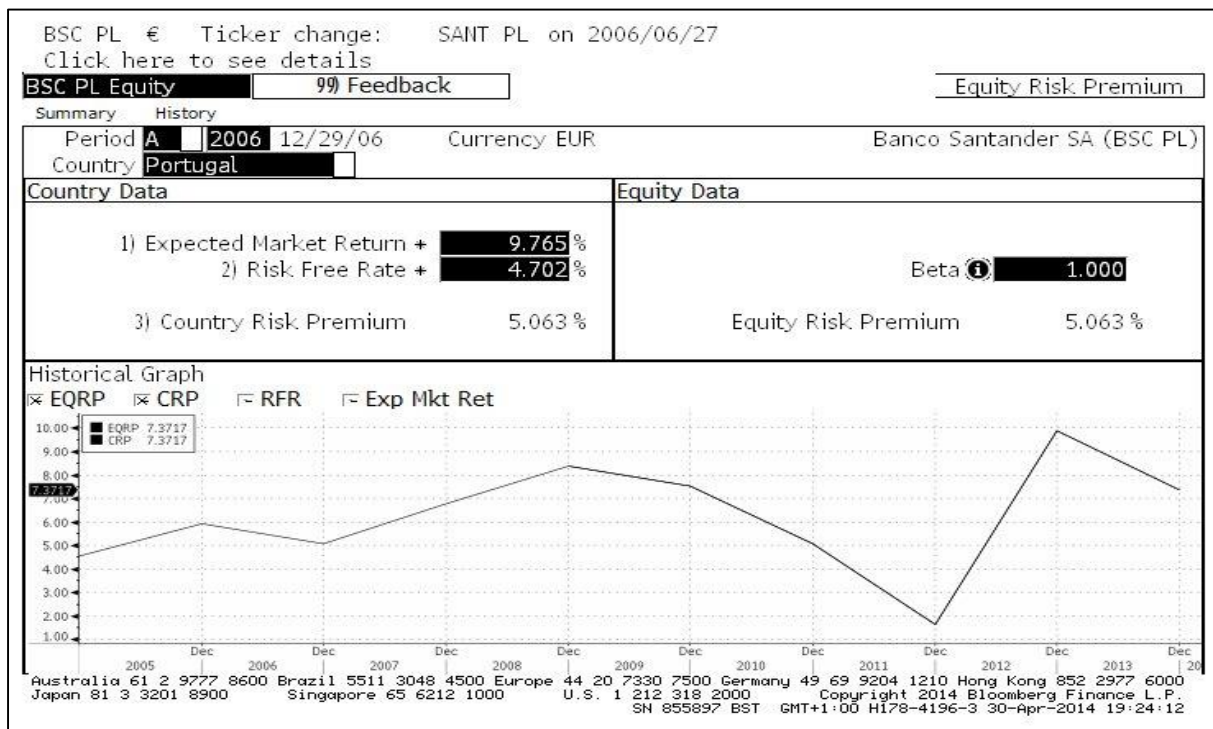


Table 9- Beta, Equity Risk Premium, Risk Free Rate to Group Totta, 2006
Source: Bloomberg
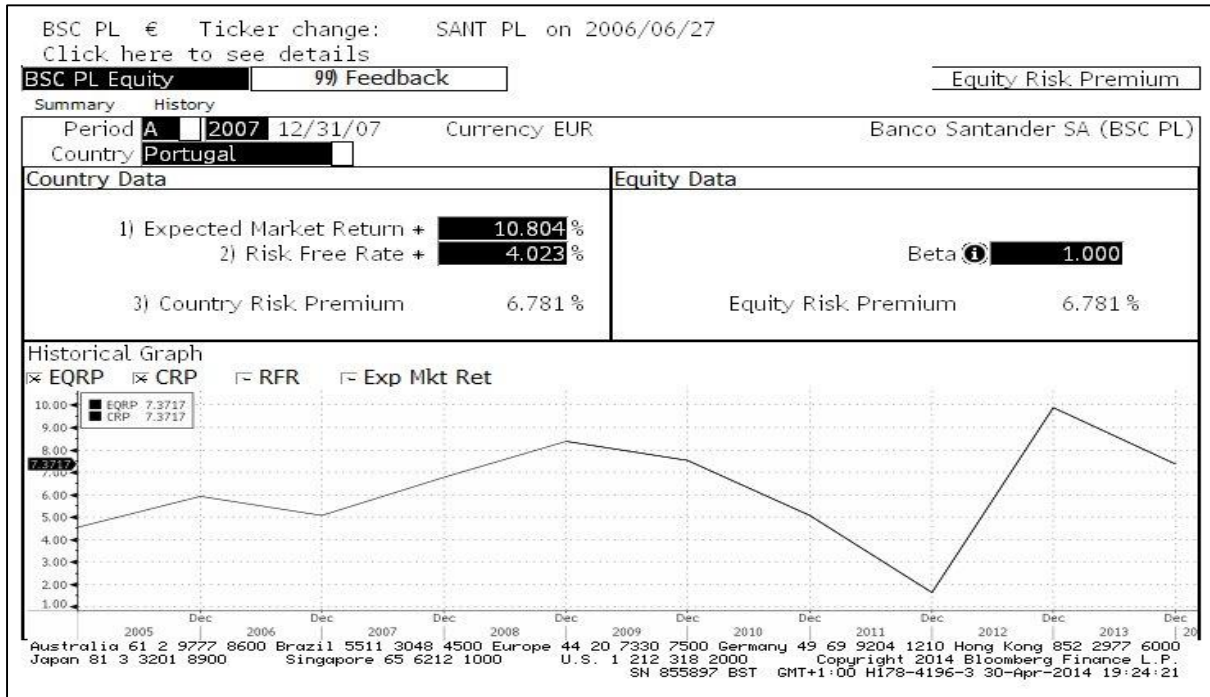
Table 10- Beta, Equity Risk Premium, Risk Free Rate to Group Totta, 2007
Source: Bloomberg
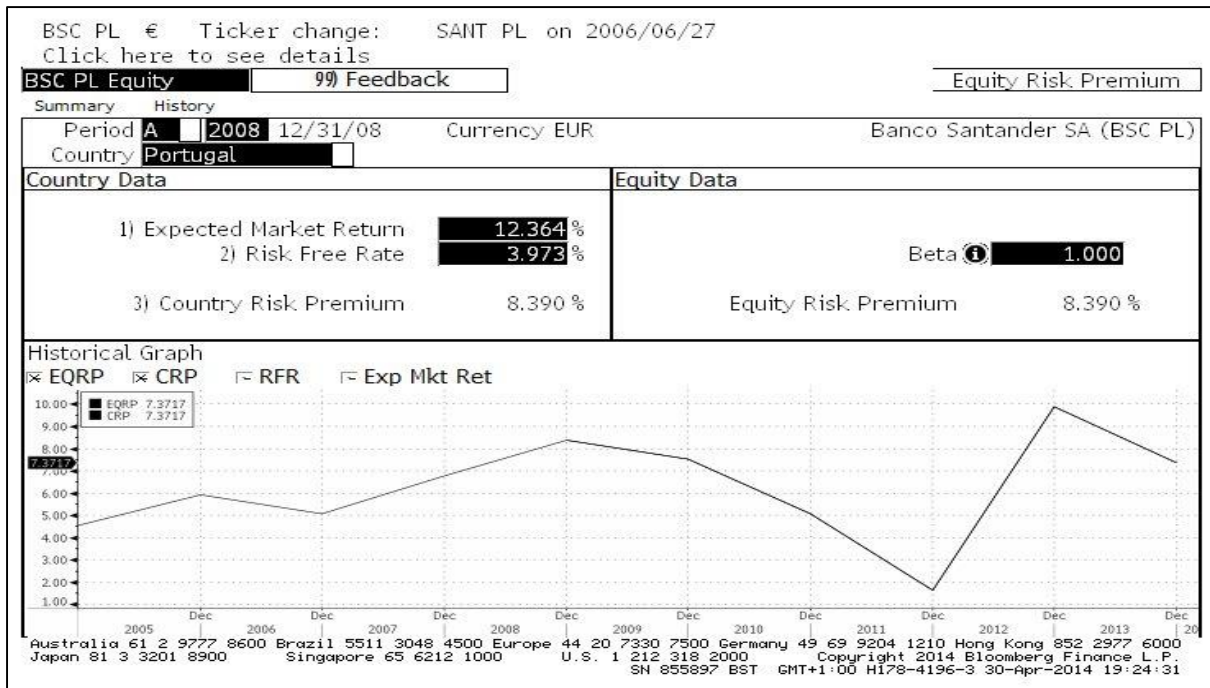


Table 11- Beta, Equity Risk Premium, Risk Free Rate to Group Totta, 2008
Source: Bloomberg
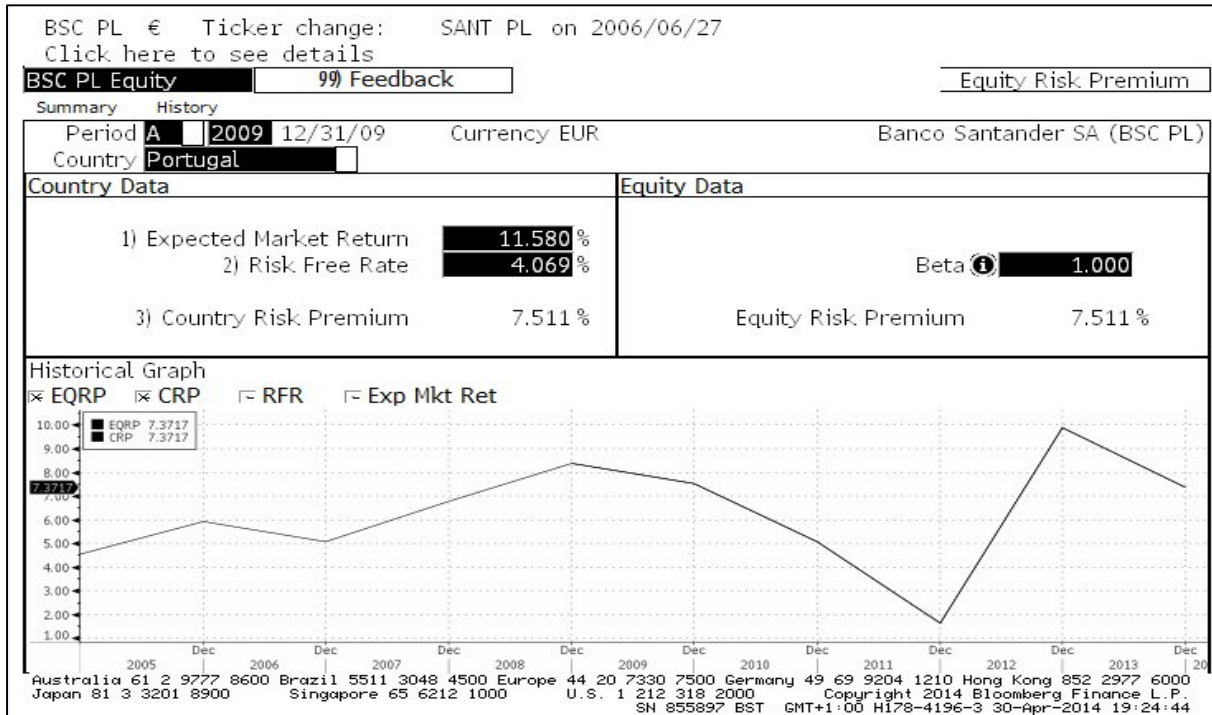
Table 12 -Beta, Equity Risk Premium, Risk Free Rate to Group Totta, 2009
Source: Bloomberg

## Annex 8 - Beta, Equity Risk Premium and Risk Free Rate to Santander-Totta
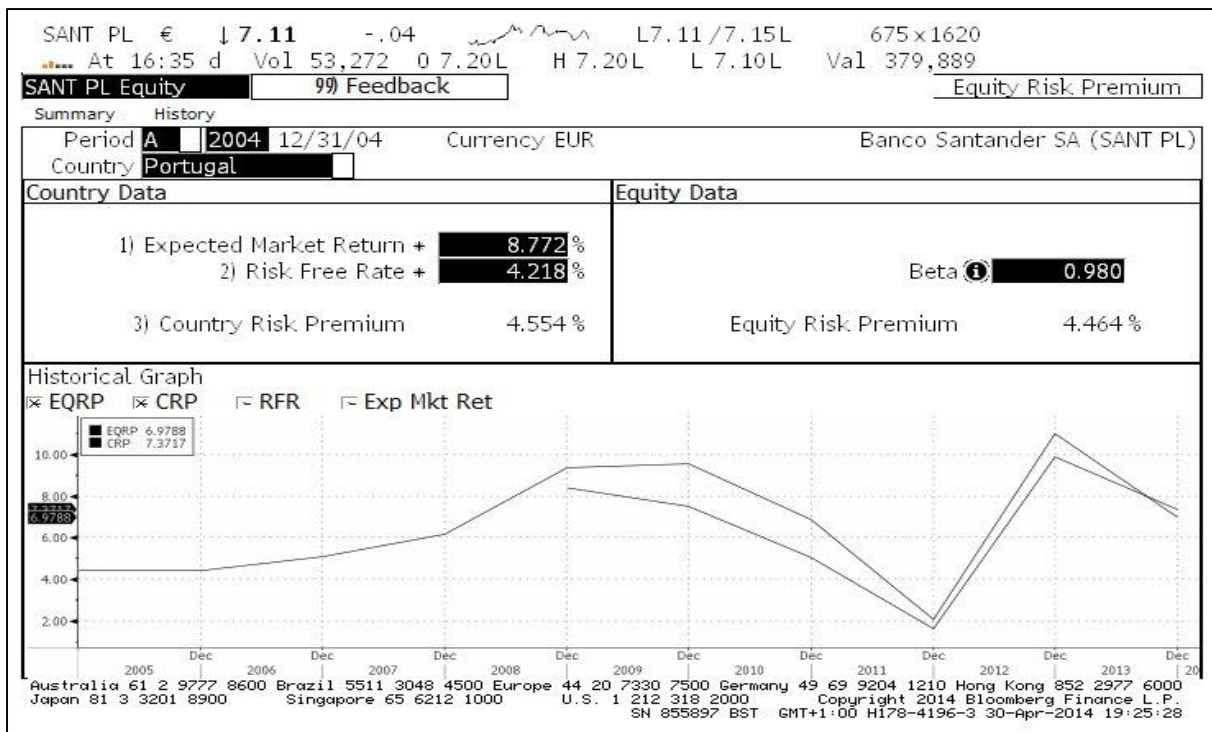


Table 13- Beta, Equity Risk Premium, Risk Free Rate to Santander-Totta, 2004
Source: Bloomberg
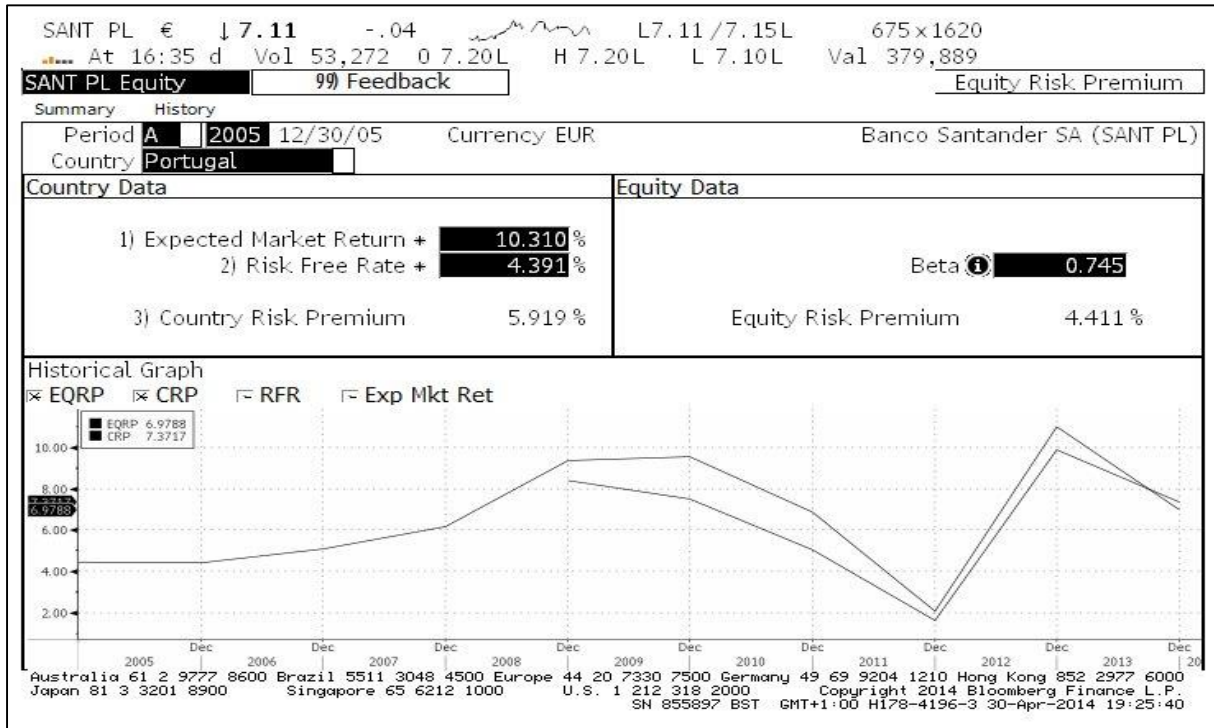
Table 14- Beta, Equity Risk Premium, Risk Free Rate to Santander-Totta, 2005
Source: Bloomberg
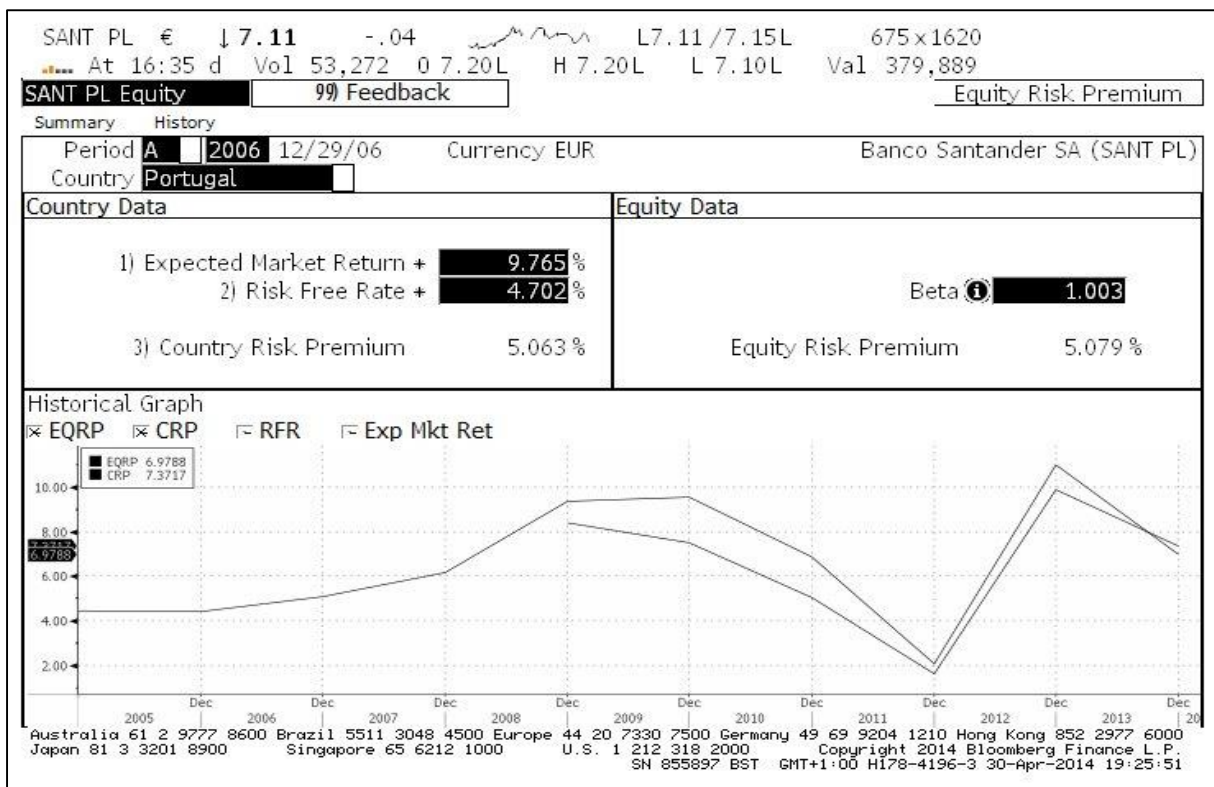


Table 15- Beta, Equity Risk Premium, Risk Free Rate to Santander-Totta, 2006
Source: Bloomberg
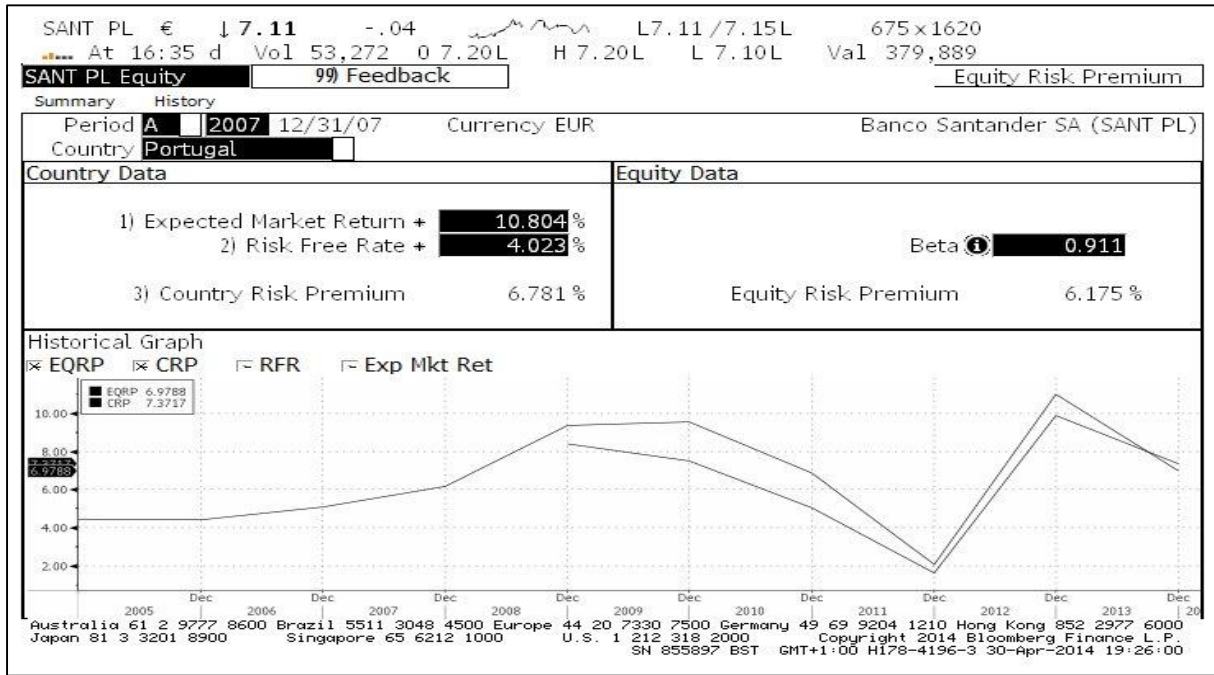
Table 16- Beta, Equity Risk Premium, Risk Free Rate to Santander-Totta, 2007
Source: Bloomberg
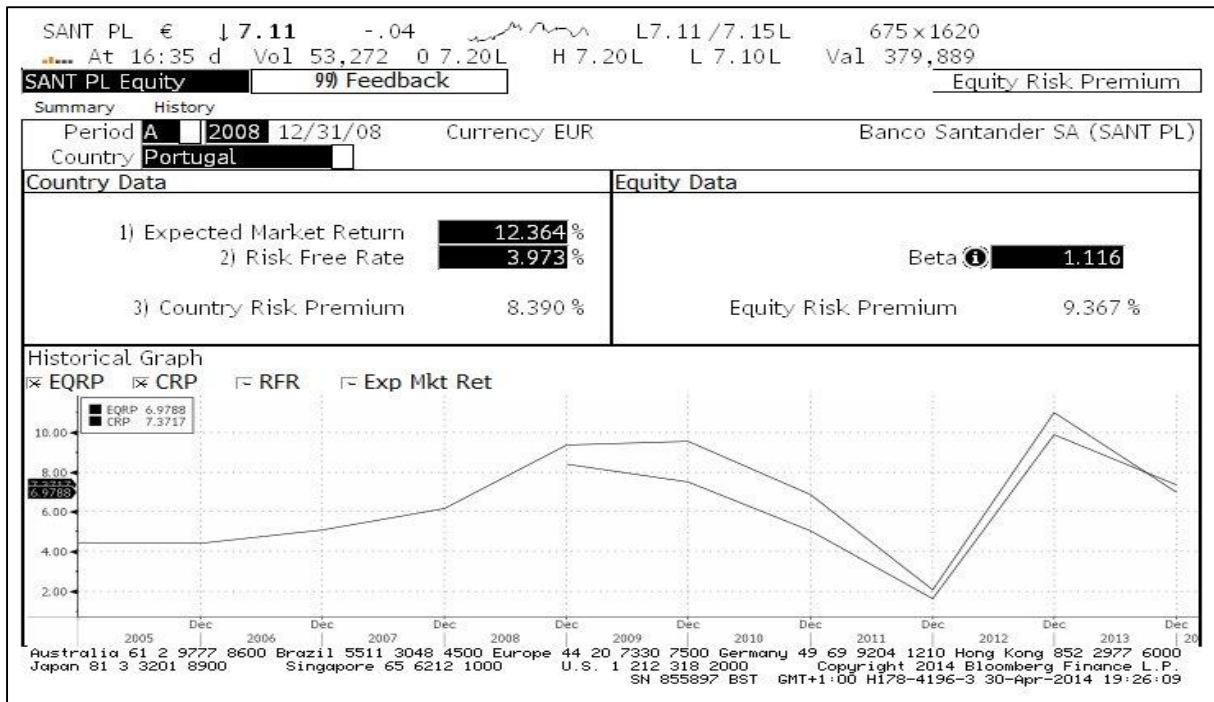


Table 17- Beta, Equity Risk Premium, Risk Free Rate to Santander-Totta, 2008
Source: Bloomberg
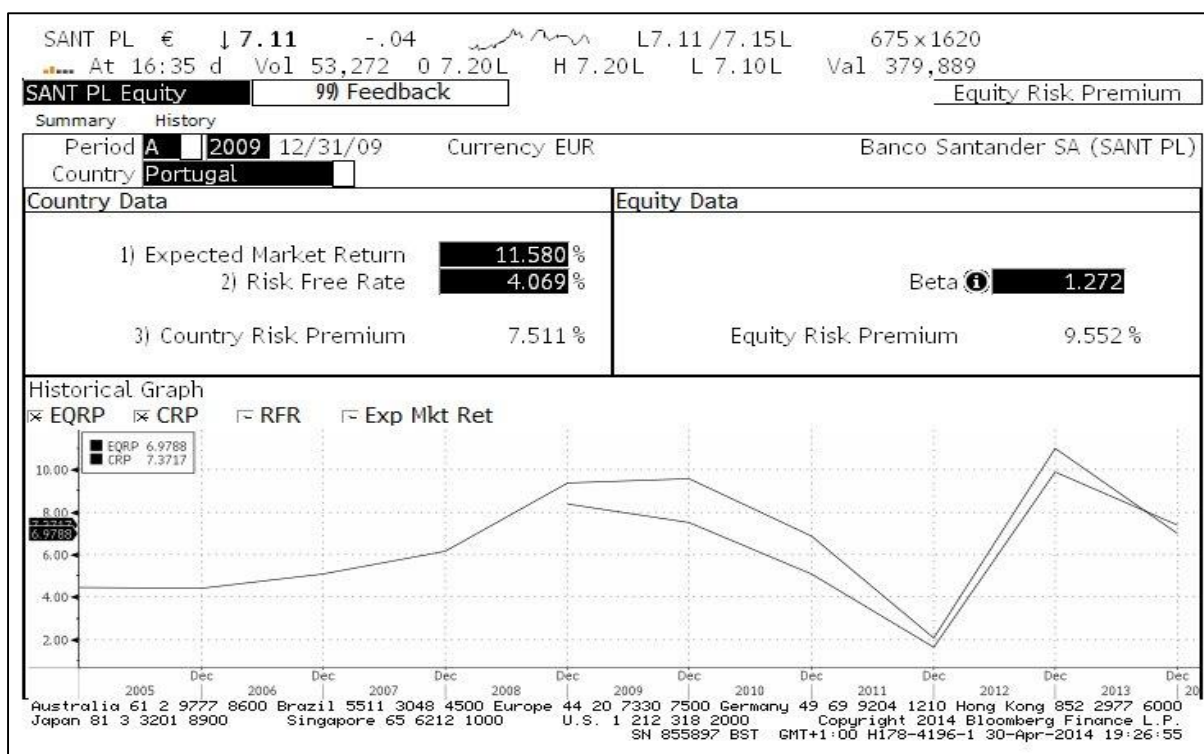
Table 18- Beta, Equity Risk Premium, Risk Free Rate to Santander-Totta, 2009
Source: Bloomberg

## Annex 9 - Merger Reserve of Santander-Totta

| | Totta 16.12.04 | Impact of spin-off | Totta after spin-off | BSP 16.12.04 | Total |
|---|---|---|---|---|---|
| - Share capital | 529.138 | (423.310) | 105.580 | 155.580 | 261.408 |
| - Own shares | - | - | - | (511) | (511) |
| - Statuary reserves | 95.568 | - | 95.568 | 23.567 | 119.135 |
| - Issue Premiums | 1.151.983 | (1.085.484) | 66.499 | 26.198 | 92.697 |
| - Revaluation reserves | 42.577 | - | 42.577 | 2.382 | 44.959 |
| - Other reserves | 340 | - | 340 | 47.127 | 47.467 |
| - Retained earnings | - | - | - | 61.495 | 61.495 |
| - Net income | 169.457 | - | 169.457 | 55.039 | 224.496 |
| **Equity** | **1.989.063** | **(1.508.794)[1]** | **480.269** | **370.877** | **851.146** |
| Capital increase from ex-cpp | | | (166.431) | (143.380) | (309.811) |
| **Merger reserve** | | | **313.838** | **227.497** | **541.335** |

Table 19- Merger Reserve (values in thousand euros)
Source: "Banco Santander-Totta", Account Report 2004
   1)   Corresponds to Book Value of Foggia, SGPS, SA and Totta Seguros

## Annex 10 - Acquisition of 94,38% stake of BTA, April 7th 2000



Table 20-Acquisition of 94,38% of BTA
Source: Bloomberg

## Annex 11- Acquisition of 70,57% stake of CPP, April 7th



Table 21-Acquisition of 70,57% of CPP
Source: Bloomberg

## Annex 12 - Acquisition of 4,22% stake of BTA April 18th 2000



Table 22-Acquisition of 4,22% of BTA
Source: Bloomberg

## Annex 13 - Acquisition of 29,34% stake of CPP, April 18th 2000



Table 23-Acquisition of 29,34% of CPP
Source: Bloomberg

## Annex 14 - Acquisition of 12,74% stake of BSP, June 30th 2003



Table 24-Acquisition of 12,74% of BSP
Source: Bloomberg

## Annex 15 - Historical Data of BTA, BSP and CPP

| | Historical Data | | | | |
|---|---|---|---|---|---|
| | 1999 | 2000 | 2001 | 2002 | 2003 |
| **Balance Sheet** | | | | | |
| Total Debt | 17 617 427 | 22 294 501 | 25 958 462 | 25 269 512 | 27 046 756 |
| Variation of Debt | | 4 677 075 | 3 663 961 | -688 950 | 1 777 244 |
| Growth | | 26,55% | 16,43% | -2,65% | 7,03% |
| Total Assets | 27 365 861 | 27 365 861 | 27 365 861 | 26 864 083 | 28 823 637 |
| Variation of Assets | | 0,00 | 0,00 | -501 778 | 1 959 554 |
| Growth | | 0,00% | 0,00% | -1,83% | 7,29% |
| **Profit & Loss Account** | | | | | |
| Net Income | 23 672 | 100 259 | 198 500 | 209 560 | 241 233 |
| Growth | | 323,53% | 97,99% | 5,57% | 15,11% |

Table 25 – Historical value of "Banco Totta e Açores" from 1999-2003 (values in thousands of euros)
Source: "Banco Totta &Açores" account reports, from 1999 to 2003

| | Historical Data | | | | |
|---|---|---|---|---|---|
| | 1999 | 2000 | 2001 | 2002 | 2003 |
| **Balance Sheet** | | | | | |
| Total Debt | 2 831 747 | 3 565 499 | 104 531 | 4 969 587 | 4 584 694 |
| Variation of Debt | | 733 752 | -3 460 968 | 4 865 056 | -384 893 |
| Growth | | 25,91% | -97,07% | 4654,17% | -7,74% |
| Total Assets | 3 289 421 | 3 804 255 | 5 184 313 | 5 253 218 | 4 906 35 |
| Variation of Assets | | 514 834 | 1 380 058 | 68 905 | -346 861 |
| Growth | | 15,65% | 36,28% | 1,33% | -6,60% |
| **Profit & Loss Account** | | | | | |
| Net Income | 27 734 | 30 681 | 26 831 | 34 345 | 38 836 |
| Growth | | 10,63% | -12,55% | 28,00% | 13,08% |

Table 26 – Historical value of "Santander Portugal" from 1999-2003 (values in thousands of euros)
Source: "Santander Portugal" account reports, from 1999 to 2003

| | Historical Data | | | | |
|---|---|---|---|---|---|
| | 1999 | 2000 | 2001 | 2002 | 2003 |
| **Balance Sheet** | | | | | |
| Total Debt | 7 001 811 | 8 607 392 | 9 694 425 | 10 195 220 | 13 833 829 |
| Variation of Debt | | 1 605 582 | 1 087 032 | 500 795 | 3 638 609 |
| Growth | | 22,93% | 12,63% | 5,17% | 35,69% |
| Total Assets | 7 268 752 | 8 818 287 | 10 012 346 | 10797074 | 14 489 370 |
| Variation of Assets | | 37 811 | 37 811 | 75 247 | 54 590 |
| Growth | | 21,32% | 13,54% | 7,84% | 34,20% |
| **Profit & Loss Account** | | | | | |
| Net Income | 29 631 | 6 241 | 37 811 | 75 247 | 54 590 |
| Growth | | -78,94% | 505,82% | 99,01% | -27,45% |

Table 27 – Historical value of "Crédito Predial Português" from 1999-2003 (values in thousands of euros)
Source: "Crédito Predial Português" account reports, from 1999 to 2003

## Annex 16 - Restructuration Costs

| | 2004 | 2005 | 2006 |
|---|---|---|---|
| Δ Personnel Expenses | +103,2 [1] | -12,7 | +11 |
| Δ General Expenses | +3,7 [2] | +8,1 [4] | +10,3 [4] |
| Consulting, audit and legal | 43 [3] | - | - |

Table 28 – Restructuration Costs 2003 (values in million euros)
Source: Santander-Totta account reports, from 2004 to 2006
[1] Early Retirements
[2] Openness of 21 branches, publicity, IT systems
[3] Taking into consideration past M&A deals, should reach to 2% of the total costs
[4] New branches and image/marketing changes

**Annex 17 – MSCI Index**

| Country Index Monthly Betas versus MSCI World Index | Weight of the Top 10 Stocks in the Market Capitalization |
|---|---|
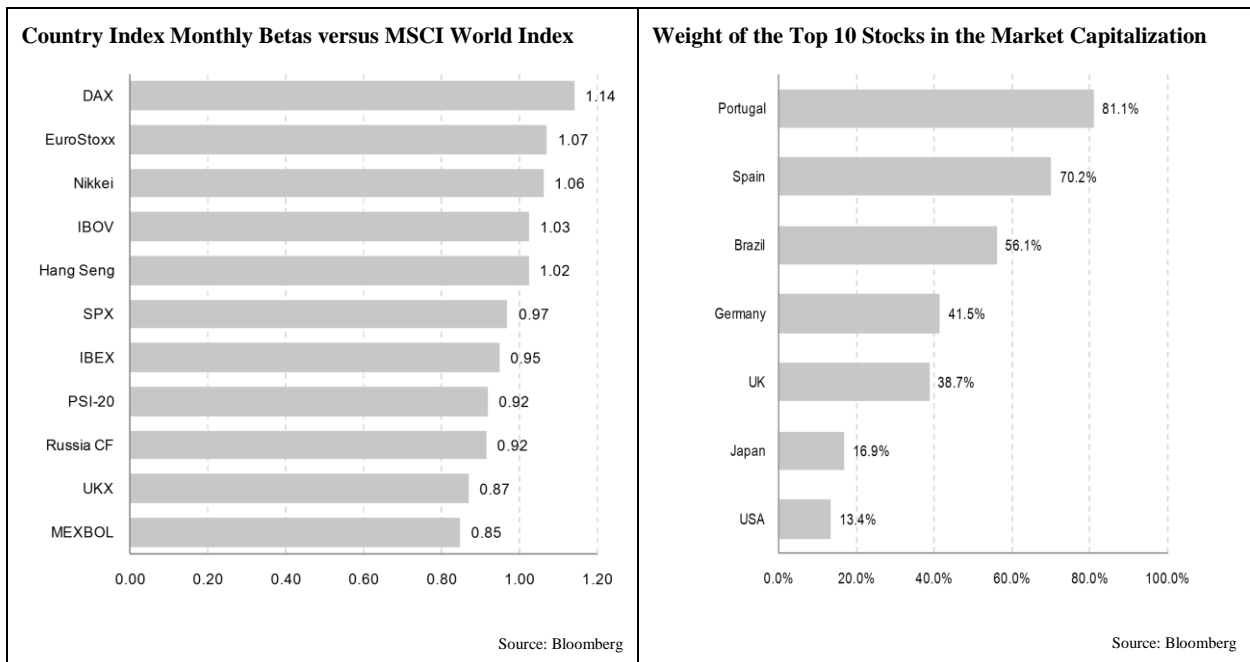


Table 29 - Correlations and degree of diversification of selected Equity Markets

Source: Caixa BI

Instead of using PSI 20 and IBEX 35 as market indicators we can use MSCI Index, since most local markets do not represent a fair proxy of the Equity Risk Premiums, especially on an historical basis. The key reasons for this rely on low liquidity, lack of long historical data series and high concentration in specific stocks and/or sectors.

The correlation has increased significantly in the last few years, reducing the benefits of diversification. Moreover, the integration of capital markets combined with the increasing internationalization of many companies, support the adoption of a more global approach.

It is fair to assume the global, and, in many instances, the European and U.S. equity market diversified indexes, such as the S&P 500 (SPX), MSCI Europe (MXEU) and MSCI World (MSERWI) as references. For the European market, the MSCI represent a better reference because is valued in euros.

Although, we reached the same results, so the conclusions of the stock reaction were presented with PSI 20 and IBEX 35 as market indicators.

## Annex 18- Data for computation of Abnormal Returns, April 7th 2000

| T | Dates | Prices | BTA Stock Returns | Prices | PSI 20 Stock Returns | Prices | CPP Stock Returns | Prices | BSCH Stock Returns | Prices | IBEX 35 Stock Returns |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 28-03-2000 | 25,49 | -0,00817 | 13502,34 | -0,00228 | 13,6 | -0,00293 | 10,83 | 0,017506 | 12211,1 | 0,004037 |
| | 29-03-2000 | 25,24 | -0,0098 | 13288,85 | -0,01581 | 13,59 | -0,00074 | 10,73 | -0,00946 | 12088,6 | -0,01003 |
| | 30-03-2000 | 25,34 | 0,003961 | 13007,43 | -0,02118 | 13,6 | 0,000736 | 10,59 | -0,01304 | 11833,4 | -0,02111 |
| t=-5 | 31-03-2000 | 26,29 | 0,037476 | 13127,09 | 0,009199 | 13,96 | 0,026471 | 10,47 | -0,01144 | 11935 | 0,008586 |
| | 03-04-2000 | 26,19 | -0,0038 | 12913,72 | -0,01625 | 13,96 | 0 | 10,48 | 0,001786 | 11686,4 | -0,02083 |
| | 04-04-2000 | 25,60 | -0,02252 | 12402,23 | -0,03961 | 13,8 | -0,01146 | 10,60 | 0,010668 | 11584,2 | -0,00875 |
| | 05-04-2000 | 25,99 | 0,015229 | 12392,82 | -0,00076 | 13,86 | 0,004348 | 10,42 | -0,01672 | 11374,6 | -0,01809 |
| | 06-04-2000 | 26,36 | 0,014231 | 12914,67 | 0,042109 | 13,76 | -0,00722 | 10,12 | -0,02862 | 11607,9 | 0,020511 |
| t=0 | 07-04-2000 | 27,09 | **0,02768** | 13208,56 | **0,022756** | 13,85 | **0,006541** | 10,33 | **0,020256** | 11790,6 | **0,015739** |
| | 10-04-2000 | 27,31 | 0,008118 | 13183,11 | -0,00193 | 14 | 0,01083 | 10,51 | 0,018044 | 11768,7 | -0,00186 |
| | 11-04-2000 | 27,31 | 0 | 12597,69 | -0,04441 | 14 | 0 | 10,35 | -0,01507 | 11515,3 | -0,02153 |
| | 12-04-2000 | 27,31 | 0 | 12531,86 | -0,00523 | 14 | 0 | 10,45 | 0,009007 | 11542,1 | 0,002327 |
| | 13-04-2000 | 27,34 | 0,001098 | 12536,12 | 0,00034 | 14 | 0 | 10,70 | 0,024082 | 11647,2 | 0,009106 |
| t=5 | 14-04-2000 | 27,19 | -0,00548 | 12050,14 | -0,03877 | 13,92 | -0,00571 | 10,53 | -0,01568 | 11363,9 | -0,02432 |
| | 17-04-2000 | 27,48 | 0,01066 | 12143,44 | 0,007743 | 14,14 | 0,017266 | 10,29 | -0,00809 | 8340,4 | -0,26606 |
| | 18-04-2000 | 27,80 | 0,01164 | 12179,3 | 0,002953 | 14,14 | 0 | 10,17 | -0,01177 | 8375,2 | 0,004172 |
| | 19-04-2000 | 27,79 | -0,00035 | 12079,68 | -0,00818 | 14,14 | 0 | 10,47 | 0,029326 | 8282,1 | -0,01112 |
| | 20-04-2000 | 27,91 | 0,00431 | 12125,08 | 0,003758 | 14,14 | 0 | 10,67 | 0,019589 | 8293,6 | 0,001389 |
| | 26-04-2000 | 27,79 | -0,0042 | 12200,56 | 0,006225 | 14,14 | 0 | 10,41 | -0,02445 | 8331,7 | 0,004594 |

Table 30 – Prices and Stock Returns of BTA, CPP, BSCH, PSI 20 and IBEX 35
Source: Bloomberg

| SUMMARY OUTPUT | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Regression Statistics** | | | | | | | | |
| **Multiple R** | 0,105 | | | | | | | |
| **R Square** | 0,011 | | | | | | | |
| **Adjusted R Square** | 0,007 | | | | | | | |
| **Standard Error** | 0,034 | | | | | | | |
| **Observations** | 250 | | | | | | | |
| **ANOVA** | | | | | | | | |
| | Df | SS | MS | F | Significance F | | | |
| **Regression** | 1 | 0,00 | 0,00 | 2,78 | 0,10 | | | |
| **Residual** | 248 | 0,30 | 0,00 | | | | | |
| **Total** | 249 | 0,30 | | | | | | |
| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% | Lower 95,0% | Upper 95,0% |
| **Intercept** | 0,003 | 0,00 | 1,19 | 0,23 | 0,00 | 0,01 | 0,00 | 0,01 |
| **X Variable 1** | 0,31 | 0,19 | 1,67 | 0,10 | -0,06 | 0,68 | -0,06 | 0,68 |

Table 31 - Computation of beta and alpha, for BTA
Source: Authors Computations

| SUMMARY OUTPUT | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Regression Statistics** | | | | | | | | |
| **Multiple R** | 0,222 | | | | | | | |
| **R Square** | 0,049 | | | | | | | |
| **Adjusted R Square** | 0,046 | | | | | | | |
| **Standard Error** | 0,021 | | | | | | | |
| **Observations** | 250,000 | | | | | | | |
| | | | | | | | | |
| | *Df* | *SS* | *MS* | *F* | *Significance F* | | | |
| **Regression** | 1 | 0,01 | 0,01 | 12,89 | 0,00 | | | |
| **Residual** | 248 | 0,11 | 0,00 | | | | | |
| **Total** | 249 | 0,12 | | | | | | |
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95,0%* | *Upper 95,0%* |
| **Intercept** | 0,00 | 0,00 | 0,49 | 0,63 | 0,00 | 0,00 | 0,00 | 0,00 |
| **X Variable 1** | 0,41 | 0,11 | 3,59 | 0,00 | 0,18 | 0,63 | 0,18 | 0,63 |

Table 32 - Computation of beta and alpha, for CPP
Source: Authors Computations

| SUMMARY OUTPUT | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Regression Statistics** | | | | | | | | |
| **Multiple R** | 0,543 | | | | | | | |
| **R Square** | 0,295 | | | | | | | |
| **Adjusted R Square** | 0,292 | | | | | | | |
| **Standard Error** | 0,014 | | | | | | | |
| **Observations** | 250 | | | | | | | |
| | | | | | | | | |
| | Df | SS | MS | F | Significance F | | | |
| **Regression** | 1 | 0,02 | 0,02 | 104,17 | 0,00 | | | |
| **Residual** | 248 | 0,05 | 0,00 | | | | | |
| **Total** | 249 | 0,08 | | | | | | |
| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% | Lower 95,0% | Upper 95,0% |
| **Intercept** | 0,00 | 0,00 | 0,22 | 0,83 | 0,00 | 0,00 | 0,00 | 0,00 |
| **X Variable 1** | 0,81 | 0,08 | 10,21 | 0,00 | 0,65 | 0,96 | 0,65 | 0,96 |

Table 33 - Computation of beta and alpha, for BSCH
Source: Authors Computations

## Annex 19 – Significance Tests, April 7th 2000

| t-Test 1-sample | | Test Stdev | p 1-sample Stdev |
|---|---|---|---|
| Test Mean | 0 | | |
| Confidence Level | 0,95 | 0,011936356 | 0,881 |
| N | 11 | | |
| Average | 0,59% | | |
| Stdev | 0,011936 | | |
| SE Mean | 0,003599 | | |
| T | -1,650 | | |
| TINV | 1,812461 | | |
| p - One sided | 0,065028 | | |
| **p - two sided** | **0,130057** | | |

Table 34- Significance test of the average cumulative returns in the event window, in BTA
Source: Authors computation

| | | Test Stdev | p 1-sample Stdev |
|---|---|---|---|
| Test Mean | 0 | | |
| Confidence Level | 0,95 | 0,012279 | 0,881 |
| N | 11 | | |
| Average | 0,42% | | |
| Stdev | 0,012279 | | |
| SE Mean | 0,003702 | | |
| T | -1,132 | | |
| TINV | 1,812461 | | |
| p - One sided | 0,142068 | | |
| **p - two sided** | **0,284136** | | |

Table 35- Significance test of the average cumulative returns in the event window, in CPP
Source: Authors computation

| | | Test Stdev | p 1-sample Stdev |
|---|---|---|---|
| Test Mean | 0 | 0,019403 | 0,881 |
| Confidence Level | 0,95 | | |
| N | 11 | | |
| Average | 0,23% | | |
| Stdev | 0,019403 | | |
| SE Mean | 0,00585 | | |
| T | -0,398 | | |
| TINV | 1,812461 | | |
| p - One sided | 0,349323 | | |
| **p - two sided** | **0,698645** | | |

Table 36- Significance test of the average cumulative returns in the event window, in BSCH
Source: Authors computation

| t-Test: Paired Two Sample for Means | | 0,05 |
|---|---|---|
| | *Before* | *After* |
| Mean | 0,005704 | 0,003823 |
| Variance | 0,000287 | 2,93E-05 |
| Observations | 5 | 5 |
| Pearson Correlation | 0,477564 | |
| Hypothesized Mean Difference | 0 | |
| Df | 4 | |
| t Stat | 0,278 | |
| P(T<=t) one-tail | 0,397 | |
| T Critical one-tail | 2,132 | |
| **P(T<=t) two-tail** | **0,795** | |
| **T Critical Two-tail** | **2,776** | |

Table 37- Significance test of difference between average of cumulative returns, before and after the announcement day, for BTA
Source: Authors computation

| t-Test: Paired Two Sample for Means | | 0,05 |
|---|---|---|
| | *Before* | *After* |
| Mean | 0,002211 | 0,007676 |
| Variance | 0,000288 | 5,44E-05 |
| Observations | 5 | 5 |
| Pearson Correlation | -0,1612 | |
| Hypothesized Mean Difference | 0 | |
| Df | 4 | |
| t Stat | -0,624 | |
| P(T<=t) one-tail | 0,283 | |
| T Critical one-tail | 2,132 | |
| **P(T<=t) two-tail** | **0,566** | |
| **T Critical Two-tail** | **2,776** | |

Table 38- Significance test of difference between average of cumulative returns, before and after the announcement day, for CPP
Source: Authors computation

| t-Test: Paired Two Sample for Means | | 0,05 |
|---|---|---|
| | *Before* | *After* |
| Mean | -0,00607 | 0,009732 |
| Variance | 0,000718 | 6E-05 |
| Observations | 5 | 5 |
| Pearson Correlation | -0,27943 | |
| Hypothesized Mean Difference | 0 | |
| Df | 4 | |
| t Stat | -1,182 | |
| P(T<=t) one-tail | 0,151 | |
| T Critical one-tail | 2,132 | |
| **P(T<=t) two-tail** | **0,303** | |
| **T Critical Two-tail** | **2,776** | |

Table 39- Significance test of difference between average of cumulative returns, before and after the announcement day, for BSCH
Source: Authors computation

**Annex 20- Data for computation of Abnormal Returns, January 20th, 2004**

| t | dates | BTA Prices | BTA Stock Returns | PSI 20 Prices | PSI 20 Stock Returns | BSCH Prices | BSCH Stock Returns | IBEX 35 Prices | IBEX 35 Stock Returns |
|---|---|---|---|---|---|---|---|---|---|
| | 05/01/2004 | 27,9 | 0 | 8,9599 | 0,006057 | 8,9599 | 0,00418 | 7911,4 | 0,004087 |
| | 06/01/2004 | 27,9 | 0 | 8,8946 | -0,01152 | 8,8946 | -0,00729 | 7911,4 | 0 |
| | 08/01/2004 | 27,9 | 0 | 8,8574 | 0,006869 | 8,8574 | -0,00418 | 7943,4 | 0,004045 |
| t=-5 | 09/01/2004 | 28,1 | 0,007168 | 8,9226 | 0,000112 | 8,9226 | 0,007361 | 7924,6 | -0,00237 |
| | 12/01/2004 | 27,9 | -0,00712 | 8,9226 | -0,00126 | 8,9226 | 0 | 7934,6 | 0,001262 |
| | 13/01/2004 | 27,9 | 0 | 8,8667 | 0,00226 | 8,8667 | -0,00626 | 7946,1 | 0,001449 |
| | 14/01/2004 | 27,9 | 0 | 8,8201 | 0,005036 | 8,8201 | -0,00526 | 7978,1 | 0,004027 |
| | 19/01/2004 | 27,9 | 0 | 8,7548 | 0,015526 | 8,7548 | -0,0074 | 8016,3 | 0,004788 |
| t=0 | 20/01/2004 | 27,9 | 0 | 8,6336 | -0,00929 | 8,6336 | -0,01384 | 7987,9 | -0,00354 |
| | 21/01/2004 | 27,9 | 0 | 8,6989 | 0,006997 | 8,6989 | 0,007563 | 8051,9 | 0,008012 |
| | 22/01/2004 | 27,9 | 0 | 8,8574 | -0,00168 | 8,8574 | 0,018221 | 8101,3 | 0,006135 |
| | 26/01/2004 | 27,9 | 0 | 8,7641 | 0,003085 | 8,7641 | -0,01053 | 8031,4 | -0,00863 |
| | 27/01/2004 | 27,9 | 0 | 8,7734 | 0,00596 | 8,7734 | 0,001061 | 8061,1 | 0,003698 |
| t=5 | 29/01/2004 | 27,9 | 0 | 8,6616 | -0,00949 | 8,6616 | -0,01274 | 8013,1 | -0,00595 |
| | 02/02/2004 | 27,9 | 0 | 8,5776 | 0,005515 | 8,5776 | -0,0097 | 7958,6 | -0,0068 |
| | 03/02/2004 | 27,9 | 0 | 8,5683 | 9,54E-05 | 8,5683 | -0,00108 | 7960,3 | 0,000214 |
| | 04/02/2004 | 28 | 0,003584 | 8,4378 | 0,000678 | 8,4378 | -0,01523 | 7888,8 | -0,00898 |
| | 05/02/2004 | 27,9 | -0,00357 | 8,4658 | 0,000495 | 8,4658 | 0,003318 | 7949,1 | 0,007644 |
| | 06/02/2004 | 27,9 | 0 | 8,6149 | 0,017929 | 8,6149 | 0,017612 | 8024,9 | 0,009536 |
| | 09/02/2004 | 27,9 | 0 | 8,7082 | 0,002034 | 8,7082 | 0,01083 | 8135,2 | 0,013745 |

Table 40 – Prices and Stock Returns of BTA, BSCH, PSI 20 and IBEX 35
Source: Bloomberg

| SUMMARY OUTPUT | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Regression Statistics* | | | | | | | | |
| **Multiple R** | 0,05 | | | | | | | |
| **R Square** | 0,00 | | | | | | | |
| **Adjusted R Square** | 0,00 | | | | | | | |
| **Standard Error** | 0,00 | | | | | | | |
| **Observations** | 250,00 | | | | | | | |
| | | | | | | | | |
| | *Df* | *SS* | *MS* | *F* | *Significance F* | | | |
| **Regression** | 1 | 2E-07 | 2E-07 | 7E-01 | 4E-01 | | | |
| **Residual** | 248 | 8E-05 | 3E-07 | | | | | |
| **Total** | 249 | 8E-05 | | | | | | |
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95,0%* | *Upper 95,0%* |
| **Intercept** | -6,09388E-06 | 4E-05 | -2E-01 | 9E-01 | -8E-05 | 7E-05 | -8E-05 | 7E-05 |
| **X Variable 1** | -0,004 | 5E-03 | -9E-01 | 4E-01 | -1E-02 | 5E-03 | -1E-02 | 5E-03 |

Table 41 - Computation of beta and alpha, for BTA
Source: Authors Computations

| SUMMARY OUTPUT | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Regression Statistics* | | | | | | | |
| **Multiple R** | 0,934 | | | | | | |
| **R Square** | 0,874 | | | | | | |
| **Adjusted R Square** | 0,873 | | | | | | |
| **Standard Error** | 0,007 | | | | | | |
| **Observations** | 250 | | | | | | |
| **ANOVA** | | | | | | | |
| | *df* | *SS* | *MS* | *F* | *Significance F* | | |
| **Regression** | 1 | 0,095 | 0,09558 | 1721,85 | 1,3655E-113 | | |
| **Residual** | 248 | 0,013 | 5,5512E-05 | | | | |
| **Total** | 249 | 0,109 | | | | | |
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95,0%* |
| **Intercept** | 2,39585E-06 | 0,000472844 | 0,0050 | 0,9959 | -0,000 | 0,0009 | -0,000 |
| **X Variable 1** | 1,552 | 0,037405417 | 41,495 | 1,3655E-113 | 1,4784 | 1,625 | 1,478 |

Table 42 - Computation of beta and alpha, for BSCH
Source: Authors Computations

## Annex 21 – Significance Tests, January 20th 2004

| | | | |
|---|---|---|---|
| Test Mean | 0 | | |
| Confidence Level | 0,95 | Test Stdev | p 1-sample Stdev |
| N | 11 | 0,003196 | 0,881 |
| Average | 0,00% | | |
| Stdev | 0,003196 | | |
| SE Mean | 0,000964 | | |
| T | -0,018 | | |
| TINV | 1,812461 | | |
| p - One sided | 0,49303 | | |
| **p - two sided** | **0,98606** | | |

Table 43- Significance test of the average cumulative returns in the event window, in BTA
Source: Authors computation

| | | |
|---|---|---|
| Test Mean | 0 | |
| Confidence Level | 0,95 | |
| N | 11 | |
| Average | -0,73% | |
| Stdev | 0,00993 | |
| SE Mean | 0,00299 | |
| T | 2,443 | |
| TINV | 1,812461 | |
| p - One sided | 0,01734 | |
| **p - two sided** | **0,03467** | |

| Test Stdev | p 1-sample Stdev |
|---|---|
| 0,008041 | 0,881 |

Table 44- Significance test of the average cumulative returns in the event window, in BSCH
Source: Authors computation

| t-Test: Paired Two Sample for Means | | 0,05 |
|---|---|---|
| | *Before* | *After* |
| Mean | 3,43E-05 | 1,01E-05 |
| Variance | 2,55E-05 | 7,9E-10 |
| Observations | 5 | 5 |
| Pearson Correlation | -0,80789 | |
| Hypothesized Mean Difference | 0 | |
| Df | 4 | |
| t Stat | 0,011 | |
| P(T<=t) one-tail | 0,496 | |
| T Critical one-tail | 2,132 | |
| **P(T<=t) two-tail** | **0,992** | |
| **T Critical Two-tail** | **2,776** | |

Table 45- Significance test of difference between average of cumulative returns, before and after the announcement day, for BTA
Source: Authors computation

| t-Test: Paired Two Sample for Means | | 0,05 |
|---|---|---|
| | *Before* | *After* |
| Mean | -0,00976 | -0,0025 |
| Variance | 0,000152 | 4,29E-05 |
| Observations | 5 | 5 |
| Pearson Correlation | 0,027644 | |
| Hypothesized Mean Difference | 0 | |
| Df | 4 | |
| t Stat | -1,176 | |
| P(T<=t) one-tail | 0,152 | |
| T Critical one-tail | 2,132 | |
| **P(T<=t) two-tail** | **0,305** | |
| **T Critical Two-tail** | **2,776** | |

Table 46- Significance test of difference between average of cumulative returns, before and after the announcement day, for BSCH
Source: Authors computation

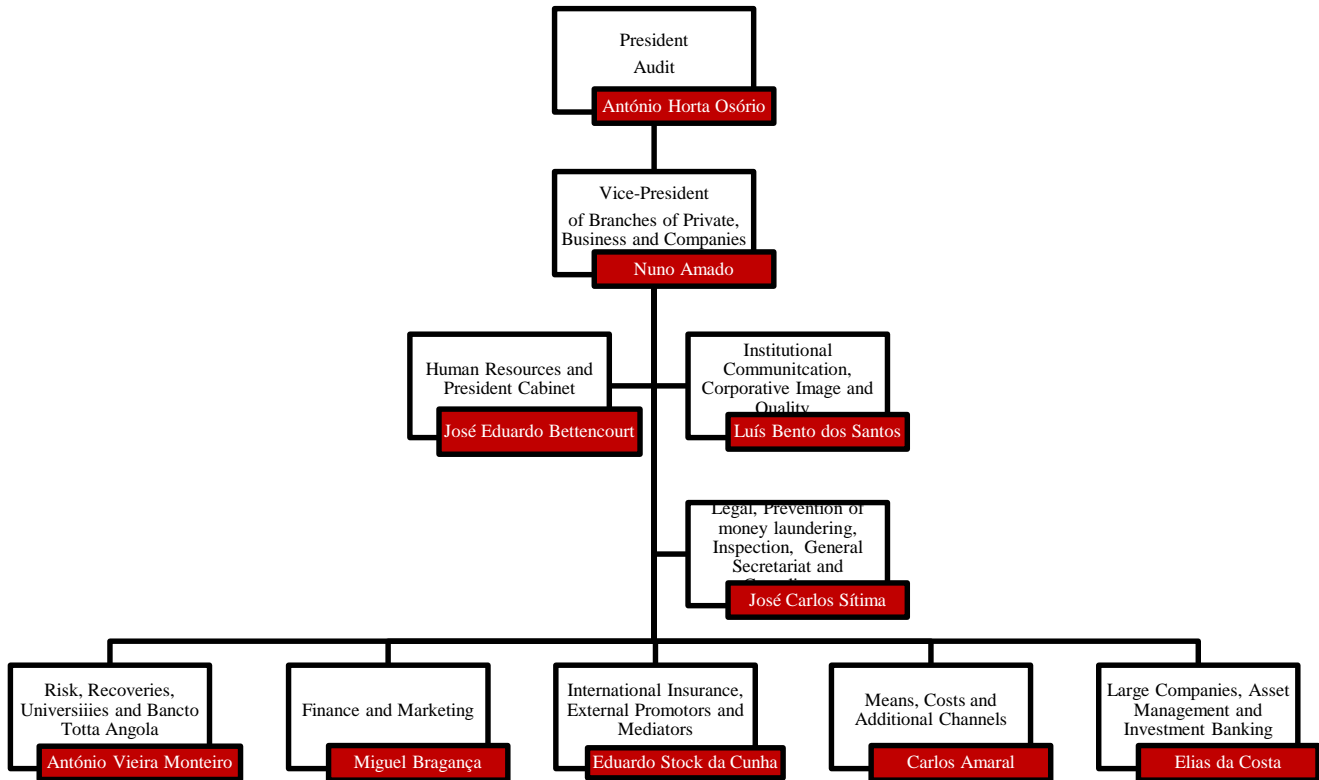## Annex 22 - Organizational Structure of Santander-Totta



Table 47 – Organizational Structure of Santander-Totta
Source: Santander-Totta, Account Report 2005

## Annex 23 - Rating for Santander-Totta

|  | Fitch – IBCA | Moody's | S&P's |
|---|---|---|---|
| Short Term | F1+ | P1 | A1+ |
| Long Term | AA | A1 | AA- |
| Outlook | Stable | Stable | Positive |

Table 48 -Rating of Santander-Totta
Source: Santander-Totta, Account Report 2005

## Annex 24 - Total loans in Santander-Totta

|  | 2004 | 2005 | 2006 | 2007 | 2008 | Average |
|---|---|---|---|---|---|---|
| Mortgage Loans | 11573 | 12933 | 14192 | 15456 | 15983 | 14027 |
| *Growth* |  | *11,75%* | *9,73%* | *8,91%* | *3,41%* | *8,45%* |
| Consumer Credit | 810 | 947 | 1189 | 1370 | 1522 | 1168 |
| *Growth* |  | *16,91%* | *25,55%* | *15,22%* | *11,09%* | *17,20%* |
| Small Business | 1120 | 1578 | 1994 | 2505 | 2769 | 1993 |
| *Growth* |  | *40,89%* | *26,36%* | *25,63%* | *10,54%* | *25,86%* |
| Corporates | 3150 | 3350 | 4393 | 4900 | 4523 | 4063 |
| *Growth* |  | *6,35%* | *31,13%* | *11,54%* | *-7,69%* | *10,33%* |
| Large Corporates | 5481 | 6287 | 4805 | 4301 | 4561 | 5087 |
| *Growth* |  | *14,71%* | *-23,57%* | *-10,49%* | *6,05%* | *-3,33%* |

Table 49 – Total Loans
Source: Account Report of BST from 2004-2008

**Annex 25 - Resources from clients in Santander-Totta**

|  | 2004 | 2005 | 2006 | 2007 | 2008 | Average |
|---|---|---|---|---|---|---|
| Depositors | 12953 | 12094 | 11659 | 11866 | 15525 | **12819** |
| *Growth* |  | *-6,63%* | *-3,60%* | *1,78%* | *30,84%* | *5,60%* |
| Debt securities | 9669 | 4034 | 5368 | 6747 | 1068 | **5377** |
| *Growth* |  | *-58,28%* | *33,07%* | *25,69%* | *-84,17%* | *-20,92%* |

Table 50 – Resources from Clients
Source: Account Report of BST from 2004-2008

**Annex 26 - Indicators that contributed to higher income and lower costs in Santander-Totta**

|  | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Average |
|---|---|---|---|---|---|---|---|
| Net Interest Income | 558,6 | 582,8 | 610,5 | 628,8 | 678,1 | 711,6 | **628,4** |
| *Growth* |  | *4,33%* | *4,75%* | *3,00%* | *7,84%* | *4,94%* | *4,97%* |
| Net Commissions | 255,1 | 284,1 | 255,9 | 304 | 306,5 | 307,8 | **285,5** |
| *Growth* |  | *11,37%* | *-9,93%* | *18,80%* | *0,82%* | *0,42%* | *4,30%* |
| Results from financial transactions | 8,3 | 2,7 | 18,4 | 75,9 | 107,4 | 50,7 | **43,9** |
| *Growth* |  | *-67,47%* | *581,48%* | *312,50%* | *41,50%* | *-52,79%* | **163,04%** |
| Personnel expenses | 248,7 | 248,6 | 258 | 269,1 | 277,9 | 283,2 | **264,2** |
| *Growth* |  | *-0,04%* | *3,78%* | *4,30%* | *3,27%* | *1,91%* | *2,64%* |
| Other Administrative Expenses | 133,1 | 136,8 | 143,1 | 153,4 | 148,5 | 151,8 | **144,45** |
| *Growth* |  | *2,78%* | *4,61%* | *7,20%* | *-3,19%* | *2,22%* | *2,72%* |

Table 51 – Indicators that influenced Net Income
Source: Account Report of BST from 2004-2008

**Annex 27- Solvency Ratios for Santander-Totta**

|  | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|
| Total Own Capital | 1.828 | 2.221 | 2.302 | 2.390 | 2.576 |
| Own Capital | 1.388 | 1.401 | 2.544 | 1.802 | 2.091 |
| Additional Capital and deductions | 440 | 820 | 758 | 588 | 486 |
| Weighted off-balance assets | 18.657 | 19.919 | 20.738 | 24.215 | 24.956 |
| Solvency Ratios (Banco Portugal) | 9,5% | 10,8% | 10,9% | 10% | 10,3% |
| Core Tier I | 7,2% | 6,8% | 5,8% | 6,1% | 6,7% |

Table 52– Computation of solvability ratios between 2004 and 2008
Source: Account Report of BST from 2004-2008

**Annex 28 - Financial Indicators through segments, Santander-Totta**

| | 2005 | | 2006 | | 2007 | | | 2008 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Retail | Commercial | Retail | Commercial | Retail | Commercial | Global Banking & Markets | Retail | Commercial | Global Banking & Markets |
| Operating Income | 671.903 | 143.249 | 745.380 | 139.342 | 817.860 | 135.653 | 37.756 | 889.154 | 137.978 | 50.916 |
| *Weight in total* | *75,45%* | *16,09%* | *74,22%* | *17,04%* | *75,15%* | *12,46%* | *3,47%* | *82,97%* | *12,87%* | *4,75%* |
| Net Income | 175.498 | 72.274 | 198.275 | 65.454 | 277.653 | 53.318 | 27.231 | 360.506 | 78.148 | 38.168 |
| *Weight in total* | *59,23%* | *24,39%* | *56.02%* | *18.49%* | *71,63%* | *13,76%* | *7,03%* | *82,23%* | *17,83%* | *8,71%* |
| Credit to Clients | 15.946.296 | 9.183.345 | 1.8049.886 | 8.311.652 | 20.667.315 | 3.157.057 | 4.092.904 | 20.759.491 | 4.732.202 | 4.518.238 |
| *Weight in total* | *62,59%* | *36,05%* | *68,47%* | *31,53%* | *74,03%* | *11,31%* | *14,66%* | *69,18%* | *15,77%* | *15.06%* |
| Mortgage Credit | 12.933.000 | - | 14.192.160 | - | 15.463.446 | - | - | 15.988.455 | - | - |
| Consume Credit | 947.000 | - | 1.072.160 | - | 1.399.292 | - | - | 1.547.890 | - | - |
| Others Credits | 2.066.296 | 9.183.345 | 2.784.834 | 8.311.652 | 3.804.577 | 3.157.057 | 4.092.904 | 3.223.146 | 4.732.202 | 4.518.238 |
| Resources in BS | 11.924.633 | 5.461.775 | 11.062.357 | 12.696.519 | 11.214.283 | 2.518.717 | 632.899 | 14.296.304 | 2.774.537 | 733.789 |
| *Weight in total* | *66,80%* | *30,59%* | *45,61%* | *52,35%* | *43,60%* | *9,79%* | *2,46%* | *52.25%* | *10.14%* | *2,68%* |
| From clients | 10.536.313 | 1.245.051 | 9.590.405 | 1.364.703 | 9.882.727 | 1.350.631 | 632.899 | 13.243.775 | 1.547.696 | 733.789 |
| Responsibilities by securities | 1.388.320 | 4.216.724 | 1.471.952 | 11.331.816 | 1.331.556 | 1.168.086 | - | 1.052.529 | 1.226.841 | - |

Table 53 – Contribution of different segments to major financial items
Source: Account Report from BST, between 2005-2008 (Values in thousands euros)

Since 2007, BST included the segment of Global Banking & Markets that includes financial markets and large enterprises, being provided services of financial advisory, namely Corporate and Project Finance. The Retail Banking refers to operations of lending and funding resources related to particular clients and businesses with turnover lower than four million euros. Commercial Banking refers to companies with turnover between 4 million and 125million Euros and Large Enterprises with more than 125 million Euros turnover.