Universidade Católica Portuguesa

Católica Lisbon School of Business and Economics

Equity Valuation

Advisor: Prof. José Tudela Martins and Dr. Henrique Bonfim

Author: Jorge Miguel Silva Frade, No. 152111109

Abstract

Valuation is not an exact science. It is based on theoretical models and practitioner's assumptions that try to predict future outcomes, hence it involves a high degree of subjectivity. Nonetheless, everyday several analysts attempt, to the best of their knowledge and ability, to determine the appropriate price for a given security. In a similar form, the purpose of this dissertation is to assess a target price for the share of Millennium BCP to the best of my knowledge and ability. According to my analysis the price target for Millennium BCP should be €0,068 per share, which represents a 30% upside potential (closing price of 24.12.2015) – BUY recommendation. I have also assessed the impact of the main risks and upsides to the share price through a sensitivity analysis and compared my analysis to a leading investment bank report.

Dissertation submitted in partial fulfillment of requirements for the degree of MSc in Business Administration, at the Universidade Católica Portuguesa, 30th of December 2015.

Universidade Católica Portuguesa

Católica Lisbon School of Business and Economics

Equity Valuation

Advisor: Prof. José Tudela Martins and Dr. Henrique Bonfim

Author: Jorge Miguel Silva Frade, No. 152111109

Abstract

A avaliação de empresas não é uma ciência exacta. É baseada em modelos teóricos e em pressupostos de analistas que tentam prever eventos futuros, pelo que envolve um elevado nível de subjectividade. No entanto, diversos analistas tentam diariamente, aplicando as suas capacidades e conhecimentos, determinar o justo valor de diversos títulos. Semelhantemente, o objectivo desta tese é determinar o justo valor da acção do Millennium BCP, aplicando as minhas capacidades e conhecimentos. De acordo com a minha a análise o preço alvo para a acção do Millennium BCP é €0,068, o que representa um potencial de valorização de 30% (preço de fecho a 24.12.2015) – recomendação de COMPRA. Adicionalmente, analisei o impacto dos maiores riscos e oportunidades através de uma análise de sensibilidade e comparei as minhas conclusões com uma nota de *research* de um banco de investimento.

Dissertation submitted in partial fulfillment of requirements for the degree of MSc in Business Administration, at the Universidade Católica Portuguesa, 30th of December 2015.

Glossary of Terms

€XXB	Billions of euros
€XXM	Millions of euros
AC	Audit Committee
AFS	Available for Sale
APV	Adjusted Present Value
BANIF	Banco Internacional do Funchal
BdP	Banco de Portugal
BES	Banco Espírito Santo
BIS	Board for International Strategy
BoD	Board of Directors
bp	Basis points
BPA	Banco Privado Atlântico
BPI	Banco Português de Investimento
CAPEX	Capital Expenditure
CAPM	Capital Asset Pricing Model
CaR	Credit at Risk
CB	Capital Conservation Buffer
CBI	Caixa Banco de Investimento
CCB	Countercyclical Buffer
CCF	Capital Cash Flow
CEMG	Caixa Económica Montepio Geral
CET1	Core Equity Tier 1
CGD	Caixa Geral de Depósitos
CoE	Cost of Equity
CoR	Cost of Risk
CRD IV	Capital Requirements Directive IV
CRM	Client Relationship Management
CRP	Country Risk Premium
CRR	Capital Requirements Regulation
CtI	Cost to Income Ratio
DDM	Dividend Discount Model
DTAs	Deferred Tax Assets
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Depreciation, Interest and Taxes
EC	Executive Committee
ECB	European Central Bank
EIU	Economist Intelligence Unit
ERP	Equity Risk Premium
EUR	Euros
FCFE	Free Cash Flow to Equity
FCFF	Free Cash Flow to the Firm
FI	Financial Institution
FY	Fiscal Year
g	growth
GDP	Gross Domestic Product
GSII	Global Systemic Institution Buffer
HFT	Held for Trading
HTM	Held to Maturity
IMF	International Monetary Fund
IPO	Initial Public Offering
IRB	Internal Rating Based Approach
IRD	Investor Relation Department
LBO	Leverage Buy Out
LCR	Liquidity Coverage Ratio
LtD	Loan to Deposit Ratio
LtV	Loan to Value
MBCP	Banco Comercial Português
MBO	Management Buy Out
NAV	Net Asset Value
NB	Novo Banco
NI	Net Income
NIM	Net Interest Margin
NPL	Non Performing Loans
NPV	Net Present Value
NSFR	Net Stable Funding Ratio
OCI	Other Credit Institutions
OSII	Other Systemically Important Institutions Buffer
P/BV	Price to Book Value
P/E	Price to Earnings Ratio
P/S	Price to Sales Ratio
RoA	Return on Assets
RoE	Return on Equity
RWA	Risk Weighted Assets
RWB	Remuneration and Welfare Board
SoP	Sum of Parts
SR	Systemic Risk Buffer
STD	Banco Santander Totta
USA	United States of America
USD	United States Dollar
WACC	Weighted Average Cost of Capital
YtD	Year to Date

Index

I. Preface

As an Advisor in the Financial Services Industry, I spent the last three years involved in several projects related to mergers and acquisitions, transactions and valuations, enabling the development of the necessary skills for the construction of Financial Models and Business Plans. Additionally, my professional experience also helped me understand how relevant banks are for the economic development and progress of a country.

Due to my professional background and personal interest in the banking industry, I was interested to write a dissertation related to this industry, not only to apply my existing knowledge, but also to further improve it, in a way I could benefit from in my professional career. Hence, I decided to enroll in the Equity Valuation Seminar in the hope to develop a valuation of a Financial Institution.

II. Acknowledgements

I would like to express my gratitude to my advisors, Professor José Tudela Martins and Dr. Henrique Bonfim, for their help, availability and feedback throughout the writing of my dissertation.

I would also like to thank Dr. Luís Monteiro from Millennium BCP and Dr. André Rodrigues from Caixa Banco de Investimento for their time and the opportunity they gave me to discuss my ideas and assumptions with them. Additionally, I would like to appreciate the support of my colleagues from KPMG in the realization of this personal project.

Finally, but far from least, I dearly thank my friends, girlfriend and family for the support, advice and especially the patience they have shown during my master degree.

EQUITY RESEARCH | **Reuteurs: BCP.LS** | **Blomberg: BCP PL** | **ISIN: PTBCP0AM00007**

III. Executive Summary

Investment Research *30th of December 2015*

BUY

Share Price: €0,052

Closing price at 24.12.2015

Target Price: €0,068

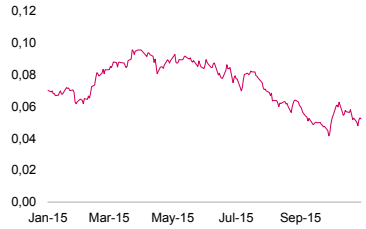
Reference date 31.12.2015

KPI (FY12, FY13, FY14)

€Million	FY12	FY13	FY14
Balance Sheet			
Total Assets	89.744	82.007	76.361
Net Loans	62.618	56.802	53.686
Deposits	49.404	48.960	49.817
Equity	4.000	3.276	4.987
Profitability			
NIM (%)	1,3%	1,1%	1,6%
CtI	62,6%	66,5%	51,7%
RoE	(35,4%)	(26,5%)	(6,5%)
Credit Quality			
Gross Loans	66.861	60.222	57.169
NPL Ratio	5,8%	7,1%	7,3%
CaR Ratio	13,1%	11,9%	12,0%
CoR (bp)	157	137	194
Solvency			
CET1(Phased-in)	-	-	12,0%
CET1(Fully Loaded)	-	-	8,9%
BCP Share (€per share)			
EPS	(0,058)	(0,022)	(0,005)
Operational (#)			
Branches	1699	1518	1373
Employees	20.531	18.720	17.703

Source: MBCP

Share Price (FY15)



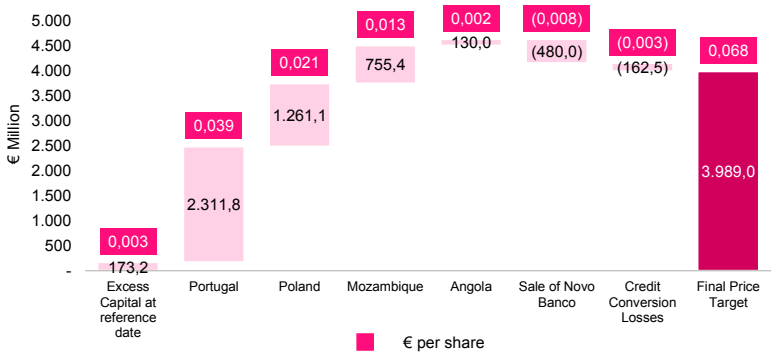
Source: Euronext Lisbon

BANCO COMERCIAL PORTUGUÊS

Strong performance in FY15, expected to be offset by the slow asset quality recovery in Portugal and the introduction of the new tax on bank's assets in Poland

After the disclosure of MBCP's third quarter earnings I have set the price target at €0,068 per share.

MBCP's Equity Value – Final Price Target



Source: Own Estimates

MBCP presented a strong net income growth in FY15, supported by the improvement of the Net Interest Margin (due to the repayment of the CoCo's), above normal trading income and improved efficiency (ahead of time on the Restructure Plan). These positive effects were partly offset by the slower recovery of the asset quality (CoR still above 100bp).

Portugal *(€0,039 per share)* – Slow recovery of the CoR (gradual decrease to 110bp until FY18), the loan portfolio deleverage effort (reduction of €3,0B of gross loans until the end of FY18), achieving a commercial gap of zero by the end of FY20 and achieving a CtI ratio below 50% are expected to be the key value drivers.

Poland *(€0,021 per share)* – The new Polish Government (PiS) is expected to introduce a new tax on bank's assets (0,39% of Total Assets), which will significantly affect the profitability of the segment.

Mozambique *(€0,013 per share)* – Gradual recovery of the CoR and accompanying the country growth rhythm.

Angola *(€0,002 per share)* – the merger with BPA is expected to create a universal bank with a stronger market presence along all banking segments to sustain the increased pressure on the Angolan economy due to low oil prices. Operation expected to proceed with a 1,6x P/BV multiple

Other adjustments *(€0,011 per share)* – Impact of the losses from MBCP's participation in the Resolution Fund (from the sale of Novo Banco) and from the costs from the conversion of loans in the Polish segment.

1. Introduction

Since the financial crisis of 2008 Financial Institutions (FIs) have been under a higher scrutiny than ever from shareholders, stakeholders, Supervisory Authorities, Governments and Analysts. Nonetheless, in Portugal FIs have continued to make new for the worst reasons, namely the reinforcement of the capital position of several banks due to the International Monetary Fund (IMF) intervention in Portugal and, more recently, the Resolution of Banco Espirito Santo (BES) in August 2014 and of Banco Internacional do Funchal's (BANIF) in December 2015.

The current situation of the Portuguese Banking Sector – from the Novo Banco's (NB) failure to pass the European Central Bank's (ECB) stress tests to the difficulties of both Caixa Económica Montepio Geral (CEMG) and BANIF – aligned with my interest and professional background in the banking industry have led me to decide to focus my master dissertation in studying the value and future prospects of a Portuguese FI.

Consequently, the purpose of this work is to determine the Equity Value of Banco Comercial Português or Millennium BCP (MBCP), the largest privately-owned bank in Portugal (reference date of the valuation is 31.12.2015 and data collection period ended in 31.10.2015). According to the work developed during this dissertation it is my understanding that the target price for MBCP's shares should be €0,068 (Equity Value of €3.989,0M) – BUY recommendation.

This dissertation encompasses a review of the techniques that best apply to the valuation of FIs and specific issues that MBCP faces (Section 2) and the regulatory framework that is currently in place (Section 3). These are followed by a brief description of MBCP and its activity (Section 4), of the valuation methodologies and approaches that I will use (Section 5) and of the most relevant assumptions supporting the valuation of MBCP (Section 6). Finally, in Section 7, I will detail the price target for MBCP and compare my valuation with the one performed by a leading Investment Bank and, in Section 8, I will present my conclusions.

2. Literature Review

2.1 Overview

The purpose of this chapter is to develop a review of the relevant literature regarding valuation techniques and corporate finance practices, focusing on the methodologies used to determine the equity value of FIs, such as MBCP.

2.2 The relevance of valuation

Welch (2009) identifies one key theme present in all finance matters:

> *"It is value. What exactly is a particular object worth? To make smart decisions, you must be able to assess value – and the better you can assess value, the smarter your decisions will be."*

Koller *et al.* (2010) defined value as "the defining dimension of measurement in a market economy", whilst also referring that "value is a particularly helpful measure of performance because it takes into account the long-term interests of all the stakeholders in a company, not just the shareholders". As for Damodaran (2002) valuation is "useful in a wide range of task", however the author also notes that its role varies according to the type of project, asset or investment that is being made.

As stated by the previously mentioned authors, value is a key subject for finance practitioners, which according to Damodaran (2002) plays a key role in three areas: portfolio management, acquisition analysis and corporate finance (for further detail please refer to Appendix A.1).

In the wake of the financial crisis that started in 2008 there was a discussion on the introduction of additional regulation and economic theories as well as increased supervision over firms in order to prevent future crisis. However, according to Koller *et al.* (2010) the solution to prevent future crisis relies in "relearning how to create and measure value in the tried-and-true fashion".

Hence, we can conclude that the same core principles of value creation and value measurement are still key in the current economic environment and that, as stated by Damodaran (2006), "understanding what determines the value of a firm and how to estimate that value seems to be a prerequisite for making sensible decisions".

2.3 Valuation of Financial Institutions

According to Koller *et al.* (2010) and Damodaran (2010) FIs are a very complex type of business to value. Damodaran (2009) highlighted four key difference between these firms and other firms: the strict regulatory framework under which they operate, specific accounting practices, the characteristics of Debt and Equity and estimating cash flows.

Damodaran (2009) suggested that the limitations that regulation imposes on FIs take three forms: capital ratios, control over investments and industry control. The first, determines that FIs must adequate the riskiness of its assets (measure by their risk weight) to the book value of equity or equity equivalent items, ensuring that claimholders and depositors are not at risk. The regulatory framework currently applied to MBCP (Basel III) introduced liquidity and leverage ratios for financial services firms, limiting the business activity of FIs by the need to comply with regulatory ratios (the Basel III regulatory framework is addressed in detail in Section 3). The second, determines that regulation limits FIs investments, either by limiting the type of firms or investments, such as the Glass-Steagall Act, or by limiting the exposure a FIs can have to a given counterparty. Finally, the regulatory framework also limits the number of players in the industry, since the supervision bodies need to approve new entries and mergers and acquisitions.

The specific accounting practices that FIs are subject to are also an important difference compared to other firms. Firstly, since the Net Interest Margin (NIM), the difference between interest income and expenses, is one of the most important indicators for FIs, particularly banks, indicators like EBITDA or EBIT cannot be

applied to FIs as these asses financial performance before interest expense and income (this subject is described in greater detail in Section 4.2.1). Secondly, as Damodaran (2009) remarked, most of a FIs assets are financial assets, which usually have active and liquid market, hence a significant part of their balance sheet is marked to market. However, as shown in Figure 2.1, Portuguese Banks present a differences between the book value and the fair value of their financial assets.

Book Value and Fair Value of Financial Assets – Portuguese Banks (31.12.2014)

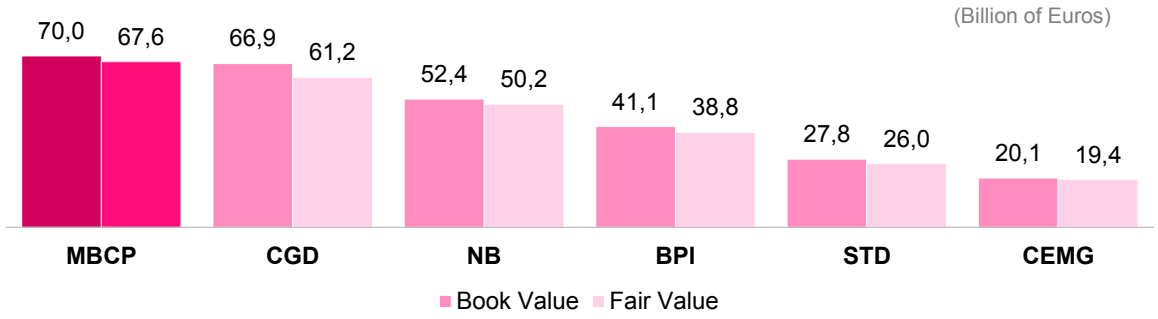


Figure 2.1
Source: Consolidated Annual Reports (2014) – MBCP, CGD, NB, BPI, STD, CEMG

Additionally, since FIs operations have a significant exposure to credit risk, accounting practices for FIs have been adapted to create provisions during an extended period of time for a bad loan, instead of recognizing the loss when it occurred. However, this practice is reliant on FIs management assessment of loan losses. Therefore, as Koller *et al.* (2010) supported the financial statements of FIs significantly depend "on accounting decisions made by management".

FIs also differ from other firms in the characteristics of their Debt and Equity. As firms use plastic or wood as a raw material the same is true with cash and FIs, therefore both Debt and Equity raised are used to be invested in financial assets and generate future income. Since in operational terms there is no clear distinction between deposits, debt issued and bank loans, all can be considered debt by an FI as long as the regulatory ratios are complied. Consequently, it is common for FIs to have higher leverage ratio than other firms.

Damodaran (2009) suggested that since most FIs reinvestment is made in intangible assets, such as brand, software and CRM, a significant part of FIs reinvestment is expensed instead of capitalized as other firms do (CAPEX). The author also noted that the changes in FIs current assets and liabilities (working capital items) present a significant level of volatility, hence there may be no relationship between reinvestment and growth. Furthermore, FIs cash flows are affected by the need to comply with the regulatory ratios.

The differences described have an impact on the valuation of FIs. Damodaran (2010) noted that changes in the regulatory framework, particularly in capital ratios, "have big effects on growth and value", whilst Koller *et al.* (2010) remarked that there is lack of information regarding critical items of FIs, namely loan impairment and the mismatch between assets and liabilities. Damodaran (2009) also noted that the high leverage level of FIs means that small changes in their assets may lead to significant changes in Equity Value. Additionally, problematic FIs are taken over to protect the financial system and the depositors, as was seen in BES resolution, however usually the equity value is reduced to zero in the process.

Several authors have proposed different approaches as how best to value FIs. Damodaran (2009) recommends the Dividend Discount Model (DDM), the Free Cash Flow to Equity (FCFE) Model and the Excess Return Model, Koller *et al.* (2010) also considered relative valuation approaches as a good fit, whilst Georgiadis (2003) suggested the Net Asset Value (NAV) Model as an appropriate model to value FIs.

2.4 Valuation approaches

According to Damodaran (2006) “analysts use a wide spectrum of models, ranging from the simple to the sophisticated”, however, as mentioned by Young *et al* (1999), this diversity of models and approaches is “no more than a particular way of expressing the same underlying model, by making different aspects of valuation problem clearer in detriment of obscuring other aspects”.

As Damodaran (2006) and Fernandez (2007) referred, the different valuation models could be categorized into four different approaches, each encompassing different models. The first is the liquidation and accounting approach, which includes models that derive value from the accounting or book value of assets. The second is the discounted cash flow approach, in which “the value of any asset is the present value of expected future cash flows” (Damodaran, 2002). The third is the relative valuation approach, which “estimates the value of an asset by looking at the pricing of 'comparable' assets relative to a common variable” (Damodaran, 2006). The fourth is the contingent claim approach, which considers option pricing models, such as the Black and Scholes model.

Main Valuation Approaches

Liquidation and accounting approach	Discounted cash flow (DCF) approach	Relative valuation approach	Contingent claim approach
▪ Book Value	▪ Enterprise Value:	▪ Earnings Multiples	▪ Black and Scholes
▪ Adjusted Book Value	○ Free Cash Flow to the Firm (FCFF)	▪ Book Value Multiples	▪ Investment Option
▪ Liquidation Book Value	○ Capital Cash Flow (CCF)	▪ Revenue Multiples	▪ Expand the project
▪ Substantial Value	○ Adjusted Present Value (APV)	▪ Sector Specific Multiples	▪ Delay the investment
	▪ Equity Value:		▪ Alternative uses
	○ Dividend Discount Model (DDM)		
	○ Free Cash Flow to Equity (FCFE)		
	○ Dynamic RoE – Dupont Approach		
	○ Net Asset Value (NAV)		

Figure 2.2
Source: Damodaran (2006) and Fernandez (2007)

As expressed by Damodaran (2002), the choice of the valuation approach and model is an essential phase for any valuation exercise. Given that MBCP is a financial institution, its business activity has specific characteristics, which have to be considered when choosing the model to be used. In the following sections this work will focus on briefly describing the methodologies that in Section 2.3 were presented as the most appropriate to value FIs: the discounted cash flow and relative valuation approach. For additional information on Liquidation and accounting approach and the Contingent claim approach please refer to the Appendix A.2.

2.4.1 Discounted cash flow approach

Damodaran (2010) remarked that the DCF approach determines the intrinsic value of an asset as “the present value of expected cash flows over its life, discounted to reflect both the time value of money and the riskiness of the cash flows”. According to Fernandez (2007) this approach is generally used by several finance practitioners, because “it is the only conceptually correct valuation method”.

According to Fernandez (2007), the discounted cash flow approach derives from the following formula:

$$Intrinsic\ Value\ = \frac{CF_1}{(1+K)^1} + \frac{CF_2}{(1+K)^2} + \frac{CF_3}{(1+K)^3} + (\dots) + \frac{CF_i + RV_i}{(1+K)^i}$$

Where,

CF_i: Cash flow generated in period i

RV_i: Residual Value in year i

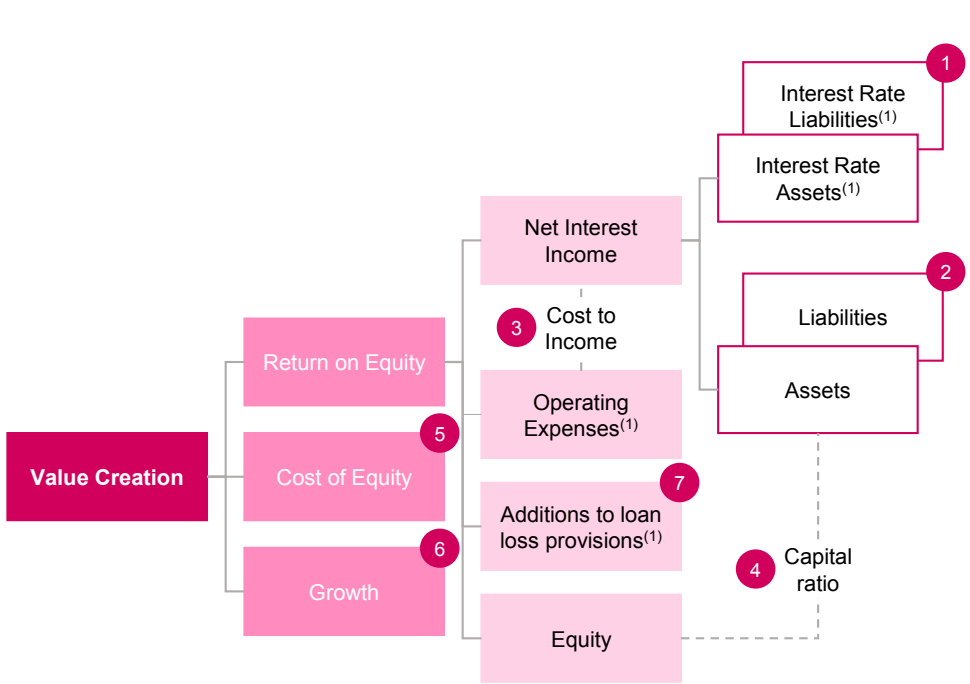
K: appropriate discount rate for the cash flow's risk

As referred by Fernandez (2007) this approach is "based on the detailed, careful forecast, for each period, of each of the financial items related with the generation of the cash flows corresponding to the company's operation". Pearl and Rosenbaum (2009) mention that the adequate projection period should be five years, however the authors agree that the period may vary according to the type of investment, business cycle or sector of the firm, among other.

Under the discounted cash flow approach there are several distinct models that can be used to estimate the value of a firm or asset. Damodaran (2002) classified the models under this approach in three categories: Firm Valuation, Adjusted Present Value (APV) and Equity Valuation. For additional information on Models under the discounted cash flow approach please refer to Appendix A.3.

Koller *et al.* (2010) proposed a value driver tree for models of banks in the Equity Valuation category:

Generic Value Driver Tree for Retail Banking



Key Value Drivers

1. **Interest rates** on products
2. **Volumes:** book value of assets and liabilities
3. **Cost to Income:** operating costs of business relative to net interest income
4. **Capital Ratio:** equity requirements for assets
5. **CoE:** cost of equity based on asset-liability mix
6. **Growth:** growth of assets and liabilities
7. **Loan Losses:** expected future losses on loans

(1) After taxes

Figure 2.3
Source: Koller et al. (2010)

2.4.1.1 The Free Cash Flow to Equity Model

Damodaran (2002) argued that the FCFE does not deviate significantly from the DDM, since it is a model in which the discounted cash flow are potential dividends instead of actual dividends. Koller *et al.* (2010) defined the FCFE Model as methodology that estimates the value of equity by discounting the cash flows to equity at the cost of equity (CoE). Hence, the Equity Value is estimated by the following formula:

$$Equity\ Value = \frac{FCFE_1}{(1+K_E)^1} + \frac{FCFE_2}{(1+K_E)^2} + \frac{FCFE_3}{(1+K_E)^3} + (\dots) + \frac{FCFE_i + RV_i}{(1+K_E)^i}$$

Where,

$FCFE_i$: Free Cash Flow to Equity in period i

K_E: Cost of Equity

RVi: Residual Value in year i

According to Damodaran (2002) the Residual Value can be determined by one of three approaches. The first, is the liquidation value, which assumes that the firm will stop operating, hence the residual value is equal to the sale value of a firm's assets. The second, is the multiple approach, which determines that the residual value of the firm will be determined by a multiple applied to its revenue, income or book value. The third, is the stable growth model, which assumes that the firm will continue to grow at a constant rate in perpetuity, hence the residual value can be estimated by the following formula:

$$RV_i = \frac{FCFE_i}{K_E - g}$$

Considering that it is not expected that MBCP will stop operating or cease to exist it does not seem reasonable to implement the liquidation value approach. Additionally, as referred in Section 2.3, the regulatory framework can have a significant impact on a FI's cash flow and its value, meaning that future regulatory modifications to current rules may alter the valuation of FIs. Given that it is not possible to determine if such changes will occur, the FCFE may change significantly in the long-term, which can lead to misleading conclusions if a stable growth model is implemented. Hence, it is my understanding the multiple approach is the best method to estimate the residual value of MBCP.

Damodaran (2002) proposed a formula for the FCFE, however as described in Section 2.3 FIs the cash flow available to the shareholders is affected by the need to comply with regulatory ratios. Therefore, Damodaran (2009) suggested an alternative formula to estimate the FCFE for FIs.

FCFE Formula

Net Income
– Reinvestment in Regulatory Capital
Free Cash Flow to Equity

Figure 2.4
Source: Damodaran (2009)

As Damodaran (2002) referred, the FCFE model has an advantage over the DDM, since it discounts all available cash flow to the shareholder and not the ones that are distribute dividends, hence if a firm is not distributing as much dividends as it could the FCFE Model does not undervalue the firm as the DDM would. An additional advantage of the FCFE Model, remarked by Damodaran (2009) that is particularly relevant to this work, is that the FCFE encompasses for the need to reinvest in regulatory capital.

2.4.1.2 The Net Asset Value Model

According to Georgiadis (2003) a variant of the Gordon Growth Model has been developed by financial analysts in the context of bank valuation. This approach, denominated the NAV Model, determines Equity Value by multiplying the implied or target P/BV at which the bank should be valued (derived from the RoE, growth and CoE) by the NAV. Hence, the Equity Value is estimated by the following formula:

$$Equity\ Value = NAV \times \frac{RoE - g}{K_E - g}$$

Where,

NAV: Net Asset Value
RoE: Return on Equity
K_E: Cost of Equity
g: growth in perpetuity

The NAV can be determined by the following formula:

NAV Formula

Book Value of Equity$_{t=-1}$
+ Pension Fund Shortfall
+ Unrealized Capital Gains/Losses
+ Tax credits that are going to end
+ Additional provisions
Net Asset Value

Figure 2.5

Due to the characteristics of FIs, Saunders and Cornett (2008) proposed an alternative form to estimate the RoE.

RoE decomposition for Financial Institutions

Return on Equity (1x2)

1) Return on Assets (3x4)

3) Profit Margin: $\frac{\text{Net Income}}{\text{Total Operating Income}}$

4) Asset Utilization: $\frac{\text{Total Operating Income}}{\text{Average Assets}}$

2) Equity Multiplier: $\frac{\text{Average Assets}}{\text{Average Equity}}$

Total Operating Income = Interest Revenue + Non Interest Revenue

Net Income = Total Operating Income – Interest Expenses – Loan Loss Provisions – Non Interest Expenses – Taxes

Figure 2.6
Source: Saunders and Cornett (2008)

Hence, the forecasted RoE for financial services firms should be estimated according to the following formula:

$$RoE = RoA \times Equity\ Multiplier$$

Georgiadis (2003) stressed that this model presents significant advantages. Firstly, it has a focus on shareholder value and encompasses critical indicators of financial performance. Secondly, it also accounts for the risk factor of the firm and thirdly, it encompasses the effect of the long term growth expectations for

the firm. Additionally, this model also values FIs in accordance to the key value drivers suggested by Koller *et al.* (2010) – Figure 2.3.

2.4.1.3 The Discount Rate

According to Fernandez (2007), "determining the discount rate is one of the most important tasks" of the discounted cash flow approach since it must accurately reflect the risk of the cash flows. As discussed in Section 2.3, the characteristics of FIs dictate that in order to value these firms Equity Valuation Models should be used, meaning that the appropriate discount rate is the CoE.

Damodaran (2002) classified the CoE as "the rate of return investors require on an equity investment in a firm", meaning it measures risk and return from the perspective of an equity investor. Given that CoE is not observable in the market it has to be estimated by finance practitioners. Fernandez (2007) proposed that the CoE is mainly affected by the risk free interest rate, the market risk premium and operating and financial risk.

Factors influencing the CoE

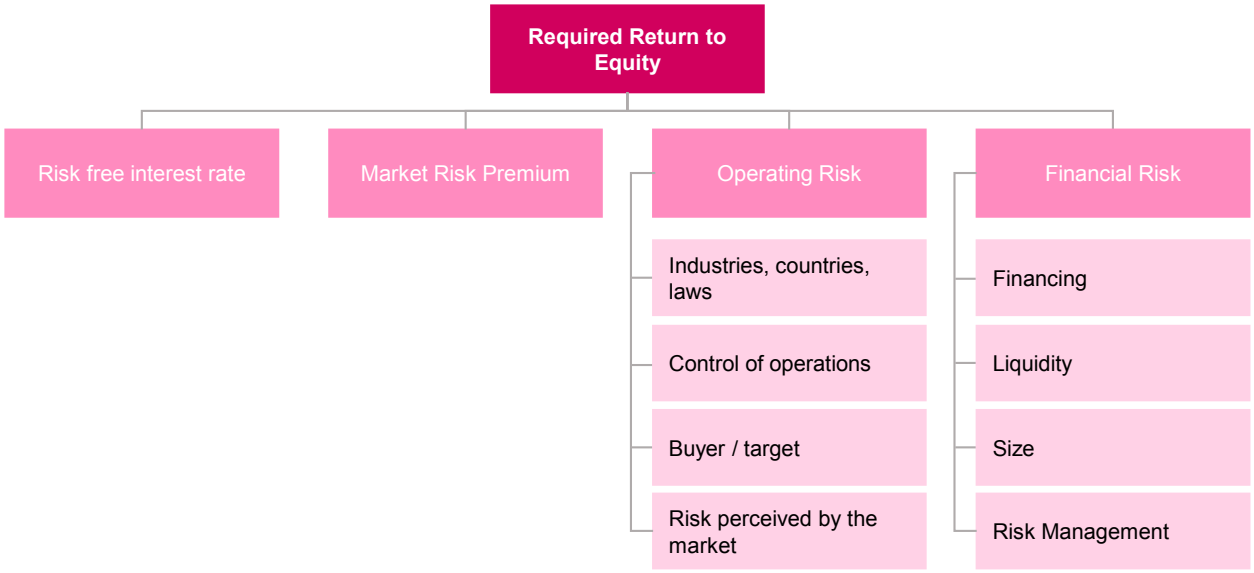


Figure 2.7
Source: Fernandez (2007)

Koller *et al.* (2010) remarked that the most common method to determine the CoE is the Capital Asset Pricing Model (CAPM). According to Pettit (2007) this model can be adapted to also reflect the sovereign risk to which a given security is exposed to.

$$CoE = r_f + \beta \times \left[E(r_m) - r_f\right] + CRP$$

Where,

r_f: Risk free rate
β: stock's sensitivity to the market
$E(r_m) - r_f$: Equity Risk Premium (ERP)
CRP: Country Risk Premium (CRP)

According to Vernimmen *et al* (2009), the risk free rate implies a rate of return that does not encompass default or coupon reinvestment risk, meaning that the best proxy to a risk free rate are zero coupon sovereign bonds. Pettit (2007) considered that, for valuation purposes, the risk free rate should be determined by long term government bonds since these encompass long-term inflation expectations, are less subject to market movements and have a liquid market.

However, not all countries can be considered risk free, as the sovereign debt crisis of Argentina and Greece proved, therefore finance practitioners commonly use the 10 year bond yield of countries such as the USA or Germany, because of the ratings of the country and the low risk perception associated with the economies of these countries.

The beta (systematic risk) was defined by Fama and French (2004) and Pearl and Rosenbaum (2009) as the covariance of the return of a given assets with the market return divided by the variance of the market return.

$$\beta = \frac{COV(r_i, r_m)}{\sigma_m^2}$$

According to Damodaran (2002), the conventional approach for determining the beta of a stock is a regression considering its historical returns against the historical returns of its market index. Pettit (2007) referred that the most common observation period are five years, however the author noted that the observation period may be adapted to the market conditions and nature of the firm. For private companies and indexes or stocks with low liquidity Damodaran (2002) and Pearl and Rosenbaum (2009) suggested that the beta can be determined through a peer group of listed firms with similar fundamentals (type of business, degree of operating leverage and financial leverage).

Blume (1975) argued that in the long term beta converges to the market beta, hence he proposed an adjustment to the estimated beta.

$$\beta_{adjusted} = \frac{2}{3} \times \beta_{historic} + \frac{1}{3} \times \beta_{market}$$

Pearl and Rosenbaum (2009) defined the ERP as the "the spread of the expected market return over the risk free rate". According to Vernimmen *et al* (2009), the ERP can be determined using two approaches: the forward risk premium, based on investors' expectations and the historical risk premium, based on historical data of past returns received by investors. Koller *et al.* (2010) referred that none of the existing models is universally considered the best, therefore there is no consensus amongst authors regarding which is ERP.

Nonetheless, as referred by Damodaran (2002) the historical risk premium is the standard approach to estimate the ERP. However, even within this approach authors do not agree in the best methodology to estimate ERP, namely in the issues of time period considered, choice of risk free security and type of average used. Consequently, as stated by Koller *et al.* (2010) the ERP is "the most debated issue in finance".

Given that the introduction of the CRP is related with the issue of cross border valuation, this item will be analyzed in Section 2.5.

Finally, Koller *et al.* (2010) identified other models, such as the Fama-French three-factor model and the arbitrage pricing theory model, to estimate the CoE. However, the author noted that despite the differences on how the models define risk, the CAPM is the best model for estimating the CoE.

2.4.2 Relative Valuation approach

Damodaran (2002) stated that "in relative valuation, the objective is to value assets, based upon how similar assets are currently priced in the market". Koller *et al.* (2010) considered that an appropriate multiple approach requires three factors: choosing an adequate multiple, selecting an appropriate peer group and estimating the multiple consistently.

Considering the choice of which multiple should be used, Vernimmen *et al* (2009) referred that there are two types of multiples, the ones assessing enterprise value and equity value, whilst Damodaran (2002) identified the four categories presented in Figure 2.8.

Multiple Categories

Earnings Multiples	Book Value Multiples	Revenue Multiples	Sector Specific Multiples
▪ Price to Earnings ratio (P/E) ▪ Enterprise value to EBITDA (EV/EBITDA) ▪ Enterprise value to EBIT (EV/EBIT)	▪ Price to book ratio (P/BV) ▪ Tobin's Q	▪ Price to Sales ratio (P/S) ▪ Enterprise value to Sales (EV/Sales)	▪ Media ▪ Telecommunication ▪ Financial Services ▪ Oil and Gas ▪ Other sectors

Figure 2.8
Source: Damodaran (2002)

Considering that the market capitalization represents the Equity Value of listed firms, multiples based on Enterprise Value are based on estimations of the market value of debt, hence multiples that determine the Equity Value are harder to manipulate as they reflect the market value of a stock. Consequently, Pearl and Rosenbaum (2009) considered that one of the multiples that best apply to FIs is the P/BV, meaning that the Equity Value is determined by the relation between the market capitalization and the book value of Equity.

The adequate peer group, as Vernimmen *et al* (2009) remarked, must be composed of "a sample of comparable listed companies that have not only similar sector characteristics, but also similar operating characteristics". As noted by Welch (2009), the more similar the comparable firms are to the firm being valued more accurate the valuation will be. However, if the set of comparable firms does not accurately reflect the characteristics of the firm being valued the multiple will be biased, which may result in misleading conclusions.

Finally, the multiple must be computed for all firms of the peer group according to the same methodology, hence ensuring that the relation between the market price and the firm indicator is the same across the peer group.

Damodaran (2002) considered that the relative valuation approach is a widely accepted, because it is simple to use and to understand and links the value of an asset to how the market is pricing comparable assets (the author notes that valuations through this approach commonly price assets closer to the market price than valuations through the discounted cash flow approach).

However, as Damodaran (2002) noted, this approach also has weaknesses. Firstly, this approach may lead to incorrect valuations if key value driver factors, such as growth or cash flow potential, are not taken into account when determining the peer group. Secondly, given that this approach is based on market prices, if the market is not adequately pricing the securities this may result in a biased valuation. Thirdly, the risk of manipulation of data is higher if the peer group selected by the analyst is chosen in order to reach a pre determine conclusion or valuation.

2.5 Cross border valuation

Pettit (2007) referred that sovereign risk is "commonly associated with the risk that a foreign government will default on its loans or fail to honor other business commitments due to change in government or policy". However, the author noted that sovereign risk encompasses a broad category of risks specific to a given country reflecting its political and economic environment, namely through currency controls, changes in local laws or quotas and tariffs to name a few.

Since MBCP is operating in different geographies (Portugal, Poland, Mozambique), there is a set of specific risks that are exclusive to each geographic segment. These risks are especially relevant for the operations in Emerging Markets, like Mozambique, since as noted by Koller *et al.* (2010) these markets present a higher level of risk than developed markets.

Damodaran (2002) remarked that analysts include these risks in the CoE of a firm (as mentioned in Section 2.4.1.3), through an adaptation of the CAPM to appropriately reflect the sovereign risk to which a given security is exposed. Koller *et al.* (2010) noted that another approach to reflect the CRP is to embed it in the projected cash flows by creating scenarios and probabilities of occurrence that reflected potential sovereign risks. Although the first approach presents limitations, it is my understanding that the level of subjectivity associated with the second approach is significantly higher, hence for the purpose of this work the CoE will be adjusted to reflect the sovereign risk of MBCP operations.

As suggested by Pettit (2007), the CRP can be determined by the insurance premiums charged by organizations that guarantee foreign investments. Damodaran (2002) suggested two alternative approaches: the relative standard deviations and the default risk spreads.

The first approach estimates the CRP by assessing the difference in the volatility of equity markets, meaning that higher volatility translates into higher risk. However, this approach presents two limitations: for markets with low liquidity the volatility of the market may be artificially low, meaning CRP would be underestimated and for countries that do not have a stock exchange (such as Mozambique) this approach cannot be used.

The second approach quantifies the CRP by measuring the average spread between rating levels of USD denominated bonds and the US bond rate. Although, this approach also has limitations it is easier to estimate and can be used in a wider range of countries.

3. Regulatory Framework

3.1 Basel III

The financial crisis of 2008 revealed that the regulatory framework to which banks were subject to (Basel II) was outdated and that their capital requirements were insufficient to face adverse economic conditions. Additionally, the previous framework did not encompass liquidity and leverage requirements for banks, enabling several market players to have over leveraged balance sheets and a significant mismatch between the maturity of their assets and their funding.

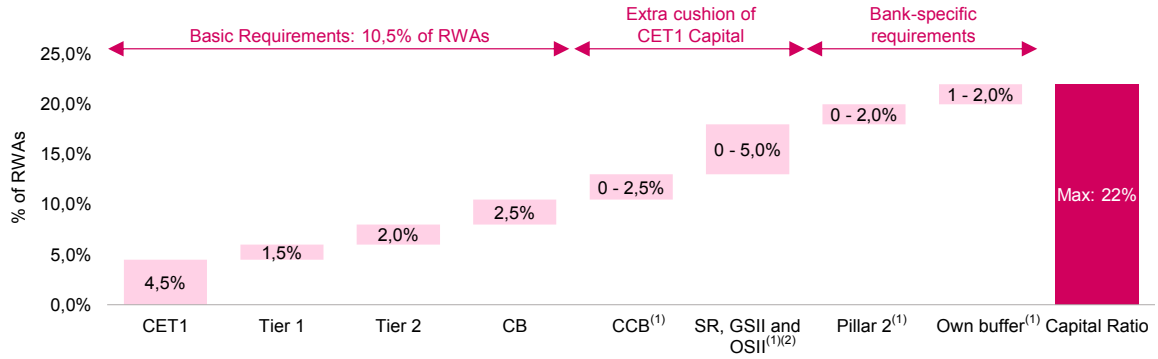
Consequently, on June 2013 the European Parliament issued the Capital Requirements Directive IV/Capital Requirements Regulation (CRD IV/CRR) that effectively implements the new regulatory framework for banks (Basel III). The new framework sets stricter requirements for capital, focused on more and better quality capital, as well as introducing new ratios to regulate the funding and leverage of banks.

Regarding capital requirements the base concept of capital ratios is that banks have to maintain a certain level of regulatory capital (mostly equity and equity equivalent instruments) for each asset or off-balance commitment in accordance with the level of risk of the asset or commitment.

$$Capital\ Ratio = \frac{Regulatory\ Capital}{Risk\ Weighted\ Assets}$$

Basel III set a narrower definition of the elements that can be qualified as regulatory capital as well as increasing the risk weight of certain asset categories. Although the Core Equity Tier 1 (CET1), the best quality capital, has to represent only 4,5% of the Risk Weighted Assets (RWAs) the total regulatory capital of banks must not be lower than 10,5% of the RWAs, of which 7% has to be CET1 capital (4,5% for the CET1 plus 2,5% of the Conservation Buffer). Additionally, the new framework introduced capital buffers, as presented in Figure 3.1, to reflect and protect banks from specific risks they may be exposed to, which can be introduced in accordance with the characteristics of the banks, economic conditions or the assessment of the Supervisory Body.

Capital Ratios and Buffers (Basel III – Fully loaded)



(1) Assumed upper bound (values can be higher)
(2) Higher of SR, GSII and OSII (in certain cases can be the sum of SII and SR)

Figure 3.1
Source: CRD IV/CRR

Although it is not likely that all buffers will be forced upon one bank, the new regulatory framework requires banks to maintain a higher capital ratio (Basel II minimum was 8%) and also more CET1 capital (Basel II required a CET1 ratio of 2%). Considering that the scope of changes introduced by CRD IV/CRR is wide, regulators determined that there will be an transitional period (phased-in) – the extent of the period depends on local regulations and the type of item – with less strict requirements to enable banks to adjust their activity to the new framework, after which CRD IV/CRR will be implemented fully (fully loaded). In Portugal the phased-in period was defined to be between 2014 and 2019, however the Bank of Portugal (BdP)

determined that the CET1 ratio would be required to be 7% from 2015 onwards. For additional information regarding the types of capital and buffers please refer to Appendix B.1.

The funding structure and liquidity of banks became a major issue when the financial crisis of 2008 revealed that several banks were financing long term investments based on short term funds, such as interbank lending, leading to significant liquidity issues when the short-term markets froze. Consequently, the Basel III introduced two liquidity ratios, the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR), targeted at controlling both the short term funding and the medium to long term funding of banks, respectively. The LCR has a phased-in implementation, however both ratios have to be above 100% on a fully loaded basis.

Finally, the European Sovereign Debt Crisis revealed that several banks had an overexposure to sovereign bonds of countries which were not risk free. Sovereign bonds of European countries commonly have a risk weight of 0%, hence this risk was not encompassed by the capital ratios. Basel III introduced the leverage ratio, to measure the ratio between regulatory capital and the book value of assets. Although it is not yet clear what will be the minimum requirement, supervisory bodies have indicated that the figure will be around 3%. For additional information regarding the liquidity and leverage please refer to Appendix B.2.

3.2 Law 61/2014

The introduction of Law 61/2014 approved a special regime applicable to Deferred Tax Assets (DTAs) from loan impairment losses and negative changes in other comprehensive income associated with post-employment benefits and long-term benefits accounted for the tax periods from the 1st of January 2015 onwards and for the respective deferred tax assets recorded on the preceding tax period.

The special regime foresees, among other aspects, a special framework for the conversion of DTAs into tax credits with a mandatory issue of equity conversion rights to the Portuguese State. Therefore, when the firm assesses a loss in future years, the DTAs shall be converted into tax credits and the firm will issue conversion rights to the Portuguese State enabling it to acquire a share capital participation in the firm. Consequently, the DTAs that qualify for the purposes of Law 61/2014 became equivalent to equity instruments, and therefore eligible as own funds (regulatory capital), enabling Portuguese banks to improve their capital ratios.

However, according to the information available, the European Commission is investigating this Law in order to determine if it represents a state aid to FIs, which may put into question the lawfulness of this special regime and represent a negative impact on the own funds of MBCP.

4. The Company

4.1 Overview

4.1.1 MBCP at a glance

MBCP is the largest privately-owned bank in Portugal, with a leadership position in several areas of the Banking Sector and with an internationally recognized presence. Incorporated in 1985 following the liberalization of Portuguese Financial Services Industry, MBCP is present in five continents and more than ten countries, either directly or through a partnership or protocol with other FIs. However, the bank only operates under the Millennium brand in four geographies: Portugal, Poland, Mozambique and Angola, which represent the bulk of the bank's activity and are its operating segments.

MBCP's segments (30.06.2015)

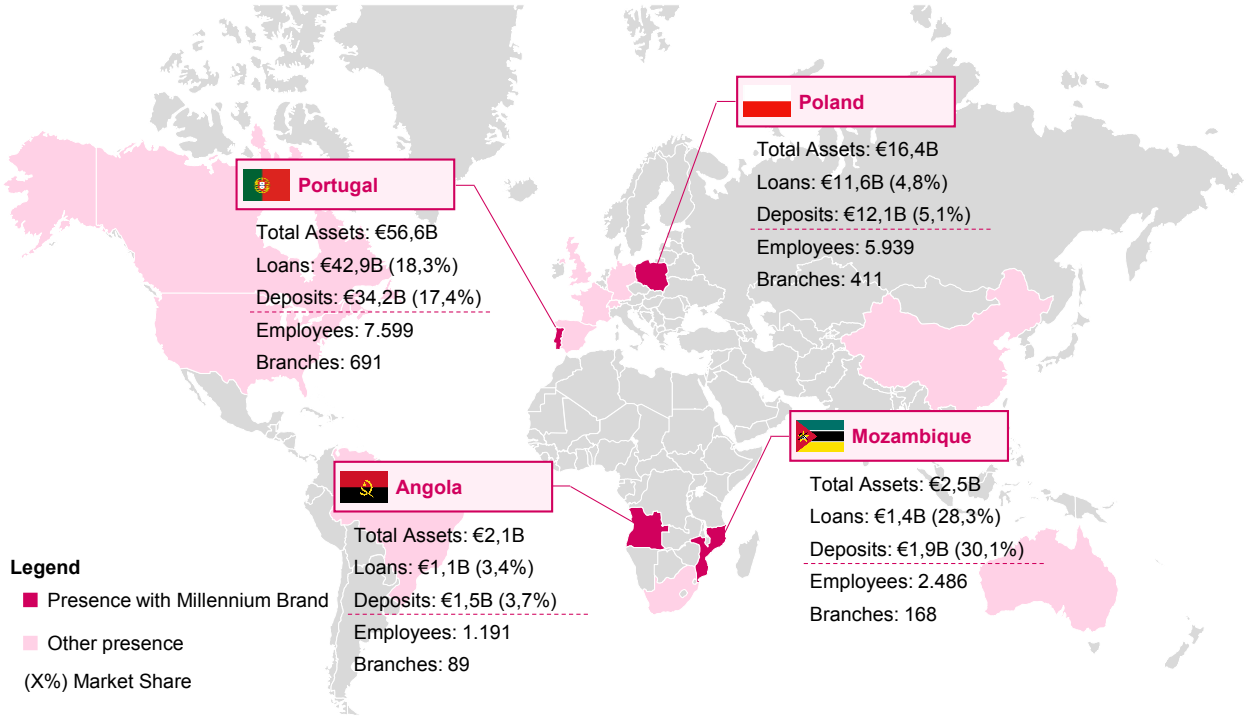


Figure 4.1
Source: MBCP

Despite operating under the Millennium brand, MBCP's activity presents distinct characteristics in each country. Portugal is the bank's most significant operation in terms of assets and MBCP is the largest private bank operating in the country with significant market quotas in loans and deposits. The operation in Poland started in the 1990's and is the bank's second largest segment by assets, however and given that the Polish Banking Sector is fragmented between several banks, MBCP's market quotas in loans and deposits are only 4,8% and 5,1%, respectively.

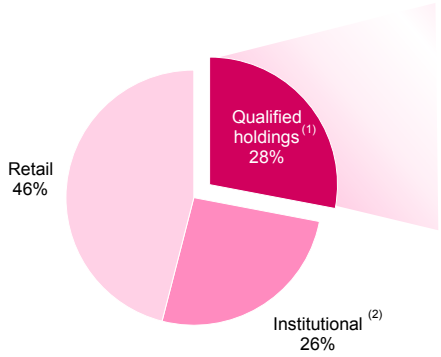
The operations in Mozambique and Angola were established in order to explore the already existing relations between Portugal and these countries and the future growth and development of the Financial Services Industry that is expected to occur. In Mozambique, MBCP is the sector leader with market shares in loans and deposits above 25%, whilst in Angola the bank is not among the market's leaders with market shares of 3,4% and 3,7% for loans and deposits, respectively. In October 2015 MBCP announced that it had agreed the merger of its Angolan operation with Banco Privado Atlântico (BPA), retaining an equity stake of close to 20% in the new firm.

The historic performance of each segment as well as their future evolution and perspectives are addressed in Section 6.2. For Additional information on the history of MBCP please refer to Appendix C.1.

4.1.2 Shareholder and Management Structure

In 30.09.2015 MBCP's had approximately 59 billion shares with a dispersed shareholder structure – only five qualified shareholders, of which only two held more than 5% of total shares.

MBCP Shareholder Structure



Qualified Shareholders

Shareholder	Shares (#)	Shares (%)
Sonangol	10.534.115.358	17,8%
Sabadell Group	2.994.863.413	5,1%
EDP Group	1.465.741.918	2,5%
Interoceânico Group	1.203.994.374	2,0%

Shareholder	Shares (#)	Shares (%)
Black Rock	1.308.152.656	2,2%

(1) Black Rock not included
(2) Includes Black Rock, BCP Pension Funds and treasury shares

Figure 4.2
Source: MBCP

MBCP adopted a one-tier management and supervision structure, composed by a Board of Directors (BoD), including an Executive Committee, and an Audit Committee (AC).

MBCP Management Structure

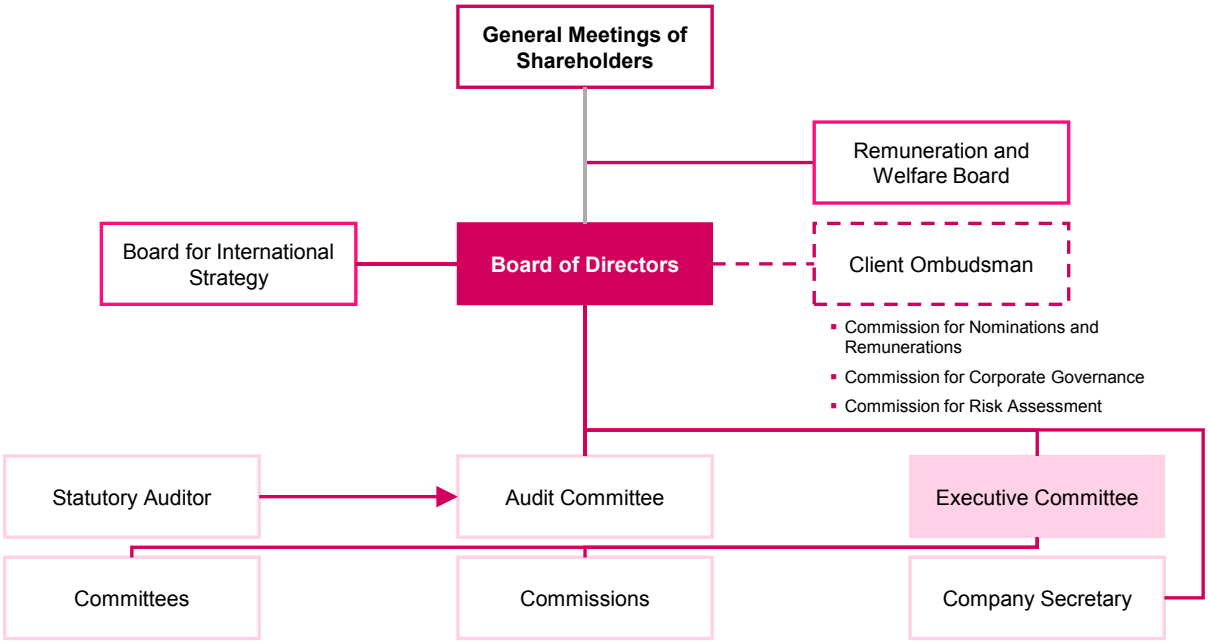


Figure 4.3
Source: MBCP

The BoD, the governing body of the bank, is composed by 20 permanent members, 13 non-executive and 7 executive. The latter form the Executive Committee and are responsible for the day-to-day management of the bank, whilst the AC ensures the supervision of the company.

4.1.3 Stock Performance

At 30.10.2015 MBCP share was quoted in the Lisbon Stock Exchange at €0,0523 (market capitalization of €3,1B) with a free float of 76%. Between January 2013 and the end of October 2015 MBCP's share price has varied between €0,04 and €0,14, presenting an average price of €0,08. As Figure 4.4 shows MBCP's share has been under significant pressure in the second half of 2015, presenting a year to date performance (YtD) of (25%), mainly due to the events in Portugal, sale of NB, and in Poland, conversion of loans in foreign currency to zlotys and the new tax on the banking sector (these issues will be address in detail in Section 5.2).

MBCP's Share Price and Volume (02.01.2013 – 30.10.2015)

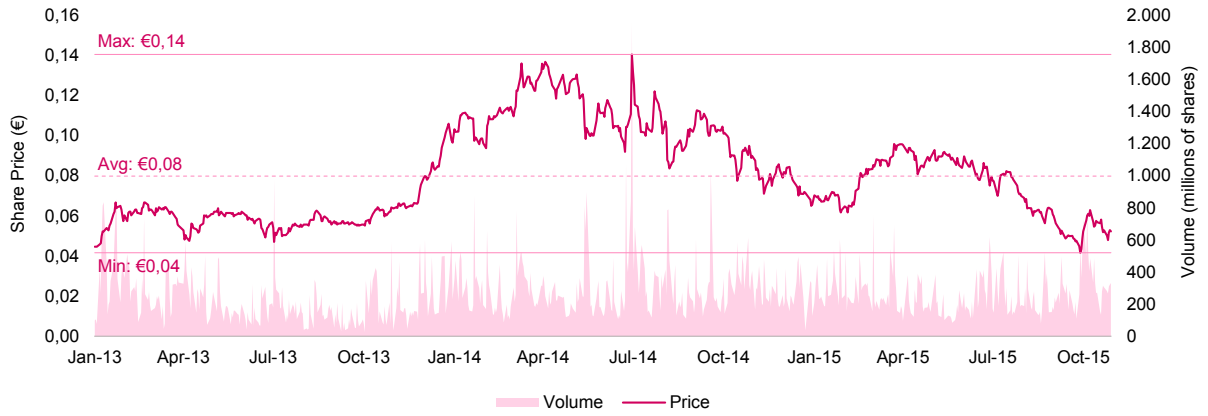


Figure 4.4
Source: Euronext Lisbon

When compared to Iberian stock indexes (PSI 20 and IBEX) it is noted that for the first half of 2015 MBCP's stock price follows a similar trend to the market. However, from July 2015 onwards company specific issues lead MBCP's shares to stop following market trends and significantly underperform the Iberian indexes.

MBCP's Share Performance vs Iberian Indexes (02.01.2015 – 30.10.2015)

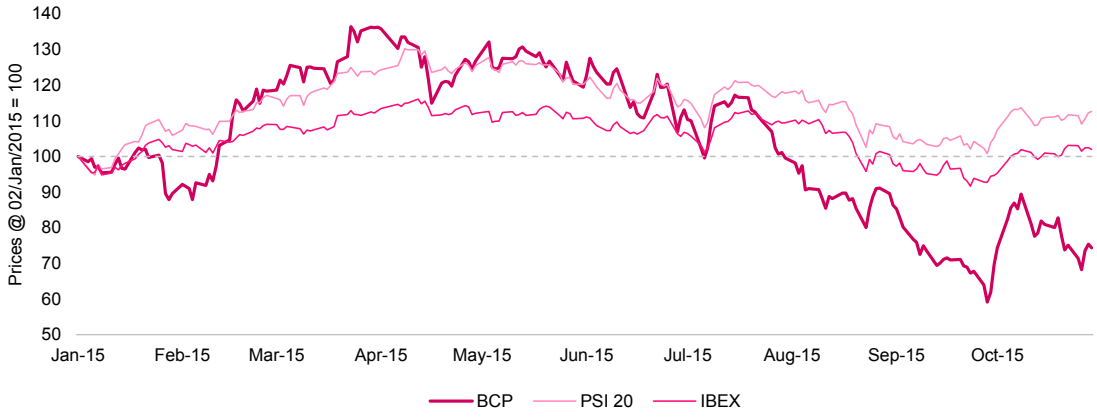


Figure 4.5
Source: Euronext Lisbon

4.2 Financial Analysis

4.2.1 Overview of accounting practices

As mentioned in Section 2.3, FIs, including banks, are subject to a specific set of accounting practices. Since banks generate most of their business through the mismatch between active and passive interest rates, the first line items of a bank's Income Statement is interest income and interest expenses, which generate the net interest margin (NIM) – one of its most important financial indicators. Consequently, it is impossible to assess the performance of a bank without assessing its NIM. However, for firms in other sectors, the business is commonly analyzed before interest income and expenses when assessing the firm's cash flow generating capacity before debt service (for example EBITDA and EBIT do not encompass interest income or expenses).

Following the NIM, a bank's Income Statement encompasses the complementary margin (commission income and expenses, gains and losses on financial instruments and other operating income or losses). The sum of the NIM and the complementary margin is a proxy of a bank's operational income, to which operating expenses (staff costs, depreciations and other administrative costs) must be subtracted as well as the losses on loans and financial instruments.

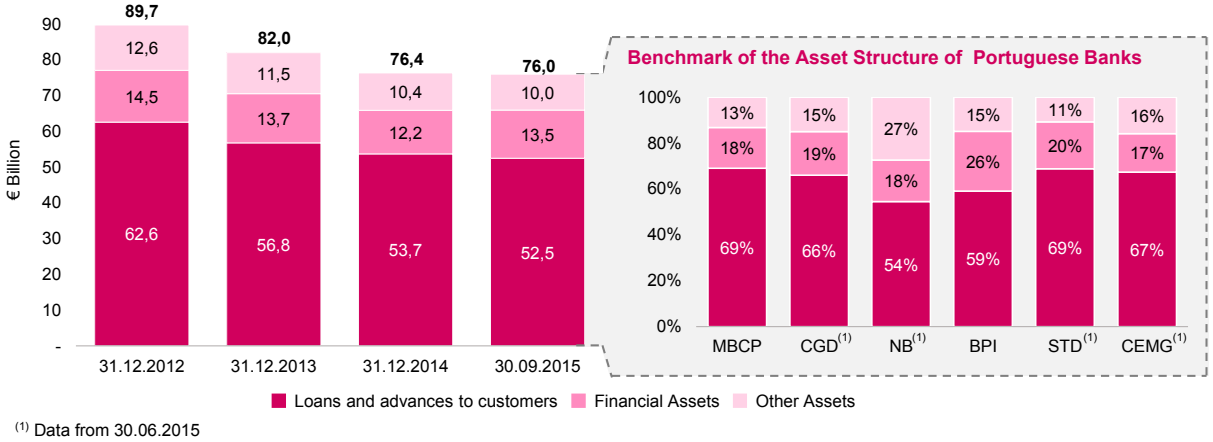
The Balance Sheet structure of a bank is also different from firms in other sectors. Firstly, there is no decomposition between current and non-current assets or liabilities. Secondly, line items like loans are considered an Asset and presented on the left side of the Balance Sheet and deposits from customers are Liabilities and presented in the right side of the Balance Sheet. Finally, banks lend money to customers and charge an interest rate for the duration of the loan. Unfortunately, the customers are not always able to repay the loan, hence the bank recognizes losses on its investments. However, these losses are not recognized at the moment the customer defaults on the loan but are rather recognized during the life cycle of the loan (impairment losses). Hence, ensuring that the net value of the loan book of a bank adequately reflects the riskiness of its customers is one of the key issues in the Balance Sheet of a bank.

4.2.2 Balance Sheet Structure

4.2.2.1 Assets

MBCP's Total Assets decreased 15,3% between 31.12.2012 and 30.09.2015 from €89,7B to €76,0B, due to the implementation of the Restructuring Plan of the bank. MBCP's Asset structure is very similar to other Portuguese banks with most of its investments made in loans and financial assets.

MBCP's Total Assets (31.12.2012 – 30.09.2015)



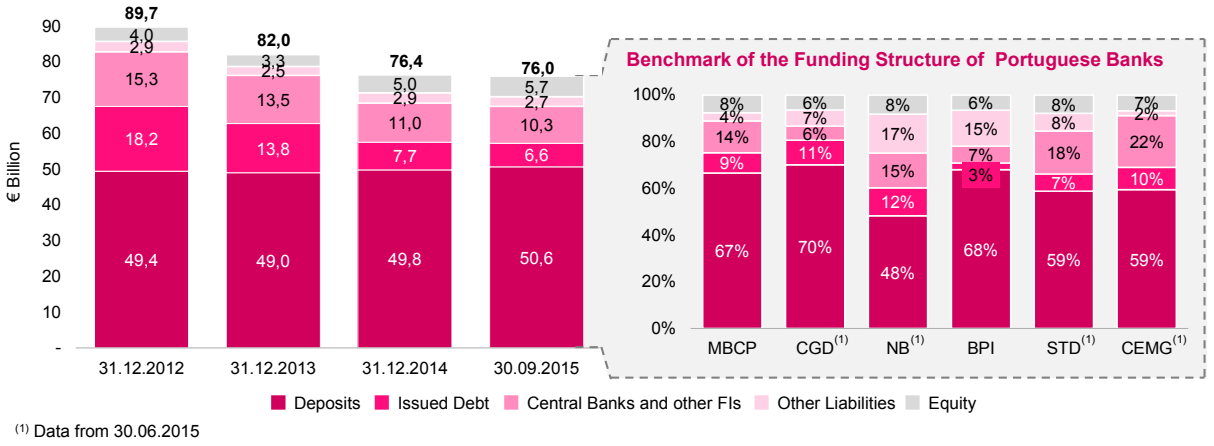
(1) Data from 30.06.2015

Figure 4.6
Source: MBCP and Earnings Presentations (2015) – CGD, NB, BPI, STD, CEMG

4.2.2.2 Liabilities and Equity

Although the most significant source of funding for MBCP (customer resources) remained the same between 31.12.2012 and 30.09.2015, the bank's funding structure changed significantly. As shown on Figure 4.7 reliance on ECB loans and issued debt decreased significantly, the first due to the implementation of the Restructuring Plan and the latter due to the repayment of €2,3B of State investment (CoCo's) in 2014 (€750M still outstanding).

MBCP's Funding Structure (31.12.2012 – 30.09.2015)



(1) Data from 30.06.2015

Figure 4.7
Source: MBCP and Earnings Presentations (2015) – CGD, NB, BPI, STD, CEMG

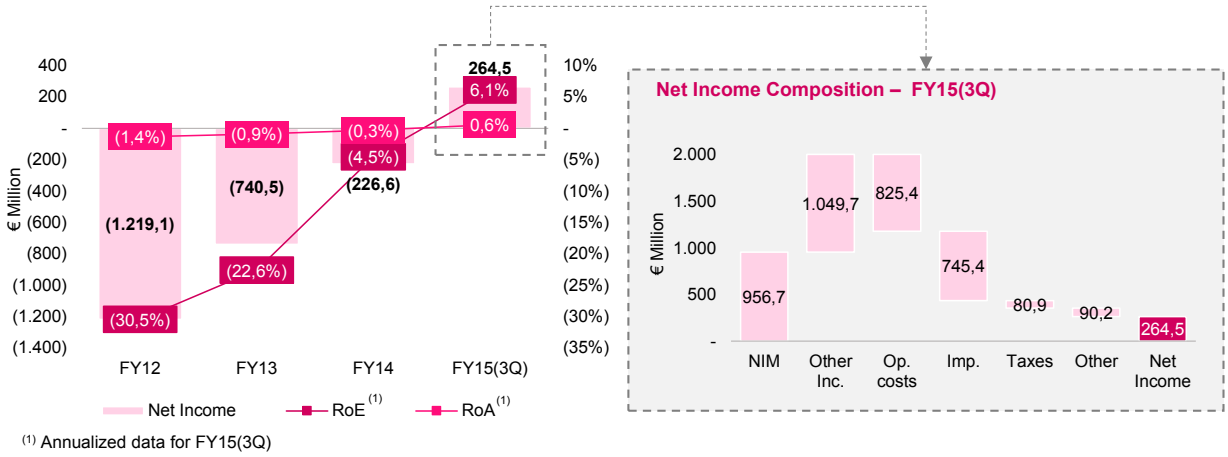
Although similar to other Portuguese banks, MBCP's funding structure seems to be sounder and better suited to face market challenges than some of its competitors. Firstly, since Equity represents 8% of its funding structure (among the highest in the market) MBCP has a solid capital base to comply with capital and leverage ratios, unlike other market players with lower reliance on capital for their funding needs. Secondly, Deposits represent 67% of MBCP's funding and given that these are considered among the most stable funding instruments they are essential to ensure compliance with liquidity ratios. Finally, MCP's reliance on Issued Debt, Central Banks and other FIs is low and will likely continue to decrease with the repayment of the CoCo's and decreasing the bank's dependence from ECB loans (both currently undergoing in MBCP). For additional detail on the Balance Sheet Structure please refer to Appendix C.3 and Appendix C.4.

4.2.3 Profitability

MBCP presented in FY12, FY13 and FY14 negative Net Income (NI), mainly due to the financial crisis in Portugal which led the bank to recognize significant amounts of impairments that penalized its financial performance. Additionally, in these FYs the Restructuring Plan was in the early implementation phase, hence the potential decrease in operational costs (such as staff wages) was not fully reflected in the financial statements.

In FY15 MBCP managed to generate a NI of €264,5M due to an improved NIM, higher net trading income, higher operational efficiency and lower impairment losses. The NIM has improved significantly from FY12 to FY15(3Q) from 1,3% to 1,9% (annualized basis), consequence of the decrease in interest costs with the CoCo's and interest rates paid on term deposits. As Figure 4.8 details in FY15(3Q) the NIM represented almost 50% of MBCP's net operating revenues (NIM plus Other Income), highlighting the importance of the NIM to a bank. In FY2015 MBCP generated €554,1M of net trading income in the first three quarters of the year – a 55% growth compared to the first three quarters of FY14 – as result of profits in the sale of the sovereign debt portfolio.

MBCP's NI – FY12 to FY15(3Q)

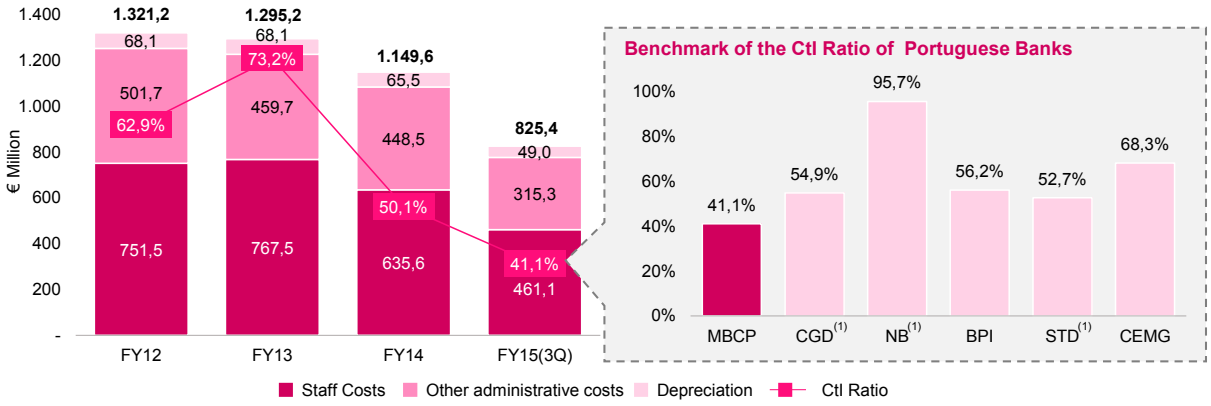


(1) Annualized data for FY15(3Q)

Figure 4.8
Source: MBCP

Furthermore, MBCP has significantly improved its operational efficiency reaching a Cost-to-Income (CtI) ratio of 41,1% – in line with the implementation of the Restructuring Plan, which settled a CtI target of 50% by the end of 2016. Another key improvement in efficiency is the decrease in staff costs, 18% between FY15(3Q) and FY12 – annualized basis. When compared to other Portuguese banks MBCP, presents a CtI ratio significantly lower than the one's presented by other players – the outcome of the restructure effort that led MBCP to significantly decrease the number of branches and employees in Portugal in order to become more competitive.

MBCP's Cost Structure – FY12 to FY15(3Q)



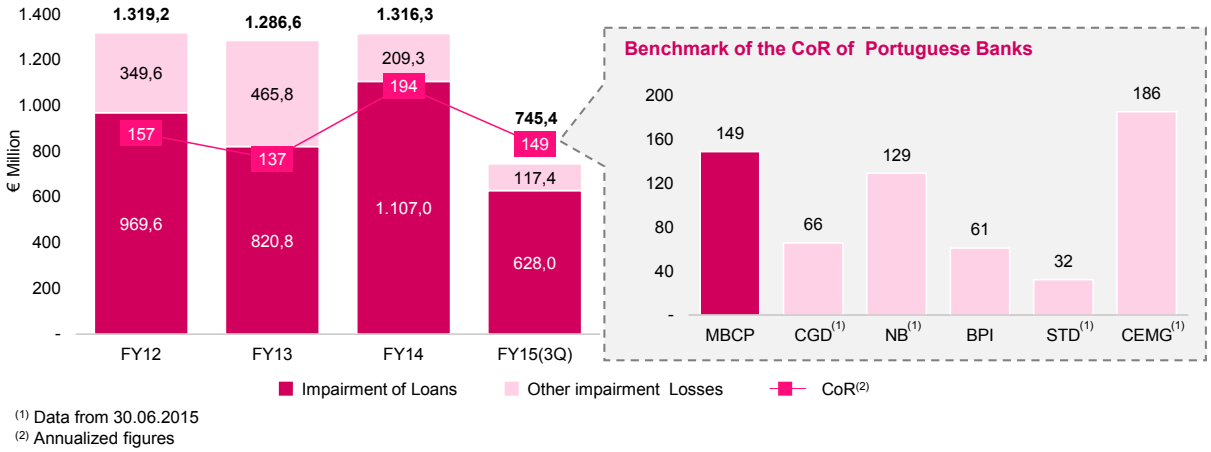
(1) Data from 30.06.2015

Figure 4.9
Source: MBCP and Earnings Presentations (2015) – CGD, NB, BPI, STD, CEMG

Finally, in previous periods MBCP registered significant amounts of impairment losses (especially for loans to customers) as a result of several inspection programs implemented by the regulatory bodies, Banco de Portugal (BdP) and ECB, which impacted the bank's net income and led to losses. The Restructuring Plan determined that MBCP should have a Cost of Risk (CoR) no higher than 100 basis points (bp) by the end of 2015, however this target has not yet been achieved by the bank, since by FY14(3Q) the CoR was at 149 bp– €628,0M.

Although the other players in the market were also subject to the same inspection programs as MBCP, the bank presented one of the highest CoR among Portuguese banks indicating that there was a lack of provisioning of its loan portfolio in previous periods. However, given the significant adjustments made in the past years and the improving economic environment in Portugal, it is expect that the CoR will decrease.

MBCP's Impairment Losses – FY12 to FY15(3Q)



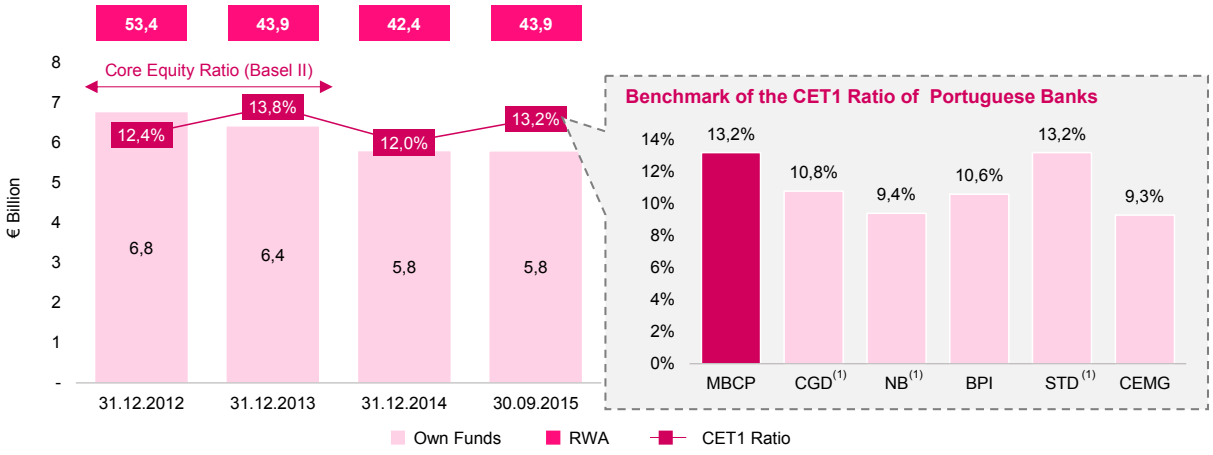
(1) Data from 30.06.2015
(2) Annualized figures

Figure 4.10
Source: MBCP and Earnings Presentations (2015) – CGD, NB, BPI, STD, CEMG

4.2.4 Solvency and Liquidity position

At 30.09.2015 MBCP presented a CET1 ratio (on a phased-in basis) of 13,2% (one of the highest among Portuguese Banks), above the 7% minimum and a significant improvement from the 12,0% of 31.12.2014. However, at the end of the third quarter of 2015 MBCP's CET1 ratio, on a fully loaded basis, was only 10,0%, meaning that the full implementation of CRD IV/CRR would have a significant impact in the bank's solvability.

MBCP's CET1 Ratio – Phased-in (31.12.2012 – 30.09.2015)



(1) Data from 30.06.2015

Figure 4.11
Source: MBCP and Earnings Presentations (2015) – CGD, NB, BPI, STD, CEMG

MBCP's regulatory Liquidity Ratios were 156% and 113% for LCR and NSFR, respectively, both above the regulatory minimum of 100%, whilst the bank's leverage ratio was 6,9% on a phased-in basis (5,3% on a fully loaded basis).

4.2.5 Future perspectives

The financial crisis and the IMF intervention in Portugal had a severe impact in MBCP's operation, however, after several periods of losses, in FY15 the bank is likely to return to profits. Going forward, the bank is expected to focus on achieving a sustainable net income growth and balancing the domestic and international activity.

MBCP's strategy (FY12 – FY17E)

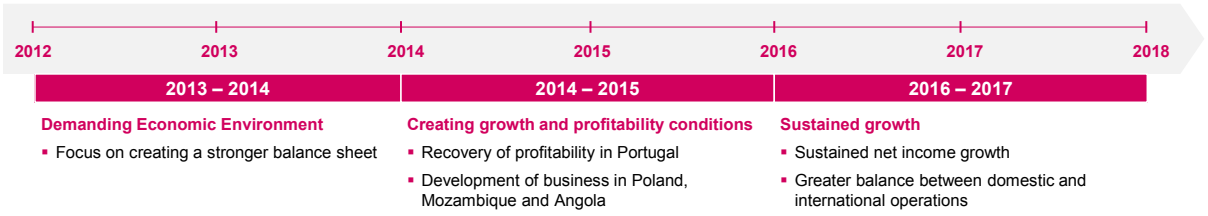


Figure 4.12
Source: MBCP

Additionally, MBCP has also determined financial targets to achieve until the end of FY15, Figure 4.13, in order to comply with the bank's strategy for FY16 and FY17 – focused on decreasing the bank's leverage and increasing its operational efficiency, profitability and solvency.

MBCP's Financial Targets (FY15)

	Actual		Strategic Plan	
	FY14	FY15(3Q)	FY15	Status
CET1 *(phased-in)*	12,0%	13,2 %	>10%	✔
CET1 *(fully loaded)*	8,9%	10,0%		
LtD	102%	99%	<110%	✔
CtI	52%	41%	≈50%	✔
Operational Costs[1] [2]	€690M	€634M	≈€660M	✔
CoR (bp)	194	149	≈100	
RoE	-6%	8%	≈7%	✔

[1] Solely for the operation in Portugal
[2] Figures annualized for FY15(3Q)

Figure 4.13
Source: MBCP

5. Valuation Methodology

5.1 Valuation Models

As noted in Section 2.3 FIs have specific characteristics that limit the type of valuation methodology that can be applied to these firms. Consequently, for the purpose of this work I only considered models recommended by authors for the valuation of FIs, namely the DDM, the FCFE Model, the Excess Return Model and the P/BV or P/ER model.

As remarked by Damodaran (2002), the FCFE Model does not deviate significantly from the DDM and given that dividend policy can be influenced by management decisions (not only by the cash available) it is my understanding that the FCFE is a better fit for this work and therefore I will not consider the DDM in my valuation of MBCP.

Furthermore, I will use the P/BV of comparable firms to assess whether my valuation is in accordance with how the market is pricing MBCP's peers. Hence, for the purpose of this work I will develop a valuation using two different models: the FCFE Model and the P/BV.

5.2 Cross-Model Considerations

For the purpose of this work I will use a Sum of Parts (SoP) approach to determine the Equity value of MBCP. Therefore, I will assess the value of each geographic segment separately (Portugal, Poland, Mozambique), using the methodologies identified in Section 5.1, and sum the valuation of each segment to determine the Equity Value of MBCP. Nonetheless, I will have to adapt the methodologies to encompass company specific issues, namely the merger in Angola and the issues MBCP faces in Portugal and Poland.

The bank's operation in Angola will be merged with BPA's, which will result in a significantly different institution in terms of strategy, size and profitability. The latest financial information, FY15(3Q), highlighted that the operation was valued using a P/BV multiple of 1,6x. Considering that there is insufficient financial information on the new institution, I will consider that the valuation of MBCP's stake in the new firm will be as reported. The valuation of MBCP's stake is detailed in Section 7.3.1.

In Portugal, MBCP faces a significant challenge with the sale of NB. In August 2014, BdP determined the resolution of Banco Espírito Santo (BES) and a separation of assets between two entities: NB, which inherited the "healthy" assets of BES and BES, which retained the "toxic" assets. NB was capitalized with €4,9B provided by the Resolution Fund, in which Portuguese Banks are participants – MBCP's participation in the fund was estimated to be around 20% at the end of FY14. NB has to be sold to a private investor, since the bank was created as a transition entity, however the difference (if negative as expected) between the sale price and the investment will be a loss for the Fund, and ultimately for Portuguese Banks.

In Poland, MBCP is under pressure by the draft law that enabled mortgage loan holders to convert their foreign mortgage loans into local currency loans – according to a Caixa Banco de Investimento (CBI) research note more than 50% of Polish Banks loans are denominated in foreign currency. According to the draft law, the losses arising from the conversion are expected to be partly bore by the banks, hence MBCP Polish operation is expected to have to accommodate losses related to the conversion of its mortgage loans denominated in foreign currency, which totaled €4,4B at 30.09.2015.

Although the expected losses from the previously described situations are likely to be deferred through several years, both in Portugal and in Poland there is no consensus regarding the number of years, hence it is not possible to incorporate accurately its impact in Business Plan of each segment. Therefore, for the purpose of this work I will consider the impact of the sale of NB and the conversion of loans in foreign currency to Zlotys directly in the Equity Value of MBCP (Sections 7.3.2 and 7.3.3, respectively).

6. Assumptions

6.1 Discount Rate

6.1.1 Risk free rate

For the risk free rate, I have considered the 10 year bond yield of Germany (0,53%) for the operations in Portugal and Poland. For the MBCP's segment in Mozambique, and since the country's economy is more dollar-based than euro-based, I have considered the 10 year bond yield of the USA (2,26%).

German and United States Bond Curve – 30.10.2015

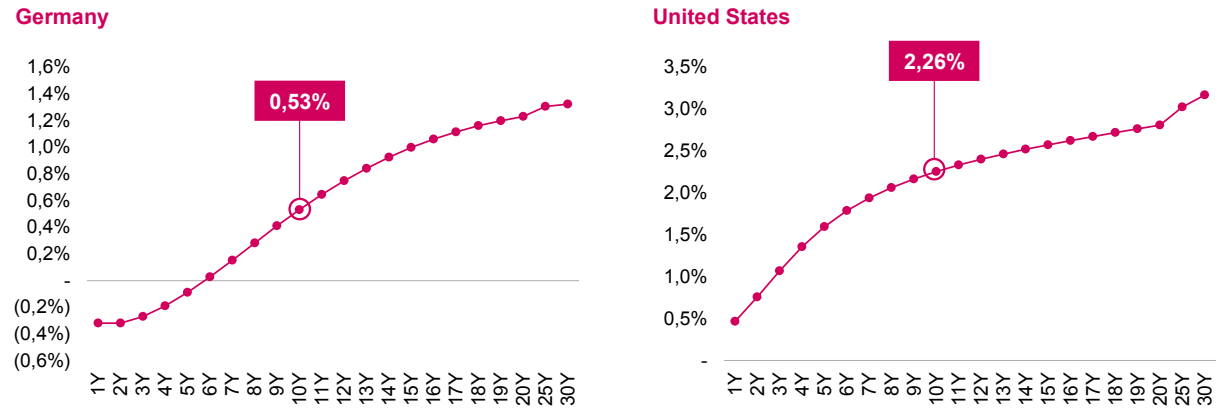


Figure 6.1
Source: Reuters

6.1.2 Beta

For the estimation of the beta of the different segments of MBCP I will construct a peer group of listed firms with similar fundamentals, as suggested by Damodaran (2002) and Pearl and Rosenbaum (2009). The observation period of the beta is five years, as recommended by Pettit (2007).

For the peer group of the Portuguese segment, given that there is a limited number of listed Portuguese Banks, I will include banks from Spain and Italy since the banks from these countries faced similar issues to the ones faced by Portuguese Banks. Additionally, I have analyzed the fundamentals of the peers focusing on credit quality ratios and profitability to determine which banks should be included in the peer group. Hence, according to this approach the beta for MBCP's operation in Portugal is 1,52.

Peer Group – Portugal and Poland

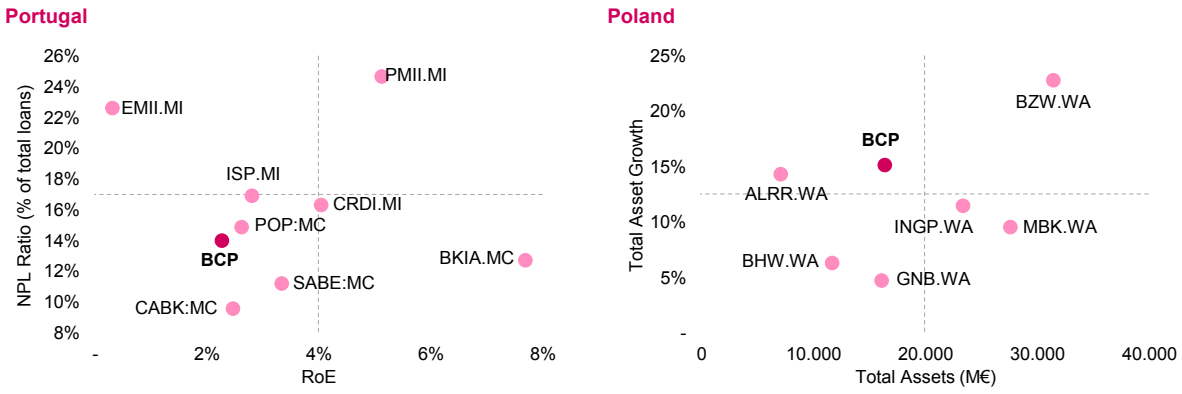


Figure 6.2
Source: MBCP and Reuters

For the peer group of the Polish segment, I will consider only Polish Banks since there is a significant number of listed players that present a very similar set of characteristics, specific to the Polish Banking Industry. Additionally, I have analyzed the fundamentals of the peers focusing on Total Assets and asset growth since the new tax on the assets of banks will impact the size of Polish banks and their growth perspectives. Hence, according to this approach the beta for MBCP's operation in Poland is 1,27.

For the peer group of MBCP's operation in Mozambique, given that there is no stock index in Mozambique, I assessed which countries had a development of their Financial Services Sector similar to Mozambique's. From these countries I selected players with operations similar in size (in terms of assets) and profitability (RoE). Hence, according to this approach the beta for MBCP's operation in Mozambique is 1,17.

Peer Group – Mozambique

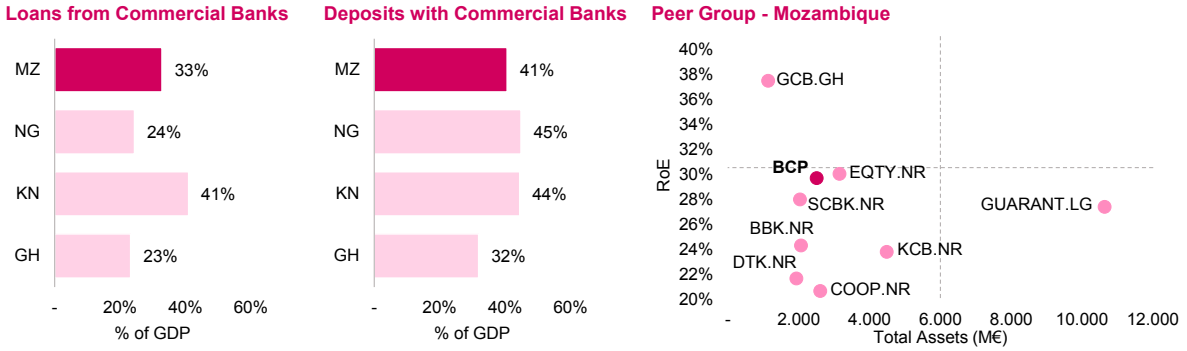


Figure 6.3
Source: MBCP and Reuters

For additional information on the firms composing each of the peer groups please refer to Appendix D.1.

6.1.3 Equity Risk Premium

As noted by Damodaran (2002) the historical ERP is the standard approach used by finance practitioners to estimate the ERP, hence I considered the author estimate at July 2015 for the ERP – 4,62% – as input for the discount rates.

6.1.4 Country Risk Premium

For the CRP I will use the rating based default spread (described in Section 2.5) proposed by Damodaran (2002) and consider that the CRP is the average spread between rating levels. Hence, I will consider the author estimate at July 2015 for the CRP for Portugal (2,50%), Poland (0,85%) and Mozambique (4,50%).

6.1.5 Cost of Equity

I have not considered any changes between periods in the inputs of the CAPM, however I will assess, through a sensitivity analysis the impact of changes in the CoE in the MBCP's Equity Value in Section 7.4.2. The CoE for MBCP's operations in Portugal and Poland is 10,05% and 7,25%, respectively.

CoE – Portugal, Poland

	Portugal	Poland
Risk free rate (GR - 10 year)	0,53%	0,53%
Beta	1,52	1,27
Market Risk Premium	4,62%	4,62%
Country Risk Premium (PT)	2,50%	0,85%
Cost of Equity	**10,05%**	**7,25%**

Figure 6.4
Source: Reuters, Damodaran and Own Estimates

For MBCP's operation in Mozambique, given that I used the US 10 year bond yield to as a proxy to the risk free rate in the CoE the discount rate is in USD. As my projections are all in EUR, I have adjusted the estimated CoE in USD by the inflation differential between the US and Germany to translate it to EUR. Hence, there are small changes in the CoE in EUR between periods with discount rate varying between 12,04% in FY16P and 12,70% in FY20P.

CoE – Mozambique

	FY16P	FY17P	FY18P	FY19P	FY20P
Risk free rate (US - 10 year)	2,26%	2,26%	2,26%	2,26%	2,26%
Beta	1,17	1,17	1,17	1,17	1,17
Market Risk Premium	4,62%	4,62%	4,62%	4,62%	4,62%
Country Risk Premium (MZ)	4,50%	4,50%	4,50%	4,50%	4,50%
Cost of Equity USD (1)	**12,15%**	**12,15%**	**12,15%**	**12,15%**	**12,15%**
Inflation Diferential (2)	1,00	1,00	1,01	1,00	1,00
Cost of Equity EUR (1x2)	**12,04%**	**12,48%**	**12,81%**	**12,70%**	**12,70%**

Figure 6.5
Source: Reuters, Damodaran and Own Estimates

6.2 Business Plan

6.2.1 Portugal

MBCP's operation in Portugal started in 1985 and currently encompasses five segments: Retail, Companies, Corporate & Investment Banking, Asset Management & Private Banking and the Non-Core Business Portfolio. At the end of FY14 MBCP was the largest privately-owned bank in Portugal with more than two million clients and €56,3B in Total Assets.

In recent years the Portuguese financial crisis led to a decrease in the Gross Domestic Product (GDP) and an increase in the Unemployment Rate. However, according to the estimates of the IMF the Portuguese economy will recover from FY15 onwards with a real growth of the GDP above 1% and a decrease in the Unemployment rate to 10,8% in FY20 (from more than 13% in FY15E).

Macroeconomic Assumptions

	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Economy									
Real GDP growth	(4,0%)	(1,6%)	0,9%	1,6%	1,5%	1,4%	1,3%	1,2%	1,2%
Inflation	2,8%	0,4%	(0,2%)	0,6%	1,3%	1,5%	1,6%	1,7%	1,7%
Unemployment Rate	15,6%	16,2%	13,9%	13,1%	12,6%	12,1%	11,7%	11,2%	10,8%
Financial Sector									
Total Assets (g)	(3,7%)	(7,3%)	(2,3%)	0,1%	0,7%	0,7%	1,6%	2,5%	2,5%
Total Gross Loans (g)	0,3%	(7,4%)	(1,6%)	(4,6%)	(1,3%)	(0,7%)	1,6%	2,5%	2,5%
Total Deposits (g)	1,7%	0,8%	(1,0%)	1,2%	1,7%	1,7%	1,6%	2,5%	2,5%

Figure 6.6
Source: IMF and EIU

As a consequence of the financial crisis Banking Sector, Total Assets decreased 9,4% between 2012 and 2014, mainly due to reduced economic activity and more stricter loan policies. For MBCP the decrease in Total Assets in this period was 14% due to the implementation of the Restructuring Plan that limited the bank's activity and its credit concession ability.

For FY15 to FY20 the Economist Intelligence Unit (EIU) estimates that the Portuguese Banking Sector will recover and return to positive growth rates in total assets. However, and given that MBCP is still focused in deleveraging its activity and reducing its commercial gap, the bank's Total Assets will decrease in FY16, FY17 and FY18, especially due to an expected decrease of €3,0B in gross loans in this period, according to the Investor Relations Department (IRD) of the bank. From FY19 onwards, MBCP's Total Assets are expected to return to a positive growth, driven by the growth of the loan portfolio (equal to the country GDP

real growth). The decrease in the commercial gap allied with stricter loan concession policies will result in a higher proportion of funds allocated to Financial Assets and Loans and Advances to OCI.

Asset Structure

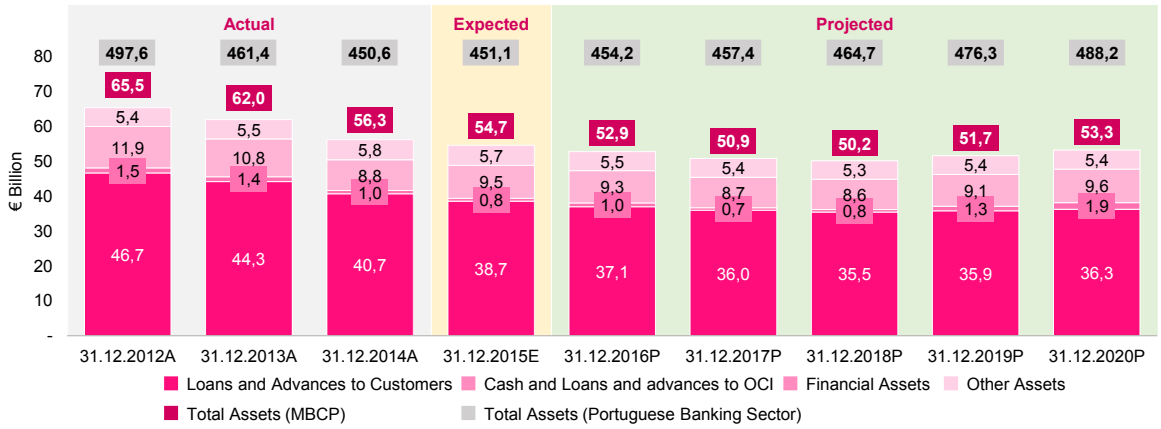


Figure 6.7
Source: MBCP, BdP, EIU and Own Estimates

The bank's funding structure reliance in debt securities has decreased significantly between 31.12.2012 and 31.12.2014. For FY15 to FY20 it is expected that this tendency will continue with the repayment of the CoCo's and other debt instruments. According to MBCP's IRD there is no new debt issue nor any capital increase planned in the foreseeable future.

The decrease in funding will be compensated by a higher reliance in Equity and Deposits as well as by the decrease in the bank's assets. Deposits from customers are expected to decrease in FY16 and FY17 due to: a) renegotiation towards lower interest rates in existing term deposits that are currently bearing an above market interest rate and b) aggressive approach in customer acquisition of two new players in the market (Banco CTT and Bankinter). From FY18 onwards it is expected that the bank will focus on increasing deposits from customers in order to reduce the commercial gap to 0 (LtD of 100%).

Funding Structure

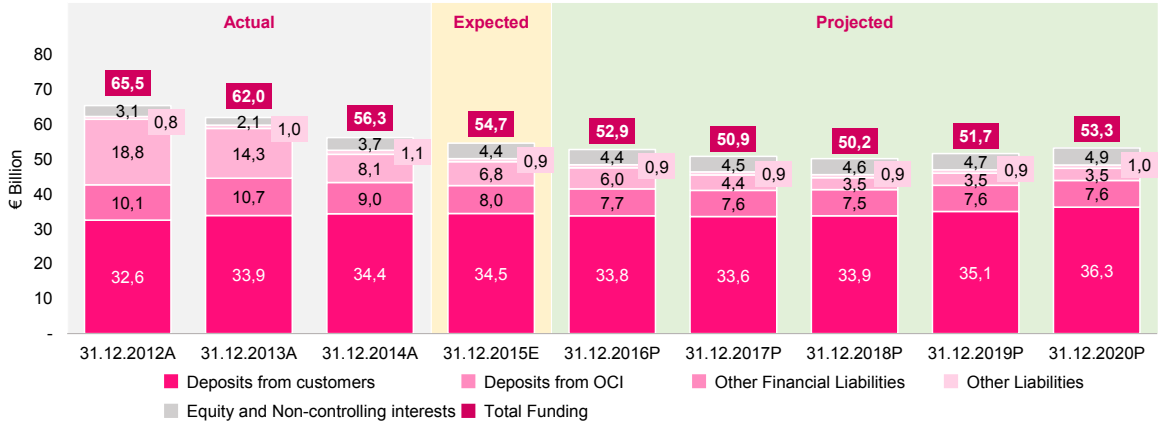


Figure 6.8
Source: MBCP and Own Estimates

In terms of revenues MBCP's operation in Portugal has been significantly affected by the financial crisis. In FY14 and FY15 MBCP's net operating revenue has recovered due to the partial repayment of the CoCo's, which had a positive impact in the NIM in FY14 and FY15, and the sale of the sovereign debt portfolio, which had a positive impact in the Complementary Margin in FY15.

From FY16 onwards it is expected that the NIM will improve due to the recovery of the loan portfolio (the improvement of the economic environment is expected to lead to lower NPL ratios), the repayment of the remaining CoCo's in FY16 and the renegotiation of the deposit book. The Complementary Margin evolution is linked to the evolution of the bank's loan portfolio (for guarantees and loan commissions) and its financial assets (for trading income and dividends). The trading income for FY16 was adjusted as an average of the last two FYs as a percentage of financial assets – FY15 encompassed a significant amount of non-recurring income.

Net Operating Revenues

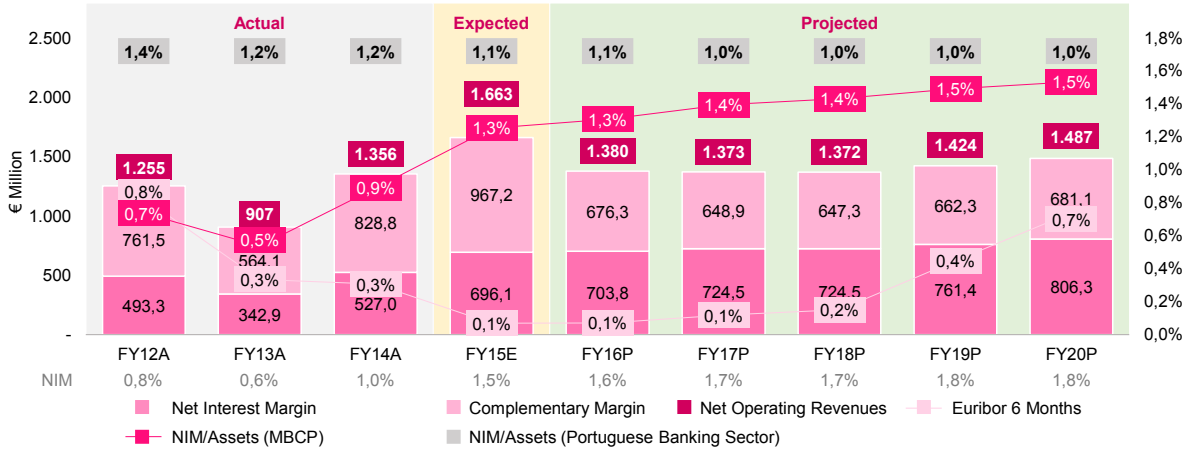


Figure 6.9
Source: MBCP, BdP, EIU, EMMI and Own Estimates

In terms of efficiency the bank is expected to present a CtI ratio below 50% from FY15 onwards, in line with the targets set for the Restructuring Plan. As discussed with MBCP's IRD, the number of branches and employees is expected to decrease in the following periods in an effort to adapt the bank's structure to the demand of the market – it was assumed that the ratio of employees per branch would remain constant. For staff costs it was assumed that the cost per employee would grow at the inflation rate plus a 1% real growth rate, whilst administrative costs per branch were expected to grow only at the inflation rate.

Operating Costs

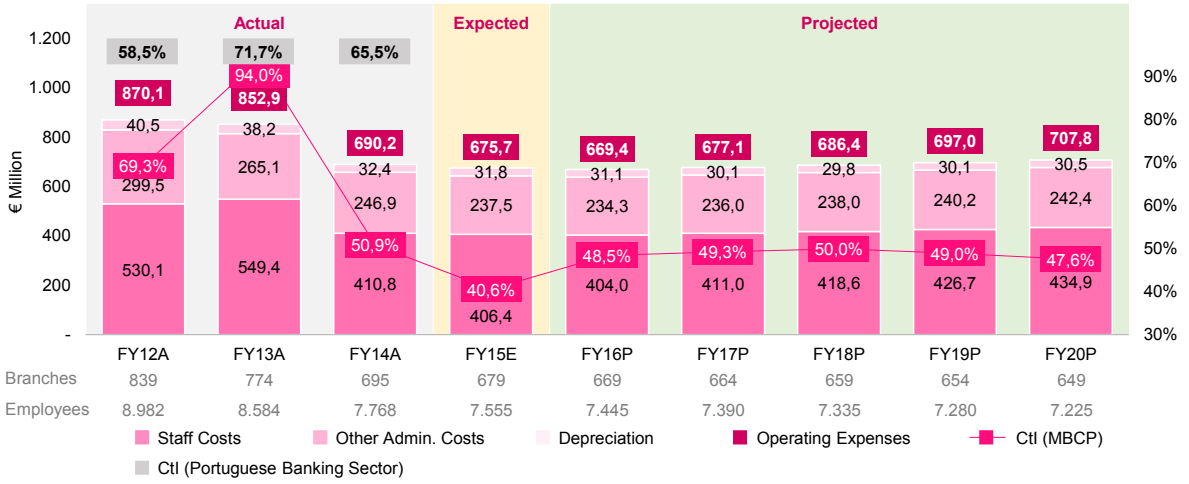


Figure 6.10
Source: MBCP, BdP and Own Estimates

The financial crisis led the bank to recognize significant amounts of impairment losses up to FY15. However from FY16 onwards, given the expected recovery of the Portuguese economy, the amount of impairment

losses is expected to decrease with the bank's CoR stabilizing in 110 bp –in line with the targets of the Restructuring Plan.

Impairment Losses

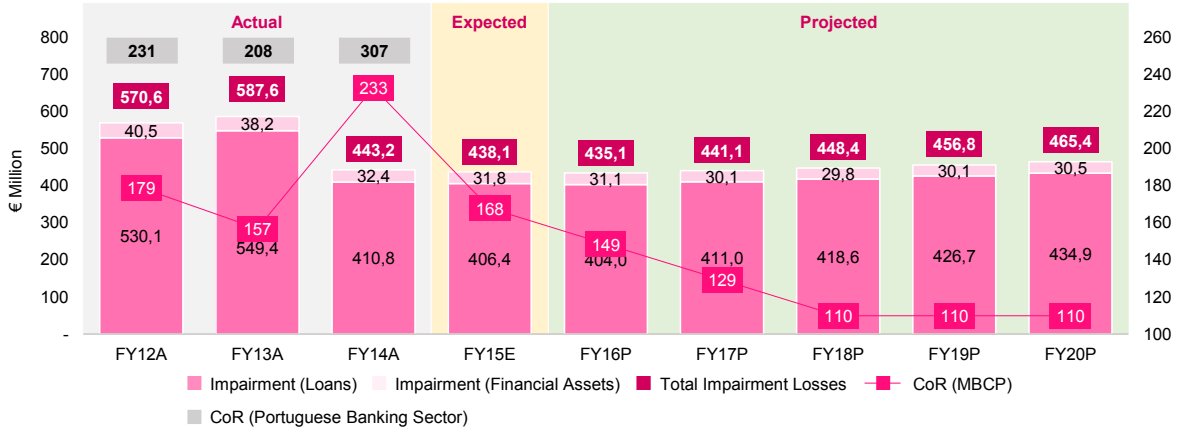


Figure 6.11
Source: MBCP, BdP and Own Estimates

In accordance to the assumptions previously presented MBCP's Portuguese Segment is expected to generate a Net Income of €179,4M in FY20 corresponding to a RoE of 3,7% and a RoA of 0,3% – as discussed with MBCP's IRD I have not considered the derecognition of DTA's given that the bank is expected to fully utilize its current stock.

Profitability

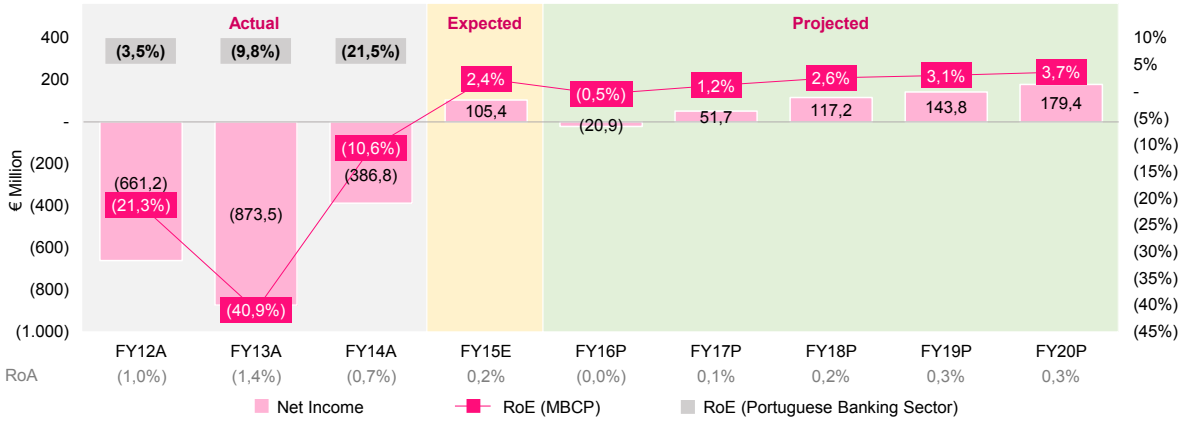


Figure 6.12
Source: MBCP, BdP and Own Estimates

For the Financial Statements and detailed assumptions of this segment please refer to Appendix D.2.1.

6.2.2 Poland

MBCP's operation in Poland (Bank Millennium) started in 1989 and currently develops its activity as a universal bank, with €14,2B in Total Assets in 31.12.2014 and serving more than one million clients. In FY15 MBCP disposed of 15,41% of the bank's capital, reducing its participation to 50,01% whilst retaining shareholder control of the bank.

Unlike Portugal, Poland did not endure a financial crisis in recent years, hence future growth prospects were not limited by a slow economic recovery – the IMF estimates an average real GDP growth of 3,6% for FY15 to FY20.

Macroeconomic Assumptions

	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Economy									
Real GDP growth	1,8%	1,7%	3,4%	3,5%	3,5%	3,6%	3,6%	3,6%	3,6%
Inflation	3,7%	0,9%	-	(0,8%)	1,0%	2,0%	2,4%	2,5%	2,5%
Unemployment Rate	12,8%	13,5%	12,3%	8,0%	7,7%	7,6%	7,5%	7,5%	7,5%
Financial Sector									
Total Assets (g)	14,8%	2,3%	5,5%	5,2%	5,7%	6,3%	7,1%	6,6%	6,5%
Total Gross Loans (g)	12,2%	1,3%	2,9%	5,3%	6,2%	6,8%	7,6%	7,1%	7,0%
Total Deposits (g)	13,1%	3,5%	3,5%	6,3%	6,3%	6,8%	7,6%	7,1%	7,0%

Figure 6.13
Source: IMF and EIU

When compared with other European countries Poland presents a low penetration of deposits and loans in the economy, which, aligned with the expected economic growth, is likely to translate into a growth and development of the Polish Banking Sector.

Deposit and Loan Penetration by Country (2013)

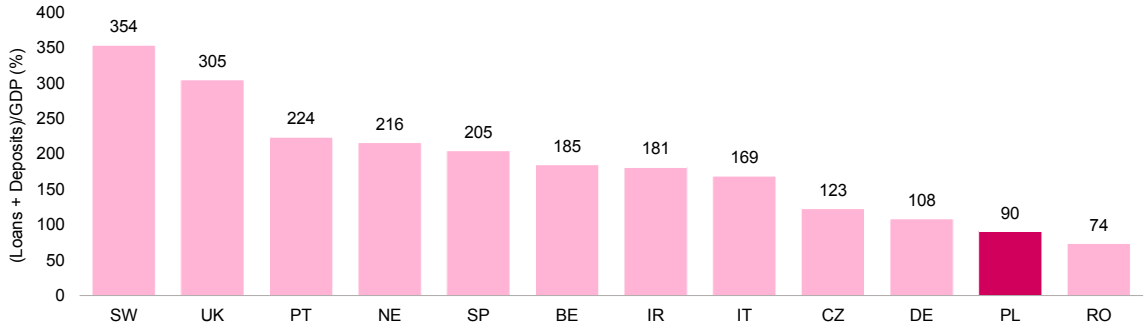


Figure 6.14
Source: IMF

For FY16 to FY20 it is expected that the bank will accompany the evolution of the Polish economy, driven by the growth of its loan portfolio (at the real GDP growth rate). As discussed with MBCP's IRD the asset structure of the bank is expected to remain relatively stable in future periods.

Asset Structure

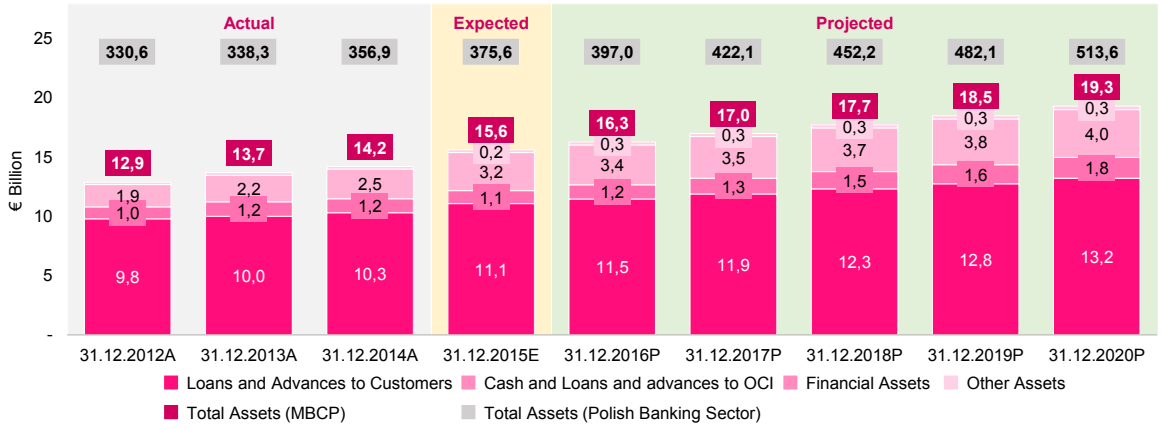


Figure 6.15
Source: MBCP, Polish Central Bank, EIU and Own Estimates

MBCP's funding is expected to remain stable between FY15 and FY20, ensuring that the bank remains a self-funded funded operation (LtD ratio bellow 100%). Deposits from customers are expected to continue

to be the most important source of funds for MBCP's Polish segment, maintaining a LtD ratio of 90%. There is no new debt issue nor any capital increase planned in the foreseeable future.

Funding Structure

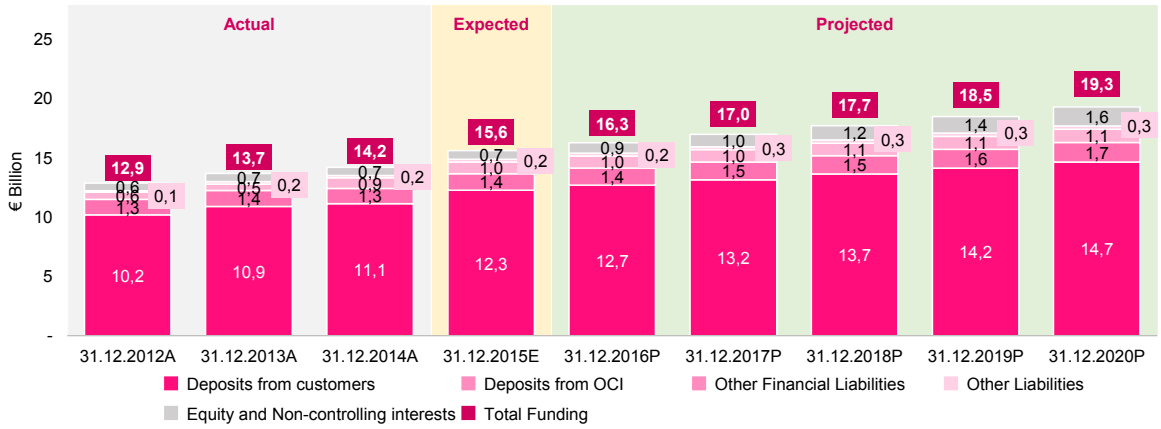


Figure 6.16
Source: MBCP and Own Estimates

From FY16 onwards it is expected that the NIM will remain relatively stable around 2,3% with no major changes in interest bearing liabilities and interest earning assets. The recent Polish elections have determined that the new government would be a right wing party (Law and Justice) that is intent in introducing a new set of taxes in industry's in which there is a considerable foreign presence, namely the Banking Sector. Hence, the introduction of the new tax on bank's assets (0,39% of Total Assets) is expected to have a significant impact in MBCP's profitability (between €61,0M and €72,2M) from FY16 onwards.

Net Operating Revenues

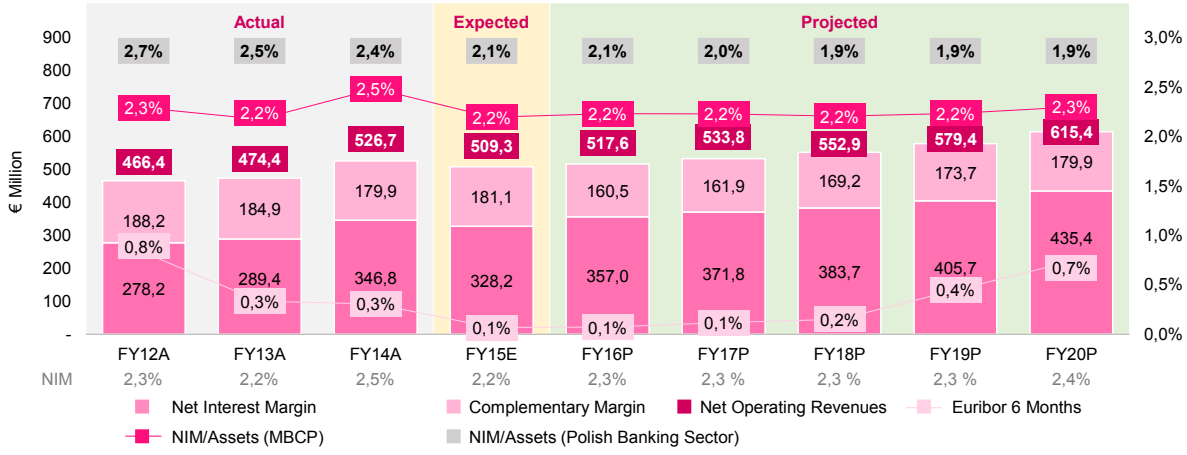


Figure 6.17
Source: MBCP, Polish Central Bank, EIU, EMMI and Own Estimates

In terms of efficiency, the bank is expected keep improving its CtI ratio from FY15 onwards, achieving a CtI ratio of 45% on FY20. As discussed with MBCP's IRD the number of branches and employees is expected to remain the same throughout the projection period. For staff costs it was assumed that the cost per employee would grow at the inflation rate plus a 1% real growth rate, whilst administrative costs per branch are expected to grow only at the inflation rate.

Operating Costs

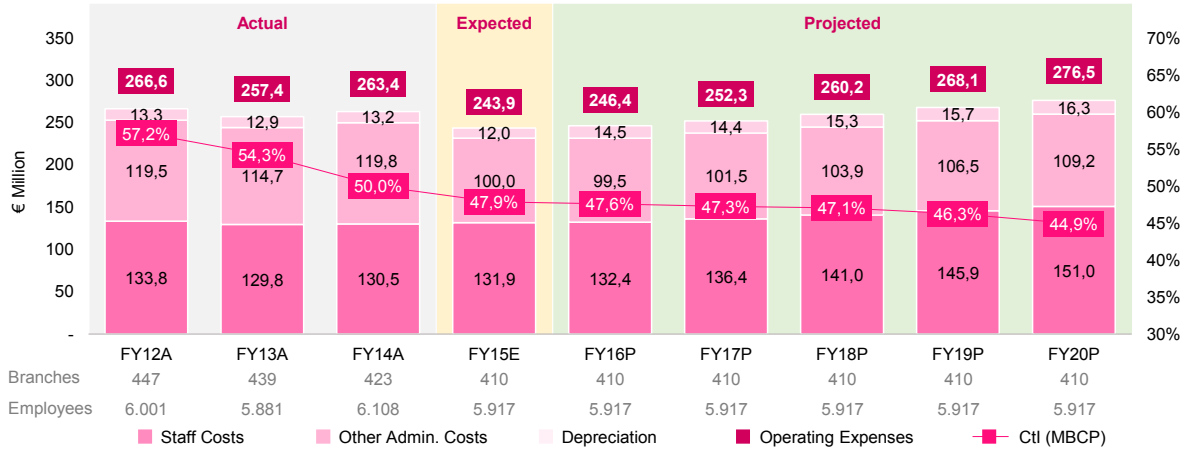


Figure 6.18
Source: MBCP and Own Estimates

In terms of impairment of loans, MBCP's Polish segment presents a low CoR, which is expected to tend to 58bp from FY15 onwards. In accordance to the assumptions previously presented, MBCP's Polish Segment is expected to generate a Net Income of €200,0M in FY20 corresponding to a RoE of 12,5% and a RoA of 1,0%.

Profitability

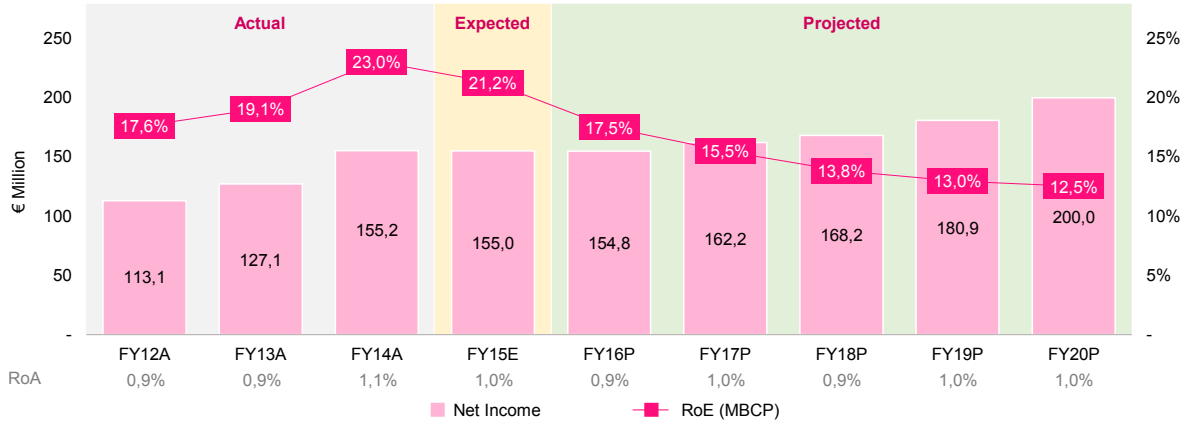


Figure 6.19
Source: MBCP and Own Estimates

For the Financial Statements and detailed assumptions of this segment please refer to Appendix D.2.2.

6.2.3 Mozambique

MBCP's operation in Mozambique (Millennium bim) started in 1995 and is currently the market leader in Mozambique in Assets, Loans and Deposits. In FY14 was the only Mozambican bank recognized as one of the Top 100 banks in Africa by *The Banker* magazine servicing close to 1,3 million clients. MBCP holds 66,69% of Millennium bim's shares.

Mozambique, an emerging economy, is expected to present a high real GDP growth (average of 8,0% for FY16 to FY19), whilst keeping the inflation level below 6,0%. In FY20 IMF expects that the country will start producing and selling natural gas discovered in the country's northern shore, which translates to a real GDP growth rate of 17,6%.

Macroeconomic Assumptions

	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Economy									
Real GDP growth	7,1%	7,4%	7,4%	7,0%	8,2%	7,9%	8,0%	7,9%	17,6%
Inflation	2,1%	4,2%	2,3%	4,0%	5,6%	5,6%	5,6%	5,6%	5,6%

Figure 6.20
Source: IMF

Like many African countries, Mozambique still presents a low bancarization and a low access, understanding and utilization of financial services by the population. It is expected that in the future the economic development will lead to a more developed and inclusive financial system, hence bank's such as MBCP are expected to benefit from this development through the expansion of its business activity, namely in total assets, deposits and loans.

Bancarization (2013)

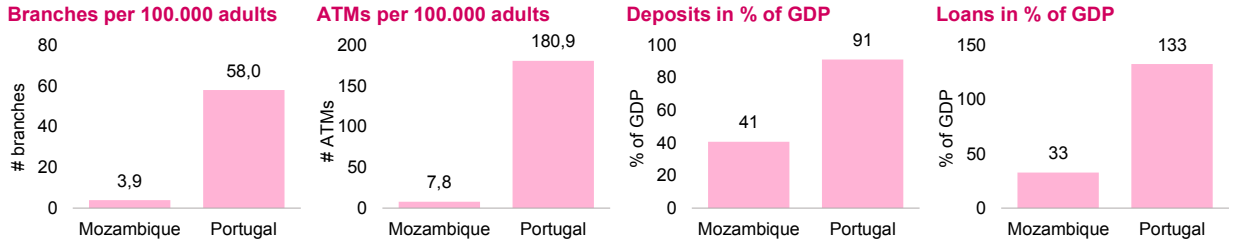


Figure 6.21
Source: IMF

For FY16 to FY20 it is expected that the bank will accompany the evolution of the economy, driven by the growth of its loan portfolio (at the real GDP growth rate). As discussed with MBCP's IRD the asset structure of the bank is expected to remain stable in future periods.

Asset Structure

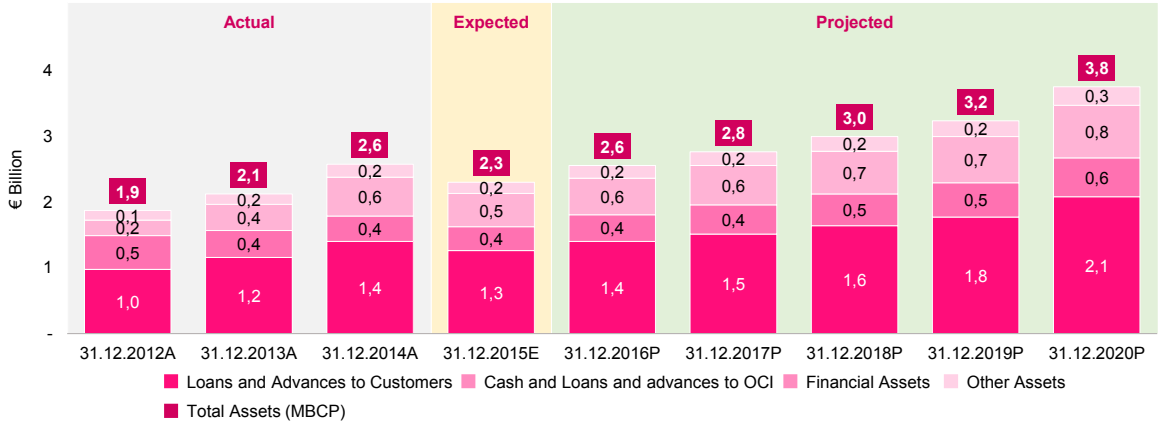


Figure 6.22
Source: MBCP and Own Estimates

Deposits from customers are expected to continue to be the most important source of funds for MBCP's Mozambican segment. However, like most African banks, Millennium bim presents a low LtD, which is expected to increase as the country becomes more developed and the use of financial services becomes more common. Consequently, I have considered that the LtD of this segment will gradually increase until it reaches 85% in 31.12.2020, whilst ensuring that the bank remains a self-funded funded operation. There is no new debt issue nor any capital increase planned in the foreseeable future.

Funding Structure

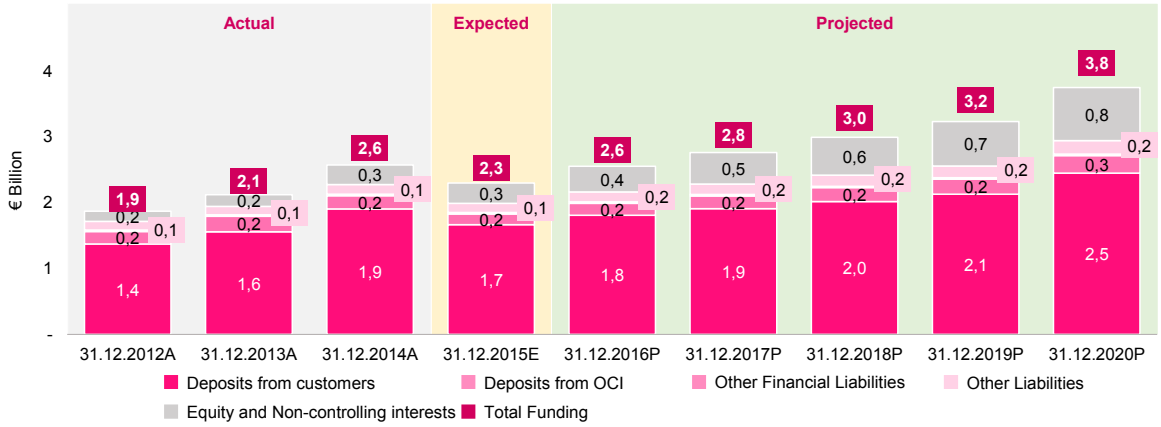


Figure 6.23
Source: MBCP and Own Estimates

From FY16 onwards it is expected that the NIM will improve due to a higher amount of loans and investment in financial assets. The complementary margin will improve mostly due to credit related commission income.

Net Operating Revenues

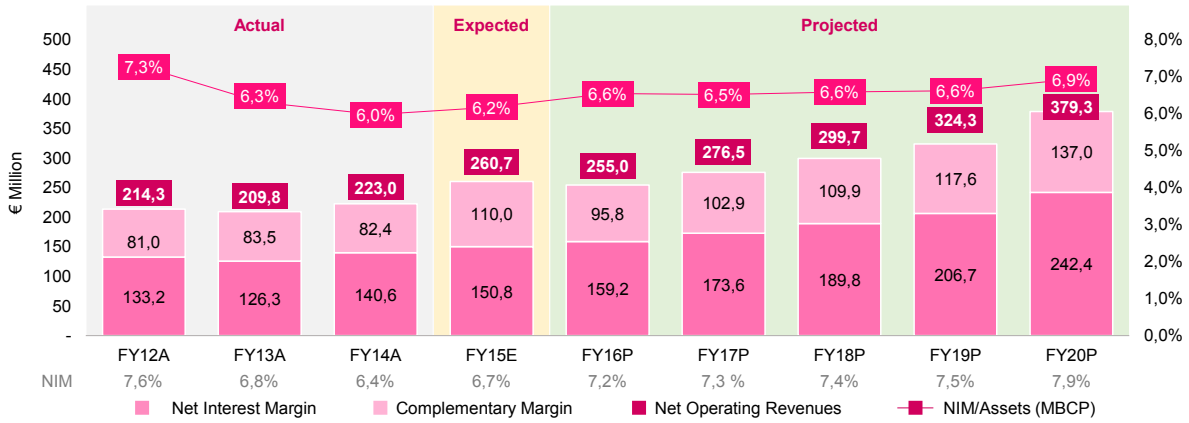


Figure 6.24
Source: MBCP and Own Estimates

As discussed with MBCP's IRD the number of branches and employees is expected to increase in the following periods at the pace of 10 branches per year as the bank continues to expand its operation to more cities and districts in Mozambique – it was assumed that the ratio of employees per branch would remain constant. For staff costs it was assumed that the cost per employee would grow at the inflation rate plus a 1% real growth rate, whilst administrative costs per branch were expected to grow only at the inflation rate.

Given the lack of qualified workers in Mozambique it is common that banks employ foreign workers. Although these employees bring a higher banking know-how and innovation to the company they are also more expensive than local workers to hire. Consequently, it is expected that the bank's CtI ratio will increase from FY15 to FY19 due to the expansion of their branch and employee network.

In FY20, the commercialization of natural gas is expected to help the economy and contribute to the banking sector development through an increment in activity and higher liquidity. Therefore, the bank will be able to present a CtI ratio closer to 50%.

Operating Costs

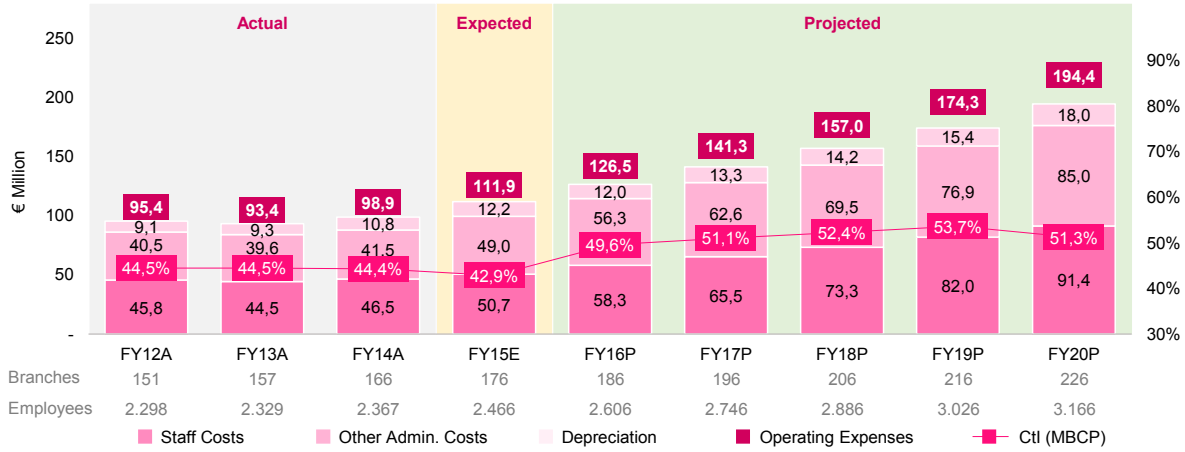


Figure 6.25
Source: MBCP and Own Estimates

In terms of impairment of loans, Millennium bim's CoR is expected to tend to 120bp until FY18, remaining stable from there onwards. In accordance to the assumptions previously presented MBCP's Mozambican Segment is expected to generate a Net Income of €128,1M in FY20 corresponding to a RoE of 15,9% and a RoA of 3,4%.

Profitability

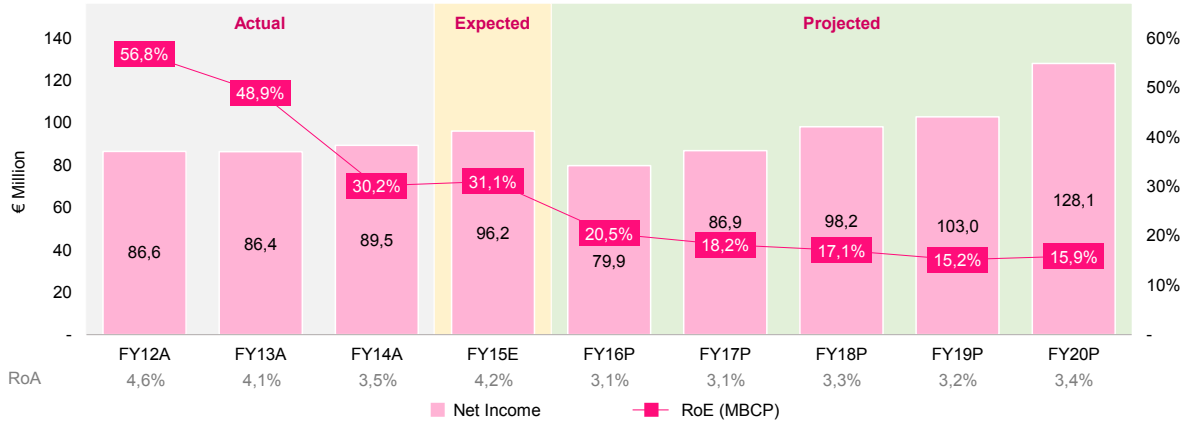


Figure 6.26
Source: MBCP and Own Estimates

For the Financial Statements and detailed assumptions of this segment please refer to Appendix D.2.3.

7. MBCP Valuation

7.1 The Free Cash Flow to Equity Model

To determine the FCFE, as suggested by Damodaran (2009), I have used the formula presented in Section 2.4.1.1. The Reinvestment in Regulatory Capital is determined by the change of each segment's RWAs multiplied by the minimum total capital ratio required on a fully loaded basis:10,5%.

$$Reinvestment\ in\ Regulatory\ Capital_N = (RWAs_N - RWAs_{N-1}) \times Minimum\ Total\ Capital\ Ratio$$

As discussed with MBCP's IRD, in future periods it is expected that RWAs per Total Asset will decrease across all segments, due to the conversion of more portfolios to an IRB advanced assessment method instead of the standard approach, which commonly results in a lower RWA level. Consequently, I have considered a decrease of 0,5% in RWAs in percentage of Total Assets from FY15 onwards.

RWA's

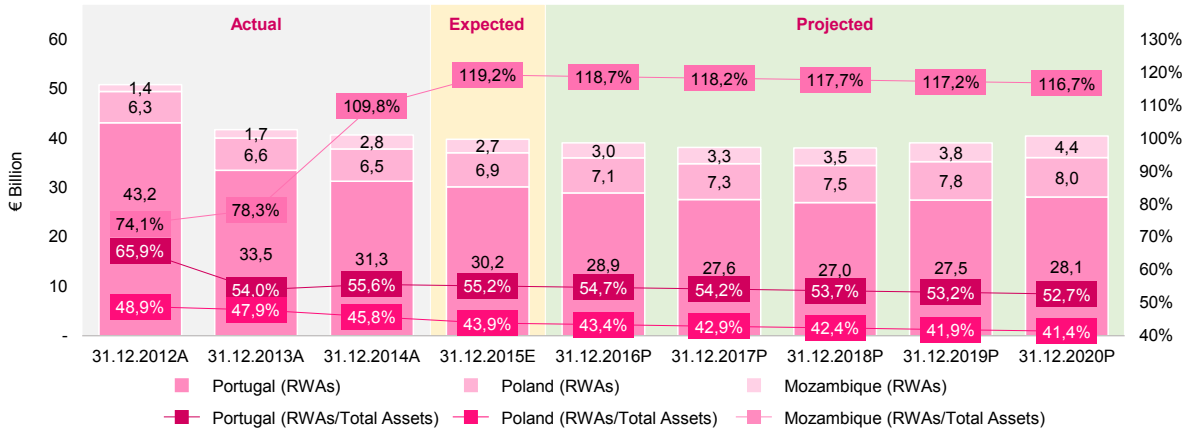


Figure 7.1
Source: MBCP and Own Estimates

Although MBCP's consolidated activity is bound by the limits of Basel III, not all its segments have to report according to these parameters and those that do, may have specific limitations imposed by local regulatory authorities. Given that I am using a SoP approach, I have applied Basel III requirements for the RWAs of each segment in order to ensure that the risk of each segment is the assessed according to the same criteria. Additionally, MBCP does not disclose the capital ratios of each segment separately per Basel III criteria (only on a consolidated basis), therefore I cannot determine the excess or shortage of capital at the reference date of the valuation. Since each segment contributes individually to the capital generation of the group, I have determined a "blended" CoE, in accordance with the weight of each segments RWA (Figure 7.2), to discount the FCFE of each segment.

CoE

	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
CoE - Portugal	10,1%	10,1%	10,1%	10,1%	10,1%	10,1%
RWA weight	75,8%	74,1%	72,3%	70,9%	70,4%	69,4%
CoE - Poland	7,6%	7,6%	7,6%	7,6%	7,6%	7,6%
RWA weight	17,3%	18,1%	19,1%	19,8%	19,9%	19,8%
CoE - Mozambique	12,0%	12,0%	12,5%	12,8%	12,7%	12,7%
RWA weight	6,9%	7,8%	8,6%	9,3%	9,7%	10,8%
CoE	**9,8%**	**9,8%**	**9,8%**	**9,8%**	**9,8%**	**9,9%**
Discount factor	*1,00*	*0,91*	*0,83*	*0,75*	*0,69*	*0,62*

Figure 7.2
Source: Own Estimates

For the terminal value multiple of each segment it is my understanding that the best option is to use a combination between a market multiple and an internally generated multiple. Therefore, the terminal value multiple of each segment will have a 50% weight of the P/BV determined by the peer groups described in Section 6.1.2 and a 50% weight of the target P/BV multiple described in Section 2.4.1.2.

Terminal Value Multiples

Portugal

Multiple	
Target P/BV	0,31x
Sustainable RoE	3,9%
CoE	10,1%
Growth	1,2%
Market P/BV	0,84x
Terminal Value Multiple	**0,57x**

Poland

Multiple	
Target P/BV	2,44x
Sustainable RoE	13,4%
CoE	7,6%
Growth	3,6%
Market P/BV	1,43x
Terminal Value Multiple	**1,93x**

Mozambique

Multiple	
Target P/BV	1,70x
Sustainable RoE	17,3%
CoE	12,5%
Growth	5,6%
Market P/BV	1,73x
Terminal Value Multiple	**1,71x**

Figure 7.3
Source: Own Estimates

According to this approach, the Equity Value of each segment will be equally impacted by how the market is valuing comparable companies and by the relation between profitability (RoE), growth and opportunity cost (CoE).

Regarding the excess capital at the reference date of the valuation I have considered MBCP's consolidated capital position at 30.09.2015. According to the bank's reported capital ratio, MBCP's Equity Value includes approximately €173,2M (€0,003 per share) of excess capital.

Considering the assumptions previously mentioned the Equity Value of MBCP's Portuguese segment is €2.311,8M (€0,039 per share).

MBCP's Equity Value – Portugal (FCFE)

€ Million	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Profit after income tax	5,3	(20,9)	51,7	117,2	143,8	179,4
- Reinvestment in Regulatory Capital	(17,2)	(131,3)	(142,7)	(63,3)	56,6	60,4
FCFE	**22,6**	**110,4**	**194,3**	**180,5**	**87,2**	**119,0**
Exit Value						2.811,0
Equity						4.892,1
Terminal Value Multiple						0,57x
FCFE + Terminal Value	**22,6**	**110,4**	**194,3**	**180,5**	**87,2**	**2.930,1**
Discount Factor	1,00	0,91	0,83	0,75	0,69	0,62
Equity Value	**2.311,8**					
Per share	*0,039*					

Figure 7.4
Source: Own Estimates

Considering the assumptions previously mentioned the Equity Value of MBCP's participation in its Polish segment (50,01% owned by MBCP) is €1.261,1M (€0,021 per share).

MBCP's Equity Value – Poland (FCFE)

€ Million	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Profit after income tax	36,3	154,9	162,3	168,3	181,1	200,4
- Reinvestment in Regulatory Capital	6,4	22,1	23,3	23,7	24,4	25,3
FCFE	**29,9**	**132,8**	**139,0**	**144,7**	**156,8**	**175,1**
Exit Value						3.086,9
Equity						1.596,8
Terminal Value Multiple						1,93x
FCFE + Terminal Value	**29,9**	**132,8**	**139,0**	**144,7**	**156,8**	**3.262,0**
Discount Factor	1,00	0,91	0,83	0,75	0,69	0,62
Equity Value	**2.521,8**					
Equity Stake (MBCP)	50,01%					
Equity Value (MBCP)	**1.261,1**					
Per share	*0,021*					

Figure 7.5
Source: Own Estimates

Considering the assumptions previously mentioned the Equity Value of MBCP's participation in its Mozambican segment (66,69% owned by MBCP) is €755,4M (€0,013 per share).

MBCP's Equity Value – Mozambique (FCFE)

€ Million	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Profit after income tax	27,7	79,9	86,9	98,2	103,0	128,1
- Reinvestment in Regulatory Capital	2,3	30,2	24,6	27,3	28,0	61,4
FCFE	**25,4**	**49,7**	**62,4**	**70,9**	**74,9**	**66,7**
Exit Value						1.381,7
Equity						805,8
Terminal Value Multiple						1,71x
FCFE + Terminal Value	**25,4**	**49,7**	**62,4**	**70,9**	**74,9**	**1.448,5**
Discount Factor	1,00	0,91	0,83	0,75	0,69	0,62
Equity Value	**1.132,7**					
Equity Stake (MBCP)	66,69%					
Equity Value (MBCP)	**755,4**					
Per share	*0,013*					

Figure 7.6
Source: Own Estimates

7.2 Relative Valuation Model

For the Relative Valuation Model I will use the P/BV multiple derived from the Peer Group presented in Section 6.1.2 for each segment.

MBCP's Equity Value –P/BV

Portugal

€ Million	
Book Value of Equity (@31.12.2015E)	4.421
P/BV	0,84x
Equity Value (MBCP)	**3.724,6**
Per share	*0,063*

Poland

€ Million	
Book Value of Equity (@31.12.2015E)	730
P/BV	1,43x
Equity Value (MBCP)	**1.041,1**
Equity Stake (MBCP)	50,01%
Equity Value (MBCP)	**520,7**
Per share	*0,009*

Mozambique

€ Million	
Book Value of Equity (@31.12.2015E)	310
P/BV	1,73x
Equity Value (MBCP)	**535,3**
Equity Stake (MBCP)	66,69%
Equity Value (MBCP)	**357,0**
Per share	*0,006*

Figure 7.7
Source: Own Estimates

According to this methodology the Equity Value of MBCP's segments is €3.724,6M (€0,063 per share), €520,7M (€0,009 per share) and €357,0M (€0,006 per share) for Portugal, Poland and Mozambique, respectively.

7.3 Cross-Model Considerations

7.3.1 Angola

As discussed with the IRD of MBCP the bank's stake in the new firm in Angola was valued at approximately €130M (P/BV multiple of 1,6x).

MBCP's Equity Value – Angola

€ Million	
Book Value of Equity	406,3
P/BV Multiple	1,6x
Equity Value (100%)	**650,0**
Equity Stake (MBCP)	20%
Equity Value (MBCP)	**130,0**
Per share	*0,002*

Figure 7.8
Source: MBCP and Own Estimates

As mentioned before, due to the lack of available public information, I will accept that the valuation of MBCP's stake in the new firm is €130M, however I will test the impact that adjustments to the Book Value of Equity may have in the valuation of MBCP's stake (Section 7.4.2).

7.3.2 Novo Banco

The Resolution Fund had a vendor process for NB in FY14 and FY15, however, in September 2015 the process was interrupted due to the pressure of uncertainty factors in the bidding price. Despite being a closed bidding process, the consensus figures (from analysts) for the price range were between €2,0B and €3,0B, hence for the valuation of MBCP I will consider the middle point of this range as the NB value.

MBCP's Equity Value – Impact of the Sale of NB

€ Million	
Sale Price of NB	2.500
Investment in NB	4.900
Gain/(Loss) of the Fund	**(2.400)**
MBCP participation in the Fund	20%
Equity Value MBCP	**(480,0)**
Per share	*(0,008)*

Figure 7.9
Source: Own Estimates

As mentioned before, I will adjust the Equity Value of MBCP by the expected losses that correspond to the bank's participation in the Resolution Fund. Nonetheless, I will assess how changes in the sale price affect MBCP's Equity Value (Section 7.4.2).

7.3.3 Conversion of Loans in Foreign Currency

The Polish Central Bank estimated that the total losses from the draft law on the conversion were expected to be PLN21B, approximately €4,9B at the EUR/PLN conversion rate at 30.10.2010, of which 50% is expected to be considered a cost for banks. According to CBI, MBCP has a market share of 13% of mortgage loans in foreign currency, hence I considered that MBCP's losses would be equivalent to its market share in these loans.

MBCP's Equity Value – Impact of the Conversion of Loans in Foreign Currency

€ Million	
Expect losses in PLN	(21.000)
EUR/PLN @ 30.10.2015	4,26
Expect losses in EUR	**(4.924)**
% of losses imputed to Banks	50%
Expect losses in EUR (Banks)	**(2.462)**
MBCP's market share	13,2%
Equity Value	**(325,0)**
Equity Stake (MBCP)	50,01%
Equity Value (MBCP)	**(162,5)**
Per share	*(0,003)*

Figure 7.10
Source: CBI, Polish Cental Bank and Own Estimates

As mentioned before, I will adjust the Equity Value of MBCP by the expected losses in the conversion of the loans. Furthermore, and considering that the original draft law that the Polish Parliament passed considered that the banks should support 90% of the costs of the conversion, I will assess the impact on the Equity Value of MBCP if the draft law was enforced as originally designed (Section 7.4.2).

7.4 Final Price Target

7.4.1 Final Price Target

Given that the relative valuation approach presents several limitations, as noted in Section 2.4.2, and that the FCFE model encompasses all the key value generation items highlighted by Koller et al. (2010) – Figure 2.3 – it is my understanding that the FCFE Model better reflects the Equity Value of MBCP.

Therefore, the final price target for MBCP is €0,068 per share (Equity Value of €3.989,0).

MBCP's Equity Value – Final Price Target

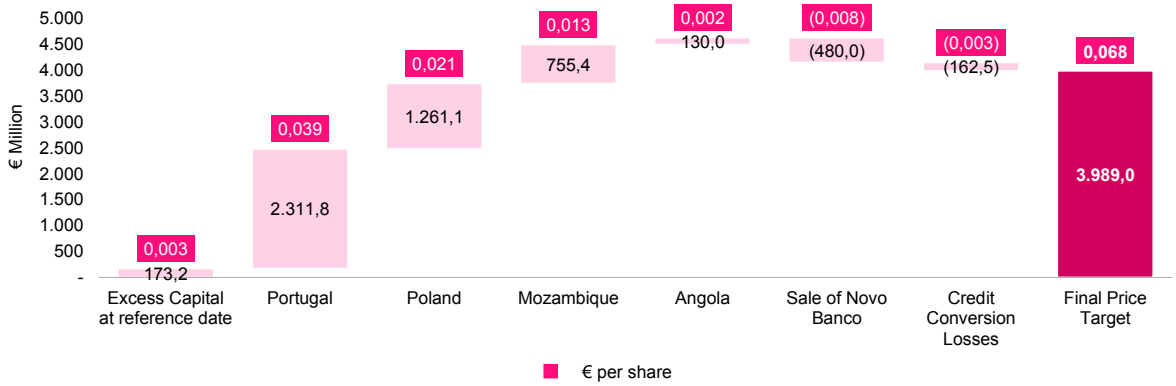


Figure 7.11
Source: Own Estimates

7.4.2 Sensitivity Analysis

In order to better understand the risks to which MBCP is exposed to I have performed a sensitivity analysis, consisting of 14 scenarios. This analysis was developed by assessing within each geography and for the company as whole which are the current or future events that can have an impact in the Equity Value of MBCP. For additional detail, namely the rational of each scenario, please refer to Appendix E.

MBCP's Equity Value – Sensitivity Analysis

		Description	Equity Value *(per share)*	Δ (Target Price)
PT	**Scenario 1**	Novo Banco is sold by the Resolution Fund for €3,0B	€4.089,0M *(€0,069)*	2,5%
	Scenario 2	Novo Banco is sold by the Resolution Fund for €2,0B	€3.889,0M *(€0,066)*	(2,5%)
	Scenario 3	Portuguese Banks have to make additional contributions – €1,4B – to the Resolution Fund to cover the capital needs of ECB stress tests	€3.709,0M *(€0,063)*	(7,0%)
	Scenario 4	The Portuguese segment manages to have a CoR of 110 bp from FY16 onwards	€4.236,5M *(€0,072)*	6,2%
	Scenario 5	The Portuguese sovereign debt is downgraded to Ba2 (Moody's)	€3.903,9M *(€0,066)*	(2,1%)
	Scenario 6	The Resolution Fund loses the €489M of the guarantee it issued to BANIF for future contingencies.	€3.891,2M *(€0,066)*	(2,5%)
PL	**Scenario 7**	90% of the costs of the conversion of loans in foreign currency are costs for Polish banks	€3.859,0M *(€0,065)*	(3,3%)
	Scenario 8	The new tax on bank's assets in not applied	€4.346,5M *(€0,074)*	9,0%
MZ	**Scenario 9**	Segment CoR stabilizes at 100 bp	€4.011,8M *(€0,068)*	0,6%
	Scenario 10	Segment CoR stabilizes at 140 bp	€3.966,2M *(€0,067)*	(0,6%)
AO	**Scenario 11**	Adjustment of 5% of the gross value of the combined loan portfolio to the Book Value of Equity	€3.950,0M *(€0,067)*	(1,0%)
Other	**Scenario 12**	Decrease of 1% in CoE	€4.168,9M *(€0,071)*	4,5%
	Scenario 13	Increase of 1% in CoE	€3.818,3M *(€0,065)*	(4,3%)
	Scenario 14	Introduction of a Pillar 2 capital requirement of 1% (minimum capital ratio increased to 11,5%)	€3.564,8M *(€0,060)*	(10,6%)

Figure 7.12
Source: Own Estimates

According to this analysis the Equity Value of MBCP may vary between €3.564,8M (€0,060 per share) and €4.346,5M (€0,074 per share), a difference of (10,6%) and 9,0%, respectively, to the target price

7.5 Comparison with Research

To compare my valuation of MBCP with an Equity Research of an investment bank I have selected JP Morgan's note from the 29.07.2015, in which the analysts set a new target price at €0,08 per share (Neutral recommendation at the time) and highlighted that their top Iberian pick was Santander.

MBCP's Equity Value – Comparison with research

	JP Morgan	JP Morgan[(1)]	Student
Valuation Method	P/ER Multiple – SoP	P/ER Multiple – SoP	FCFE Model – SoP

MBCP's Equity Value – Comparison with research (cont.)

	JP Morgan	JP Morgan[1]	Student
Reference Date	FY16	FY15	FY15
Projection Period	FY15 to FY17	FY15 to FY17	FY15 to FY20
Valuation (per share)	**€0,08**	**€0,06**	**€0,068**
Portugal	€0,05	€0,03	€0,039
Poland	€0,02	€0,02	€0,021
Mozambique	€0,01	€0,01	€0,013
Angola	€0,01	€0,01	€0,002
Capital	€0,00	€0,00	€0,003
Other	(€0,02)	(€0,01)	(€0,011)
Recommendation	NEUTRAL	-	BUY

[1] Adapted to have the same reference date as the Student Valuation

Figure 7.13
Source: JP Morgan and Own Estimates

Given that the reference date of the research note from JP Morgan was FY16, I have applied the same P/E multiple to the Net Income of the previous year in order to have a valuation from JP Morgan with the same reference date as mine.

Although different valuation approaches were used, the price target between this work and JP Morgan's research note are very similar (including the valuation of each component of the SoP). This is mainly due to the fact that some of the key assumptions that underline my valuation are in line with JP Morgan's, namely:

- Decrease in the commercial gap;
- Slow loan portfolio growth;
- Improved funding costs;
- Trading income returns to normalized levels after FY15;
- Improved efficiency (CtI bellow 50%);
- Gradual recovery of the CoR;
- Recovery of the Portuguese Economy;
- DTA considered as eligible for regulatory capital purposes.

8. Conclusion

According to the analysis previously presented I have assessed that the Equity Value of MBCP is €3.989,0M (€0,068 per share), which represents a 30% upside potential – BUY recommendation. However, as I have mentioned throughout this work MBCP faces significant challenges. My valuation is very similar to the adjusted valuation of the JP Morgan's research note (€0,06), mainly because many of the underlying assumptions of both valuations are the similar.

In Portugal, the uncertainty regarding the expected outcome for NB and BANIF and the potential losses that will have to be absorbed by the Portuguese Banks still remains combined with worrisome signals from CEMG. Furthermore, the entrance of two new players in the market (Bankinter and Banco CTT), which is expected to reinforce the price competition in the sector (decreasing the profit margin), and a new minority Government are also uncertainty factors that condition sector perspectives.

In Poland, the election of a new government is expected not only to impose restrictions to MBCP's activity, but also to decrease this segments profitability. In Angola, the continuous decrease of oil prices has led to liquidity shortages for several banks in the market and an increase to the NPL ratios leading MBCP to merge its activity with BPA's. Furthermore, MBCP faces two main risks the in terms of capital requirements: the revocation of Law 61/2014 by the European Commission and ECB imposing higher capital requirements, namely under Pillar 2.

In conclusion, although I believe that my valuation reflects the fair value of MBCP's stock, the firm faces a significant degree of risks and uncertainty in several of its geographic segments. Consequently, it is possible that the market price of MBCP's stock at 30.10.2015 (€0,052) is an overreaction from investors to the issues mentioned above.

Appendix A. Literature Review

A.1 The Role of Valuation (Portfolio Management, M&A and Corporate Finance)

As stated by Damodaran (2006) in portfolio management "we expend resources trying to find firms that trade at less than their true value and then hope to generate profits as prices converge on value". However, the role of valuation on portfolio management will depend on the investment philosophy of the investor: if the investor has a more passive approach then it is likely that valuation will have a smaller role, whilst if the investor has an active approach the valuation will play a larger role.

Considering that mergers and acquisitions and corporate finance encompass a wide range of activities, namely IPO's, MBO's, LBO's, Acquisitions, Debt Issue, Share Issue, Mergers, New business development, Divestment, among others, and that "in corporate finance, we consider how best to increase firm value by changing its investment, financing and dividend decisions" (Damodaran, 2006) valuation plays a key role in determining which should be the appropriate decision for the situation the firm faces.

In acquisition analysis valuation plays a key role as referred by Damodaran (2002) since it enables the bidding firm to determine an adequate price for the target firm and the synergies, whilst also enabling the target firm to determine the price point for which they should accept the offer from the bidding company.

As for corporate finance valuation also plays a significant role. Koller *et al.* (2010) state that "companies create value by investing capital they raise from investors to generate future cash flows at rates of return exceeding the cost of capital (the rate investors require to be paid for the use of their capital)", whilst Damodaran (2002) highlights that "if the objective in corporate finance is the maximization of firm value, the relationship among financial decisions, corporate strategy and firm value has to be delineated". Hence, it is essential for any firm to understand the impact of its business decision in terms of value creation or destruction in order to make the best decisions to enable the maximization of firm value

A.2 Other Valuation Approaches

A.2.1 Liquidation and accounting approach

As stated by Fernandez (2007) this approach determines that the "value of a business is the sum of the values of the individual assets owned by the business", or in other words that the "company's value lies basically in its balance sheet". However, as Damodaran (2006) remarked "there is a key difference between valuing a collection of assets and a business", since a business "is an on-going entity with assets that it already owns and assets it expects to invest in the future". Additionally, according to Welch (2009) "the value of a firm is determined by its underlying projects", which may not be reflected in the value of the firm's assets, especially if these projects have already been approved but have not been implemented.

Hence, it could be argued that although this approach considers the assets that are currently in place in a firm, it determines firm value from a static perspective encompassing only the items that are reflected in its financial statements. Therefore, as suggested by Fernandez (2007) this approach not consider a company's future investments, the time value of money, the macroeconomic situation, the value of the brand, potential losses not yet provisioned, regulatory framework, among others.

Considering the purpose of this work, this approach presents two main issues if used to determine the Equity value of Millennium BCP. Firstly, given that the macro-economic outlook has a direct impact in the activity of a FI, either through a decrease in bank lending or through an increase NPL's and impairment losses or through losses in financial investments. Secondly, the regulatory framework that currently supervises FI is extremely important for its day to day activity and in determining the type of investments and projects the firm may take. Additionally, changes in the regulatory framework can significantly limit its activity or lead to changes in its strategy.

Furthermore, Damodaran (2006) also highlights that "for companies with lucrative growth opportunities, asset-based valuations will yield lower values than going concern valuations", meaning that for firms with projects that are expected to generate future cash-flows the liquidation and accounting approach will

undervalue the firm as these streams of future income will not be considered. Therefore, according to the previously presented argument, it is my understanding that for the purpose of this work the limitations presented may significantly impact its conclusions, hence this approach will not be considered for the valuation of MBCP.

A.2.2 Contingent claim approach

The contingent claim approach is supported real options models. As Damodaran (2002) noted this approach is based in the premise that models under the DCF approach undervalue assets whose cash flows are contingent on the occurrence of a given event. Therefore, as Koller *et al.* (2010) remarked contingent claim approach encompasses a firm's management ability to react to change, which has impacts the Enterprise and Equity Value.

Although Damodaran (2002) recognized that this approach contributed significantly to the evolution of valuation techniques, he also noted that this approach presents limitations that are hard to overcome in order to use the contingent claim approach. Firstly, it is not reasonable to support that an asset's variance and dividend yield will remain constant in the long term (a requirement to value long term options) and secondly, for assets that are not listed the variance has to be estimated. Additionally, Koller *et al.* (2010) stated that this approach has limited applicability.

A.3 Other Discounted Cash Flow Models

Although as suggested by Damodaran (2002) DCF models only differ in a few dimensions there are authors that disagree from this view, namely Luerhman (1997) that considers that the APV is more versatile and reliable than most models under the DCF approach. Additionally, Damodaran (2002) remarks that since the discounted cash flow approach is "based upon expected future cash flows and discount rates", hence it "is easiest to use for assets (firms) whose cash flows are currently positive and can be estimated with some reliability for future periods, and where a proxy for risk that can be used to obtain discount rates is available". However, there are firms that do not present these conditions and for which the author stresses that this approach is harder to apply, namely, firms in distress, cyclical firms, firms with unused assets, firms with patents or product options, firms in restructuring processes, firms involved in acquisitions and private firms.

A.3.1 The Free Cash Flow to Firm Model

The FCFF model was classified by Ruback (2000) as "the most common technique for valuing risky cash flows". Koller *et al.* (2010) determined that the FCFF Model "discounts free cash flow, meaning the cash flow available to all investors—equity holders, debt holders, and any other non-equity investors—at the weighted average cost of capital, meaning the blended cost for all investor capital" and that this model is best applied to "projects, business units, and companies that manage their capital structure to a target level". Hence, the Enterprise Value (equity and debt) is estimated by the following formula:

$$Enterprise\ Value = \frac{FCFF_1}{(1+WACC)^1} + \frac{FCFF_2}{(1+WACC)^2} + \frac{FCFF_3}{(1+WACC)^3} + (\dots) + \frac{FCFF_i + RV_i}{(1+WACC)^i}$$

Where,

$FCFF_i$: Free Cash Flow to Firm in period i

RV_i: Residual Value of the company in year N

WACC: weighted average cost of capital

As stated by Fernandez (2007) the free cash flow is "the money that would be available in the company after covering fixed asset investments and working capital requirements, assuming that there is not debt", therefore this model is not only focused on cash generation as it also does not encompass the impact of the capital structure of the firm its cash generating capacity. Additionally, the author also suggested that the FCFF is:

FCFF Formula

EBIT
– Tax paid on EBIT
Net Income without debt
+ Depreciation
– Increase in fixed assets
– Increase in WCR
Free Cash Flow to the Firm

Figure A.1
Source: Fernandez (2007)

A.3.2 The Capital Cash Flow Model

As referred by Ruback (2000) the FCFF model "poses several implementation problems in highly leveraged transactions, restructurings, project financings and other instances in which capital structure changes over time", therefore, the author introduced the Capital Cash Flow (CCF) model. The model is "a different way of valuing cash flows using the same assumptions and approach as the Free Cash Flow method", hence the Enterprise Value (equity and debt) is estimated by the following formula:

$$Enterprise\ Value = \frac{CCF_1}{(1+WACC_{BT})^1} + \frac{CCF_2}{(1+WACC_{BT})^2} + \frac{CCF_3}{(1+WACC_{BT})^3} + (\dots) + \frac{CCF_i + RV_i}{(1+WACC_{BT})^i}$$

Where,

CCF_i: Capital Cash Flow in period i

RV_i: Residual Value of the company in year N

$WACC_{BT}$: weighted average cost of capital (before tax)

Ruback (2000) considered that the main difference between the CCF Model and FCFF Model is the approach in the treatment of the interest tax shields, given that CCF equal FCFF plus the interest tax shields, however, since the "interest tax shields are included in the cash flows, the appropriate discount rate is before-tax". Although Ruback (2000) considered that the CCF Model is simpler to use than the FCFF Model, Koller *et al.* (2010) state that the CCF Model "compresses free cash flow and the interest tax shield in one number, making it difficult to compare operating performance among companies and over time".

A.3.3 The Adjusted Present Value Model

The APV Model was first proposed by Meyers (1974) in order to assess from a managerial perspective the relationship between investment and financing decisions. According to Luehrman (1997) the APV Model assesses financial decisions or events separately and then sums their value to the value of the business. Hence, as the author remarked APV Models rely in the "principle of value additivity", meaning that APV based analysis assess the value of each component separately and then add the different parts to determine the overall value.

APV Value Creation Approach

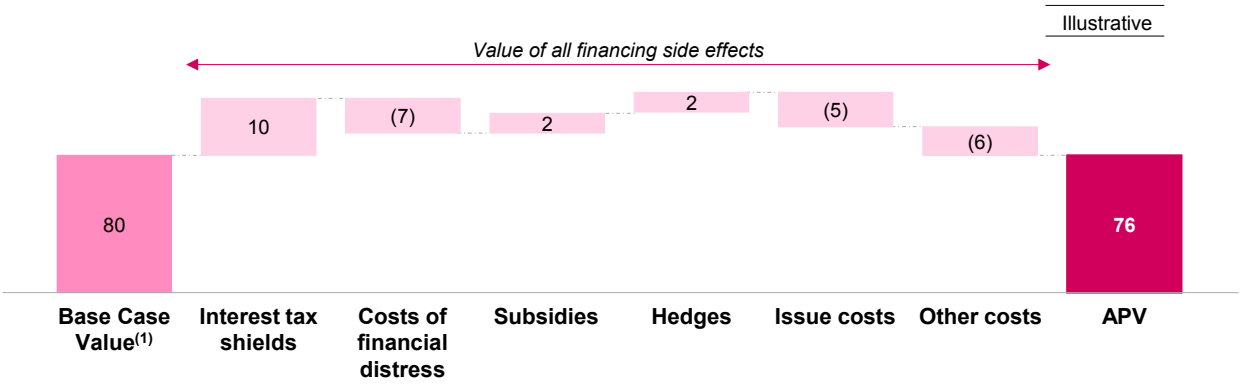


Figure A.3
(1)Value of the Unlevered Firm
Source: Luehrman (1997)

Damodaran (2006) remarked that contrary to other models in the discounted cash flow approach, in which the effects of debt financing are included in the discount rate, the APV Model attempts to estimate the value of the costs and benefits of debt financing separately from the value of the operating assets. Therefore, this model estimates the value of the unlevered firm and adds the effects of introducing debt into the capital structure. Hence, the Enterprise Value (equity and debt) is estimated by the following formula:

$$Enterprise\ Value = V_U + PV_{TS} - Expected\ Bankruptcy\ Costs$$

Where,

V_U: Value of the Unlevered Firm

PV_{TS}: Present Value of Interest Tax Shields

A.3.3.1 Value of the Unlevered Firm (V_U)

As Koller *et al.* (2010) stated "when valuing a company using the APV, we explicitly separate the unlevered value of operations (V_U) from any value created by financing, such as tax shields". The V_U is estimated by the following formula:

$$V_U = \frac{FCFF_1}{(1+K_U)^1} + \frac{FCFF_2}{(1+K_U)^2} + \frac{FCFF_3}{(1+K_U)^3} + (\dots) + \frac{FCFF_i + RV_i}{(1+K_U)^i}$$

Where,

$FCFF_i$: Free Cash Flow to Firm in period i

RVi: Residual Value of the company in year N

K_U: required return to assets

The discount rate used to estimate the V_U is required return to assets (K_U) or the rate of required return to equity (K_E) – K_U = K_E. As Fernandez (2007) explained that since the firm is being valued as if it did not have debt then K_E is lower than the cost of equity if the firm with debt, since the shareholders in this scenario do not bear the risk of having debt in the capital structure.

A.3.3.2 Present Value of Interest Tax Shields

Although Meyers (1974) introduced the APV Model, the discussion regarding tax shields has been ongoing for a longer period of time. Modigliani and Miller (1958) studied the impact in the firm value of introducing debt in the capital structure, whilst Modigliani and Miller (1963) presented an attempt to separate the effects of tax shields from interest payments.

Modigliani and Miller (1963) proposed that the present value of interest tax shields corresponds to the product of a firm's debt, its interest rate (cost of debt) and the marginal tax rate discounted at the cost of debt as presented:

$$PV_{TS} = \frac{D \times K_D \times T_C}{K_D} = D \times T_C$$

Where,

PV_{TS}: Present Value of Interest Tax Shields

D: Value of Debt

K_D: Cost of Debt

T_C: Marginal Tax Rate

When Meyers (1974) introduced the APV Model followed the framework developed by Modigliani and Miller (1963) estimating Present Value of Interest Tax Shields (PV_{TS}) by discounting the interest tax shields at the cost of debt, considering that these cash flows were subject to the same risks as the debt.

However, other authors have argued that this approach does not accurately reflect the riskiness of the cash flows and developed other approaches to estimating the PV_{TS}. One of these alternative approaches was developed by Miles and Ezzel (1980), whom argued that the discount rate used for the tax savings of a company, with a fixed target debt ratio (at market values), should be the cost of debt in the first year, whilst in the following years the discount rate used should be the required return to assets. Hence, according to this approach the PV_{TS} is estimated by the following formula:

$$PV_{TS} = \frac{D \times K_D \times T_C \times (1 + K_U)}{(1 + K_D) \times (K_U - g)}$$

Where,

PV_{TS}: Present Value of Interest Tax Shields
D: Value of Debt
K_D: Cost of Debt
T_C: Marginal Tax Rate
K_U: required return to assets
g: growth in perpetuity

Harris and Pringle (1985) argued that the Interest Tax Shields bear the same systematic risk as the cash flows of the firm, therefore the first should be discounted at the required return to assets in all periods. Hence, the author proposed that the PV_{TS} is estimated by the following formula:

$$PV_{TS} = \frac{D \times K_D \times T_C}{(K_U - g)}$$

In addition to the approaches proposed by Miles and Ezzel (1980) and Harris and Pringle (1985), that further elaborate the works of both Modigliani and Miller (1963) and Meyers (1974), there were other methodologies developed in order to estimate the PV_{TS}. For example, Miller (1977) suggested that the PV_{TS} should be zero, since in his view the value of the firm in equilibrium is independent from its capital structure, whilst Fernandez (2004) argued that the PV_{TS} is the difference between "the present value of taxes for the unlevered company and the present value of taxes for the unlevered company".

However, there is a significant level of discussion regarding these approaches. For example Cooper and Nyborg (2006) state that Fernandez (2004) mixed the "Miles-Ezzell leverage policy with the Miller-Modigliani leverage adjustment" and, therefore his theory on the PV_{TS} is not valid. As our analysis proves the literature is extensive on the matter of the PV_{TS}, and, currently, there is no consensus regarding the best approach to follow. As a result finance practitioners adapt their methodologies and calculations to best reflect the conditions they encounter.

A.3.3.3 Expected Bankruptcy Costs

As Koller *et al.* (2010) remarked, highly leveraged companies have a higher probability of losing employees, suppliers, customers and investment opportunities, especially those whose cash flow generation is expected to be in the long run, due to a higher risk of financial distress. Since the outcome of any of the previously mentioned events is the decrease of firm value it can be argued that the introduction of debt in a firm's capital structure may generate a value destruction effect known as bankruptcy costs.

As stated by Damodaran (2006) estimating the Expected Bankruptcy Costs rely on two key variables: the probability of bankruptcy and the present value of bankruptcy costs. The Expected Bankruptcy Costs are estimated by the following formula:

$$Expected\ Bankruptcy\ Costs = P_{Bankruptcy} \times PV_{BC}$$

Where,

$P_{Bankruptcy}$: Probability of Bankruptcy
PV_{BC}: Present Value of Bankruptcy Costs

Damodaran (2002) highlighted that estimating the Expected Bankruptcy Costs is the step of the APV Model with most significant challenges, since both probability of bankruptcy and the present value of bankruptcy costs cannot be estimated directly. The probability of bankruptcy was defined by Damodaran (2001) as "the likelihood that a firm's cash flows will be insufficient to meet its promised debt obligations (interest or principal)", meaning that the a firms probability of going bankrupt would be directly related to two factors: size of operating cash flows relative to size of cash flows on debt obligations and variance in operating cash flows.

According to Damodaran (2002) there are two methods to estimate the probability of bankruptcy: the bond rating approach and the statistical approach. The first methodology requires that a bond rating is estimated for each level of debt and then that default probabilities are computed for each rating based on empirical data. The second methodology determines the probability of default through a probit analysis of the firm's characteristics for each level of debt.

Bankruptcy costs can be classified into two categories: direct and indirect. Damodaran (2001) and Welch (2009) agree that direct bankruptcy costs are costs that the firms bears at the time of bankruptcy, namely legal and administrative costs as well as the time spent by the firm's stakeholders in the process. Warner (1977) and Weiss (1990) have studied the impact of these costs in firm value, concluding that these costs represent 5,3% and 3,1% of firm value, respectively.

Indirect bankruptcy costs as supported by Welch (2009) are less visible and do necessarily reflect cash outflows to firm. As remarked by Damodaran (2001) these costs are "a consequence of the perception that a firm is in financial trouble" which can lead to the loss of customers and reduction of sales figures, harsher terms from suppliers (increasing working capital requirements and decreasing the FCFF) and difficulty to issue debt or capital to finance new projects. Additionally, Welch (2009) referred that indirect bankruptcy costs also encompass the loss of focus by the management and higher losses in the disposal of the assets of the firm.

According to Andrade and Kaplan (1998) the costs of financial distress represent between 10% and 23% of the firm value. However, Damodaran (2001) refers that these costs are expected to be higher for firms that present specific characteristics, such as selling durable products that will require replacement parts and support services, produce products whose value depends on the services and complementary products or provide goods or services for which quality is an important attribute but difficult to estimate in advance.

As previously mentioned, the APV Model enables access to a more detailed set of information, such as from where value is created or destroyed, than other discounted cash flow models based on the WACC (such as the FCFF and CCF), in which this information is incorporated in the discount rate or in the cash flows. Additionally, Luehrman (1997) highlighted three key reasons to choose the APV Model over WACC based Models: firstly the APV Model is always applicable when WACC Models are (and sometimes when these do not). Secondly, the APV Model is not as liable to serious errors as WACC Models. And thirdly, the information provided is essential from a decision making and managerial point of view.

Nonetheless, Luehrman (1997) argued that the APV Model is not best suited for simple and less thorough analysis, such as an assessment on whether a project has a positive NPV, since its results do not differ significantly from other discounted cash flow models based on the WACC and it is harder to apply the APV Model. Despite all the benefits that using an APV Model can bring to a finance practitioner it does necessarily mean that this model should be used in the assessment of every project, asset or firm. Actually, a finance practitioner should tailor the models it uses for the situation it faces, meaning that if the purpose of its analysis is to understand if a specific project is creating value or not, a WACC based approach may be appropriate. However, if the purpose of the analysis is to monitor the implementation of a new business unit, using an APV Model is likely to be the best option in order to assess separately the impact of each business decision.

A.3.4 The Dividend Discount Model

Damodaran (2002) and Francis *et al* (2000) considered that the only cash flow an investor will receive from purchasing listed share is the dividend, therefore the author supported that the value of the stock should be determined by the present value of its dividends, an approach known as the DDM. The Model was first introduced by Williams (1938), in which the Equity Value was assumed to be the sum of all dividends expected to be distributed by the firm discounted at the rate of return required by the shareholders. Hence, the Equity Value is estimated by the following formula:

$$Equity\ Value = \sum_{i=1}^{i=\infty} \frac{Div_i}{(1+K_E)^i}$$

Where,

Div_i: Dividend in period i

K_E: Cost of Equity

Gordon (1962), introduced the Gordon Growth Model, which incorporates dividend growth in the original DDM, whilst the Two Stage DDM incorporates the effect of different growth stages in the Equity Value. As Damodaran (2002) suggested the latter approach allows the user of the model to incorporate the effect of no dividend distribution or abnormal growth of the dividend during a determined number of periods and consider only a perpetuity from the point where a stable growth is expected for the firm. Hence, the Equity Value is estimated by the following formula:

$$Equity\ Value = \frac{Div_1}{(1+K_E)^1} + \frac{Div_2}{(1+K_E)^2} + \frac{Div_3}{(1+K_E)^3} + (\dots) + \frac{Div_i}{(K_E - g)^i}$$

Where,

Div_i: Dividend in period i

K_E: Cost of Equity

g: growth in perpetuity

Damodaran (2002) identified three areas in which DDM has been perceived to not accurately reflect a firm's Equity Value: firms that do not pay dividends or have low payout ratios, does not encompass the value unutilized assets and does not consider other means of returning cash to shareholders. Although the author suggests that these limitations can be overcame by simply adjusting the DDM, these issues can still be seen as a limitation of the DDM that require the user of the model to adjust its work in order to not fall in these pitfalls.

Additional limitations of the DDM were identified by other authors. Welch (2009) stated that in accordance with the second Modigliani and Miller proposition the "corporate payout policy should not matter in a perfect-market setting", hence the Equity Value should not depend on the dividends. Vernimmen *et al* (2009) argued that the dividend growth rate, one of the key inputs of the DDM, is estimated in an arbitrary form, since it does depend from any of the factors that influence a firm's performance, such the marginal rate of return or financial gearing. Francis *et al* (2000) suggests that DDM is outperformed by other valuation methodologies, whilst Penman (2001) argues that "dividends have to do with the distribution of value, not the generation of value".

A.3.5 The Dupont Model (Dynamic RoE Model)

As stated by Lim (2010) the Dupont Model is "a methodology by which the RoE of a company can be broken down into its constituent parts", meaning that enables a finance practitioner to better understand the drivers of a firm's RoE. Generally, the Dupont Model decomposes this ratio into three components: Profit Margin, Asset Turnover and Equity Multiplier. Hence, the RoE is estimated by the following formula:

$$RoE = Profit\ Margin \times Asset\ Turnover \times Equity\ Multiplier$$

The profit margin measures the profit (after tax) generated by each unit of revenue, the asset turnover measures the firm's assets capacity to generate revenue and the equity multiplier determines the impact of the firm's leverage in its profitability. Although commonly used to assess the historic performance of a firm, the Dupont Model can also be applied to determine the forecasted RoE of a firm, which can be used to estimate the Equity Value according to the following formula:

$$Equity\ Value = NAV \times \frac{Forecasted\ RoE}{Demanded\ RoE}$$

Both Saunders and Cornett (2008) and Lim (2010) consider that one of the key limitations of the Dupont Model is that it does not adequately reflects key issues of the financial services industry, such as the regulatory framework (capital and liquidity ratios) and asset quality.

Appendix B. Regulatory Framework

B.1 Capital

Item	Description	Target
Core Equity Tier 1 (CET1)	Includes share capital and eligible reserves and non-controlling equity interests, less intangible assets and deductions relating to the excess of expected loss over regulatory impairment allowance and securitization positions as specified by the regulator.	4,5%(1)
Tier 1	It captures CET1 capital plus other Tier 1 securities issued, but is subject to a deduction in respect of material holdings in financial companies.	6,0%
Total Capital	Total regulatory capital.	8,0%
Capital conservation buffer (CB)	The buffer's objective is to conserve a bank's capital. When a bank breaches the buffer, when its CET1 capital ratio falls below 7%, automatic safeguards kick in and limit the amount of dividend and bonus payments a bank can make. The further the bank consumes the buffer, the stricter the limits become. It is a capital buffer of total exposures of a bank that needs to be met with an additional amount of CET1 capital. It sits on top of the 4,5% CET1 capital requirement.	2,5%
Countercyclical buffer (CCB)	The purpose of this buffer is to counteract the effects the economic cycles on a bank's lending activity, thus making the supply of credit less volatile and possibly even reduce the probability of credit bubbles or crunches. In good times – booming economy or strong credit growth – it requires a bank to have an additional amount of capital(3) (CET1 capital). Therefore, this buffer prevents credit from becoming too cheap and that banks lend too much. When the economic cycle turns, and economic activity slows down or even contracts, this buffer can be dropped – the bank is no longer required to have the additional capital.	0-2,5%
Global systemic institution buffer (GSII)	Mandatory systemic risk buffer of CET1 capital for banks that are identified by the supervisory bodies asas globally systemically important. The mandatory surcharge will be between 1 and 3,5% CET1 of RWAs, will need to be met with CET1 capital. The G-SII reflects the cost of being systemically important and is aimed at reducing the moral hazard of implicit support and bail-out by taxpayer money.	0-5,0%(4)
Other systemically important institutions buffer (OSII)	In addition to the mandatory Global SII buffer the CRD IV provides for a supervisory bodies the option for a buffer on other systemically important institutions. This includes domestically important institutions as well as EU important institutions.	
Systemic risk buffer (SR)	Each Member State may introduce a Systemic Risk Buffer of CET1 for the financial sector or one or more subsets of the sector, in order to prevent and mitigate long term non-cyclical systemic or macro-prudential risks with the potential of serious negative consequences to the financial system and the real economy in a specific Member State.	
Pillar 2	The first element of Pillar 2 is the requirement for institutions to assess their own capital needs – Individual Capital Adequacy Assessment Process (ICAAP) – and to supervisory bodies to engage actively in the review of those requirements, systems and controls –Supervisory Review Evaluation Process (SREP). The second element is the discretion of regulators to impose additional capital requirements on banks after the SREP.	0-2,0%
Own buffer	Internally determined buffer in accordance with the FI's target capital ratio.	1,0-2,0%

(1) Bank of Portugal has required that from 2015 onwards the CET 1 ratio complies with a 7,5% minimum (includes the conservation buffer)
(2) Phased-in
(3) If a bank does not have enough capital to fill this buffer, the same restrictions as in the case of the capital conservation buffer kick in.
(4) Max [Systemic risk buffer; Global systemic institution buffer + Other systemically important institutions buffer]

Figure B.1
Source: CRD IV/CRR

B.2 Liquidity and Leverage

Item	Description	Target
Liquidity Coverage Ratio	The LCR is designed to strengthen the ability of banks to withstand adverse shocks. It will require banks to hold sufficient high quality liquid assets (cash, government bonds and other liquid securities) to meet a severe cash outflow for at least 30 days. The stressed cash outflow includes the withdrawal of a proportion of retail deposits and the withdrawal of all wholesale funding due to mature in the next 30 days – although banks can offset part of this outflow of wholesale funding by an assumed inflow of funds they have placed with other banks that mature in the next 30 days. The LCR requirement will apply on a currency by currency basis, so that banks can survive shocks that also cause sharp exchange rate movements or disrupt currency convertibility.	100%
Net Stable Funding Ratio	The NSFR is a more structural measure, intended to ensure that banks hold sufficient stable funding (capital and long-term debt instruments, retail deposits and more than one year maturity wholesale funding) to match their medium and long-term lending.	100%
Leverage ratio	The purpose of the leverage ratio is to have a simple instrument that offers a safeguard against the risks associated with the risk models underpinning risk weighted assets. The ultimate aim is also to constrain leverage and to bring institutions' assets more in line with their capital in order to help mitigate destabilizing deleveraging processes in downturn situations.	3,0%

Figure B.2
Source: CRD IV/CRR

Appendix C. The Company

C.1 MBCP's History

Incorporated in 1985 following the deregulation of Portuguese Financial Services Industry, MBCP experienced five main stages of development during its existence (Figure C.1). The first phase, from 1985 to 1994, was focused on the organic growth of the domestic business by exploring opportunities in areas where in past periods the state owned banks were unable to appropriately serve its customers. By 1994 MBCP held a market share of 8,3% in total assets, 8,7% in loans to customers and 8,6% in customer resources. From 1994 onwards the bank changed its growth strategy, from organic to inorganic, due to increased competition in the domestic market, consequence of the modernization of the existing financial institutions and entry of new foreign players. Hence, the second stage of MBCP, from 1995 to 2000, was characterized by the merger and acquisition of two FIs.

MBCP activity (1985 – 2014)

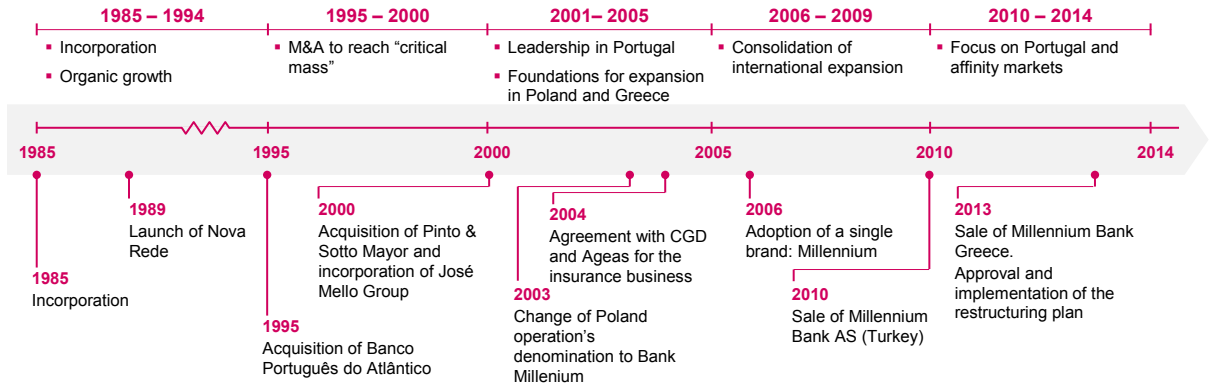


Figure C.1
Source: MBCP

The third phase, from 2001 to 2005, focused on maintaining and consolidating the leadership position in the domestic market and further developing its internationalization process, be it in affinity market, like Angola or Mozambique, or in markets where there was a strong commercial rationale for the establishment of banking operations with a similar model, like Greece and Poland. The next stage, saw MBCP consolidate its brand, through the adoption of a single brand, and its activity, through the divestment of several non-core assets. Finally, from 2010 onwards MBCP has been focusing its efforts in its core business portfolio,

therefore this period encompasses the sale of several non-core investments like the Turkish and Greek operation. The impact of the Portuguese financial crisis led MBCP to approve, in June 2012, a recapitalization plan, which included a State investment of €3,0B (CoCo's).

As a requirement for the approval of the recapitalization plan, MBCP had to present and get approval from supervisory authorities of a restructuring plan (Figure C.2). This plan was approved in 2013 (still under implementation in MBCP) and encompassed several measures aimed at strengthening the bank's focus on its core activities and assets. Additionally, the restructuring plan mentions the strategic importance of operations in Angola and Mozambique, both of which are considered core operations of MBCP. Bank Millennium in Poland is also considered a core operation for which it is not expected any divestment unless MBCP is unable to repay the CoCo's until the end of 2016.

Measures of the Restructuring Plan

Area	Description
Loans to customers	➢ Separation between core and non-core assets with the latter being managed on a run-off basis; ➢ MBCP's exposure to loans to purchase securities, heavily leveraged credit, credit history to subsidized housing and credit to certain segments associated with building, football clubs and real estate cannot be increased; ➢ Reduce Cost of Risk to 100 basis points by 2015.
Leverage	➢ Deleveraging of the balance sheet through divestment from non-core assets; ➢ Reduce the LtD ratio to 120% by 2015.
Profitability	➢ Adapt the Bank's structure (branches, support areas and workforce) in the domestic market to the demand for banking services; ➢ Reduction of close to 25% of the staff costs from FY12 to FY15; ➢ Have a CtI ratio of 50% by 2016 ➢ Have a RoE of at least 10% by 2016
Other	➢ Implementation of a new approach to the business of asset management by adopting an open architecture distribution model, allowing Costumers a wider range of investment options ➢ Sale, in the medium-term, of the operation that MBCP holds in Romania

Figure C.2
Source: MBCP

In 2014 and 2015 MBCP's efforts have been focused on successfully implementing the restructuring plan and repaying the State aid, which resulted in the sale of the operation in Romania and of other non-core assets and the decrease of CoCo's to €750M.

MBCP activity (2014 and 2015)

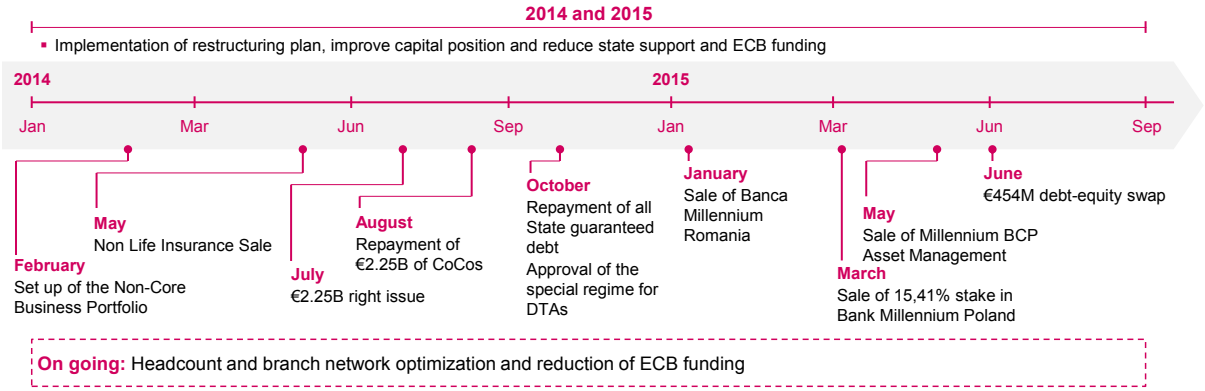


Figure C.3
Source: MBCP

C.2 MBCP's Balance Sheet Structure

At 30.09.2015 MBCP had a gross loan portfolio of €56,0B (€52,5B on a net basis), mainly composed of loans to companies (48%) and mortgage loans (45%). This was the line item that presented the most significant decrease, in volume, in the period between 31.12.2012 and 30.09.2015 – 16,2%. The decrease was caused by the limitations that the Restructuring Plan imposed on loan concession as well as the need to deleverage the balance sheet in order to reach a Loan to Deposit (LtD) ratio lower than 120% by 2015.

MBCP's Loan Portfolio (31.12.2012 – 30.09.2015)

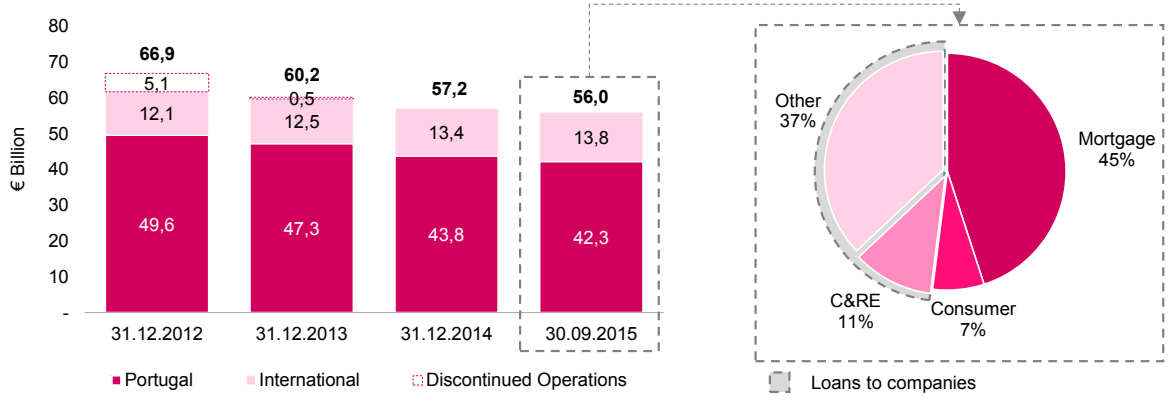
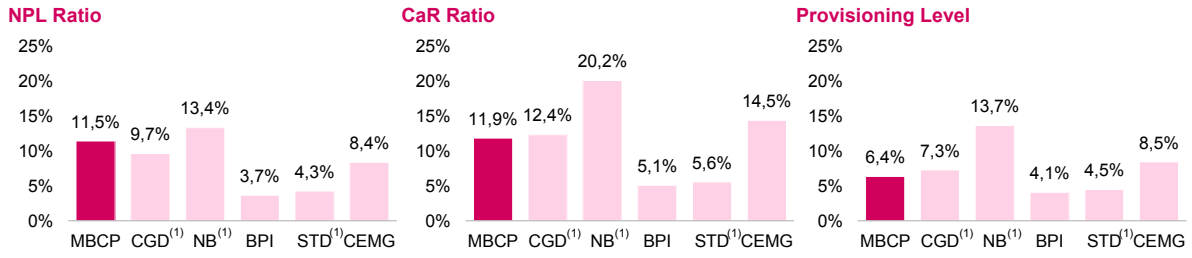


Figure C.5
Source: MBCP

The financial crisis in Portugal led to a significant erosion of the credit quality of MBCP's loan book – since 2011 Non Performing Loans (NPL) increased from 6,2% to 11,5%, Credit at Risk (CaR) increased from 10,1% to 11,9% and the provisioning level increased from 4,9% to 6,4%. Additionally, the increase in credit delinquency forced MBCP to foreclose several of its clients collaterals, mainly real estate properties, increasing the bank's Non-current assets held for sale from €1,3B in 31.12.2012 to €1,7B in 30.09.2015 – these are assets owned by the bank that are not generating any revenue and that have an impact in capital ratios.

Credit Quality Benchmark (30.09.2015)



(1) Data from 30.06.2015

Figure C.6
Source: Earnings Presentations (2015) – MBCP, CGD, NB, BPI, STD, CEMG

Although MBCP credit quality ratios are the not the best among Portuguese banks the bank seems to be in line with the remaining banks in the sector and presents better ratios than NB, previously the largest private bank in Portugal. Additionally, MBCP's effort to increase its credit quality are ongoing and in following periods, with the improvement of economic conditions, it is expected that the bank will improve its NPL and CaR ratios.

C.3 MBCP's Consolidated Financial Statements

Balance Sheet (31.12.2012 – 30.09.2015)

€ Million	31.12.2012	31.12.2013	31.12.2014	31.03.2015	30.06.2015	30.09.2015
Assets						
Cash and deposits at central banks	3.580,5	2.939,7	1.707,4	2.383,0	2.426,8	1.514,5
Loans and advances to credit institutions	2.717,1	2.294,7	2.251,8	2.430,5	1.971,8	1.960,1
Loans and advances to customers	62.618,2	56.802,2	53.685,6	54.495,1	53.408,6	52.478,2
Financial assets held for trading	1.690,9	1.290,1	1.674,2	2.069,5	2.216,9	1.481,1
Financial assets available for sale	9.223,4	9.327,1	8.263,2	10.088,1	11.703,6	11.556,6
Assets with repurchase agreement	4,3	58,3	36,4	19,9	31,3	10,5
Hedging derivatives	186,0	104,5	75,3	71,0	80,9	85,1
Financial assets held to maturity	3.569,0	3.110,3	2.311,2	438,9	436,7	432,9
Investments in associated companies	517,0	578,9	323,5	318,3	305,4	313,9
Non current assets held for sale	1.284,1	1.506,4	1.622,0	1.668,7	1.674,7	1.674,5
Investment property	554,2	195,6	176,5	169,9	166,4	147,6
Property and equipment	626,4	732,6	755,5	775,5	706,1	673,5
Goodwill and intangible assets	259,1	250,9	252,8	208,5	207,2	206,3
Current tax assets	34,0	41,1	41,9	40,9	40,5	39,9
Deferred tax assets	1.755,4	2.181,4	2.398,6	2.326,6	2.544,6	2.505,4
Other assets	1.124,3	593,4	784,9	809,3	808,8	904,9
Total Assets	**89.744,0**	**82.007,0**	**76.360,9**	**78.313,5**	**78.730,4**	**75.985,0**
Liabilities						
Amounts owed to credit institutions	15.265,8	13.492,5	10.966,2	11.066,0	12.412,9	10.288,9
Amounts owed to customers	49.404,4	48.959,8	49.816,7	50.758,8	50.601,1	50.643,8
Debt securities	13.863,0	9.411,2	5.709,6	5.575,8	5.262,9	4.909,7
Financial liabilities held for trading	1.393,2	869,5	953,0	1.024,8	824,2	828,4
Hedging derivatives	301,3	243,4	352,5	745,6	779,3	549,0
Provisions for liabilities and charges	253,3	366,0	460,3	314,3	302,8	300,8
Subordinated debt	4.298,8	4.361,3	2.025,7	2.048,0	1.660,5	1.683,8
Current income tax liabilities	15,6	24,7	31,8	24,9	6,5	7,3
Deferred income tax liabilities	2,9	6,3	6,7	9,7	13,1	16,7
Other liabilities	945,6	996,5	1.051,6	1.178,0	1.216,1	1.020,1
Total Liabilities	**85.743,9**	**78.731,2**	**71.374,0**	**72.745,7**	**73.079,5**	**70.248,5**
Equity						
Share capital	3.500,0	3.500,0	3.706,7	3.706,7	4.094,2	4.094,2
Treasury stock	(14,2)	(22,7)	(13,5)	(13,9)	(120,1)	(1,1)
Share premium	71,7	-	-	-	16,5	16,5
Preference shares	171,2	171,2	171,2	171,2	171,2	59,9
Other capital instruments	9,9	9,9	9,9	9,9	9,9	2,9
Fair value reserves	2,7	22,3	106,9	276,6	(100,9)	9,0
Reserves and retained earnings	850,0	(356,9)	458,1	302,2	313,7	274,1
Profit for the year attributable to Shareholders	(1.219,1)	(740,5)	(226,6)	70,4	240,7	264,5
Non-controlling interests	628,0	692,6	774,4	1.044,7	1.025,7	1.016,5
Total Equity	**4.000,2**	**3.275,8**	**4.986,9**	**5.567,7**	**5.650,9**	**5.736,5**
Total Liabilities and Equity	**89.744,0**	**82.007,0**	**76.360,9**	**78.313,5**	**78.773,0**	**75.985,0**

Figure C.8
Source: MBCP

Income Statement – FY12 to FY15(3Q) – cumulative figures per FY

€ Million	FY12	FY13	FY14	FY15(1Q)	FY15(2Q)	FY15(3Q)
Interest income	3.422,8	2.832,9	2.652,6	607,6	1.170,3	1.744,8
Interest expense	(2.424,8)	(1.984,8)	(1.536,5)	(279,3)	(542,4)	(788,1)
Net interest income	**998,0**	**848,1**	**1.116,2**	**328,4**	**628,0**	**956,7**
Dividends from equity instruments	3,8	3,7	5,9	2,0	5,8	5,9
Net fees and commission income	655,1	663,0	680,9	169,9	350,6	520,3
Other operating income	(47,8)	(71,9)	11,4	(18,0)	(41,9)	(55,6)
Net trading income	436,7	264,2	442,2	200,1	508,2	554,1
Equity accounted earnings	55,7	62,3	36,0	6,1	20,7	25,1
Net operating revenues	**2.101,5**	**1.769,3**	**2.292,5**	**688,4**	**1.471,3**	**2.006,4**
Staff costs	(751,5)	(767,5)	(635,6)	(153,3)	(309,0)	(461,1)
Other administrative costs	(501,7)	(459,7)	(448,5)	(106,7)	(213,1)	(315,3)
Depreciation	(68,1)	(68,1)	(65,5)	(16,7)	(33,3)	(49,0)
Operating costs	(1.321,2)	(1.295,2)	(1.149,6)	(276,6)	(555,2)	(825,4)
Net income bef. impairment	**780,2**	**474,1**	**1.142,9**	**411,8**	**916,1**	**1.181,0**
Loans impairment (net of recoveries)	(969,6)	(820,8)	(1.107,0)	(205,6)	(475,0)	(628,0)
Other assets impairment and provisions	(349,6)	(465,8)	(209,3)	(70,1)	(91,8)	(117,4)
Net income before income tax	**(539,0)**	**(812,5)**	**(173,4)**	**136,1**	**349,3**	**435,6**
Income tax	132,1	210,8	97,7	(36,3)	(54,4)	(80,9)
Net income after income tax from continuir	**(406,9)**	**(601,7)**	**(75,7)**	**99,8**	**294,8**	**354,7**
Income arising from discontinued operatio	(730,3)	(45,0)	(40,8)	0,8	14,8	14,8
Non-controlling interests	(81,8)	(93,7)	(110,1)	(30,1)	(68,8)	(105,0)
Net income	**(1.219,1)**	**(740,5)**	**(226,6)**	**70,4**	**240,7**	**264,5**

Figure C.7
Source: MBCP

Appendix D. Assumptions

D.1 Peer Groups

D.1.1 Portugal

Bank	Identifier	Country	Description
Banco de Sabadell SA	SABE.MC	Spain	Banco de Sabadell SA attracts deposits and offers commercial banking services. The Bank offers mortgage, consumer, student, and building improvement loans, private banking services, and insurance, and sponsors Visa credit cards. The Bank operates branches throughout Spain, elsewhere in Europe, the Caribbean, the Americas, and Asia.
Bankia SA	BKIA.MC	Spain	Bankia SA accepts deposits and offers commercial banking services. The Bank offers retail banking, business banking, corporate finance, capital markets, and asset and private banking management services.
Caixabank SA	CABK.MC	Spain	CaixaBank accepts deposits and offers banking services. The bank offers portfolio management services, insurance, investment strategy advice, international banking services, and other specialist financial services.
Banco Popular Espanol SA	POP.MC	Spain	Banco Popular Espanol SA attracts deposits and offers commercial banking services. The Bank offers consumer loans, mortgage loans, asset management and factoring services, mutual funds, pension plans, life insurance, venture capital, and real estate loans. The Bank has regional subsidiaries in Spain, Portugal, and Florida.
Banca Popolare dell'Emilia Romagna Sc	EMII.MI	Italy	Banca Popolare dell'Emilia Romagna SC is a cooperative bank that operates branches throughout Italy. The Bank attracts deposits and offers loans, credit cards, pension plans, investment funds, insurance, and asset management and online trading services.
Banca Popolare di Milano Scarl	PMII.MI	Italy	Banca Popolare di Milano Scarl (BPM) attracts deposits and offers commercial banking services. The Bank offers brokerage, trust, lease financing, asset management, private banking, and factoring services, manages mutual funds, and offers insurance services. BPM serves its customers through a branch network located primarily in Italy, London, and New York.

Bank	Identifier	Country	Description
Intesa Sanpaolo SpA	ISP.MI	Italy	Intesa Sanpaolo attracts deposits and offers banking and financial services. The Bank offers consumer credit, asset management, Internet banking, merchant banking, securities brokerage, factoring, and lease financing services, and manages mutual funds. Intesa Sanpaolo operates branches throughout Italy, and offices elsewhere in Europe, Asia, and the United States.
Unicredit SpA	CRDI.MI	Italy	UniCredit SpA attracts deposits and offers commercial banking services. The Bank offers consumer credit, mortgages, life insurance, business loan, investment banking, asset management, and other services. UniCredit operates worldwide.

	Free float	Total Assets	Growth (Assets)	Total Liabilities	Total Equity	NPL(%)	RoE	Beta 5y	P/BV
SABE.MC	94,5%	163.346	(0,1%)	152.180	11.166	11,2%	3,3%	1,28	0,8x
BKIA.MC	35,7%	233.649	(7,1%)	221.078	12.571	12,7%	7,7%	2,21	1,1x
CABK.MC	40,3%	338.623	(0,5%)	313.429	25.195	9,6%	2,5%	1,36	0,8x
POP.MC	79,8%	161.456	10,1%	148.807	12.650	14,9%	2,6%	1,24	0,6x
EMII.MI	97,9%	60.653	(1,8%)	55.768	4.885	22,6%	0,3%	1,43	0,7x
PMII.MI	100,0%	48.272	(2,2%)	43.734	4.537	24,7%	5,1%	1,42	0,8x
ISP.MI	77,8%	647.343	3,7%	602.601	44.742	16,9%	2,8%	1,57	1,2x
CRDI.MI	87,1%	844.217	2,2%	794.447	49.770	16,3%	4,0%	1,65	0,7x

Figure D.1
Source: Reuteurs and Bloomberg

D.1.2 Poland

Bank	Identifier	Country	Description
Alior Bank SA	ALRR.WA	Poland	Alior Bank SA offers commercial banking services to retail and institutional consumers. The Company offers checking and savings accounts, credit cards, loans, trade financing, and autodealing services and treasury products.
Bank Handlowy w Warszawie SA	BHW.WA	Poland	Bank Handlowy w Warszawie SA is a Poland-based commercial bank. It offers its products and services under Citibank Handlowy brand. The Bank operates through two segments: Corporate and Investment Banking; and Retail Banking. The Bank's offer includes cash management, trade services, treasury services, corporate finance, debt instruments, syndicated loans, structured trade finance, securitization services, asset management services, management buy-outs and acquisitions advisory services, custodian services and brokerage.
Bank Zachodni WBK SA	BZW.WA	Poland	Bank Zachodni WBK S.A. attracts deposits and offers commercial banking services. The Bank offers business and personal loans, mortgages, pension plans, insurance, factoring services, securities brokerage services, credit and debit cards, investment banking services, and money transfer services. Bank Zachodni operates mainly in the Western part of Poland.
Getin Noble Bank SA	GNB.WA	Poland	Getin Noble Bank SA is a Poland-based universal bank. The Company divides its activity into three segments: Banking, Financial Intermediary and Fund Management, It is the parent company of Getin Noble Bank SA Capital Group and operates through subsidiaries, including Noble Funds TFI SA, Noble Concierge Sp z o o, Getin Leasing, among others.
ING Bank Slaski SA	INGP.WA	Poland	ING Bank Slaski SA is a Poland-based commercial Bank. The Bank divides its business into two segments: Retail Banking segment and Corporate Banking segment. The Bank's major shareholder was ING Bank NV, with a 75% stake of its capital.
mBank SA	MBK.WA	Poland	mBank SA accepts deposits and offers commercial banking services. The Bank offers corporate, retail, and private banking services. mBank is active on the capital markets through its brokerage subsidiary, and offers lease financing services through its leasing subsidiary.

€ Million	Free float	Total Assets	Growth (Assets)	Total Liabilities	Total Equity	NPL(%)	RoE	Beta 5y	P/BV
ALRR.WA	74,8%	7.048	14,4%	6.344	704	9,4%	11,1%	1,28	2,0x
BHW.WA	25,0%	11.645	6,3%	9.914	1.731	6,5%	13,1%	1,36	1,4x
BZW.WA	30,6%	31.424	22,8%	27.531	3.893	5,2%	11,8%	0,88	1,9x
GNB.WA	44,1%	16.073	4,7%	14.887	1.186	n.a.	7,4%	1,57	0,4x
INGP.WA	25,0%	23.331	11,5%	20.889	2.442	3,7%	10,1%	n.a.	1,5x
MBK.WA	30,5%	27.566	9,6%	24.985	2.581	6,4%	12,0%	1,65	1,4x

Figure D.2
Source: Reuteurs and Bloomberg

D.1.2 Mozambique

Bank	Identifier	Country	Description
Barclays Bank of Kenya Ltd	BBK.NR	Kenya	Barclays Bank Of Kenya Ltd. operates through two segments: Consumer Banking and Corporate Banking. The services which it provides include retail banking, business banking and corporate and investment bank. It has a network of approximately 119 branches and over 239 automated teller machines. The Bank also has Internet and mobile banking platforms.
Diamond Trust Bank Kenya Ltd	DTK.NR	Kenya	Diamond Trust Bank Kenya Ltd offers current, savings and deposit accounts, debit and credit cards, money transfer, asset finance, treasury and commercial lending. In addition the Bank also provides online banking services, through its 47 branches in Kenya.
Equity Group Holdings Ltd	EQTY.NR	Kenya	Equity Bank Limited provides financial services to individuals and small and medium sized enterprises. It caters to consumers, small and medium enterprises and corporate.
GCB Bank Ltd	GCB.GH	Ghana	GCB Bank Limited is engaged in consumer and corporate banking and treasury activities. Additionally, the Bank holds 40% interest in Activity Venture Finance Company, which provides credit and equity financing to eligible small and medium scale enterprises (SMEs) and 20% interest in Ghana International Bank Plc, which provides universal banking services.
Guaranty Trust Bank PLC	GUARANT. LG	Nigeria	Guaranty Trust Bank Plc operates in the investment, corporate, commercial and retail banking areas. The Bank's principal activity is the provision of commercial banking services to retail banking; granting of loans and advances; corporate finance.
Kenya Commercial Bank Ltd	KCB.NR	Kenya	Kenya Commercial Bank Limited principal activity are corporate and retail banking services. The Bank's operating segments include Retail banking, Corporate banking, Mortgages and Treasury. Additionally, other operations include trade finance and forex business, investments in Treasury Bills and Bonds from Central Banks.
Standard Chartered Bank Kenya Ltd	SCBK.NR	Kenya	Standard Chartered Bank Kenya Limited operates in three business segments: Corporate & Institutional Clients and Commercial Clients and Retail Clients. The Bank operates 37 branches and 95 automated teller machines (ATMs).
Co-operative Bank of Kenya Ltd	COOP.NR	Kenya	The Co-operative Bank of Kenya Limited operates through two segments: Retail Banking and Wholesale Banking. The Retail Banking segment includes loans deposits and other transactions, and balances with retail customers. The Wholesale Banking includes loans deposits and other transactions, and balances with corporate and institutional customers.

	Free float	Total Assets	Growth (Assets)	Total Liabilities	Total Equity	NPL(%)	RoE	Beta 5y	P/BV
BBK.NR	100,0%	2.066	18,4%	1.717	349	3,4%	24,3%	1,43	1,8x
DTK.NR	57,0%	1.935	37,7%	1.665	271	n.a.	21,7%	0,69	1,5x
EQTY.NR	66,2%	3.153	34,5%	2.569	584	n.a.	30,1%	1,34	2,4x
GCB.GH	100,0%	1.136	7,7%	952	184	n.a.	37,5%	1,08	1,3x
GUARANT.LG	99,7%	10.648	11,3%	8.978	1.669	3,0%	27,4%	1,10	1,9x
KCB.NR	90,9%	4.486	36,0%	3.794	692	6,3%	23,8%	1,36	1,5x
SCBK.NR	24,3%	2.036	9,4%	1.664	372	n.a.	28,0%	1,17	1,5x
COOP.NR	15,3%	2.611	33,8%	2.222	389	1,8%	20,7%	1,19	1,9x

Figure D.3
Source: Reuteurs and Bloomberg

D.2 Segment Data

D.2.1 Portugal

Income Statement

€ Million	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Interest income	2.364,9	1.914,3	1.699,4	1.355,0	1.295,6	1.288,5	1.291,5	1.452,5	1.622,9
Interest expense	(1.871,6)	(1.571,4)	(1.172,5)	(658,9)	(591,9)	(564,0)	(567,0)	(691,1)	(816,6)
Net interest income	**493,3**	**342,9**	**527,0**	**696,1**	**703,8**	**724,5**	**724,5**	**761,4**	**806,3**
Dividends from equity instruments	2,8	1,2	2,3	2,9	2,5	2,6	2,4	2,6	2,6
Net fees and commission income	446,2	430,3	433,2	448,2	428,7	422,2	419,6	430,2	440,5
Other operating income	(57,0)	(87,6)	13,7	(31,7)	(8,9)	(18,9)	(13,6)	(16,3)	(15,2)
Net trading income	315,2	158,0	343,7	514,5	220,9	211,4	207,8	213,9	220,2
Equity accounted earnings	54,3	61,9	36,0	33,3	33,1	31,6	31,1	32,0	33,0
Net operating revenues	**1.254,8**	**907,0**	**1.355,8**	**1.663,3**	**1.380,1**	**1.373,4**	**1.371,8**	**1.423,7**	**1.487,4**
Staff costs	(530,1)	(549,4)	(410,8)	(406,4)	(404,0)	(411,0)	(418,6)	(426,7)	(434,9)
Other administrative costs	(299,5)	(265,1)	(246,9)	(237,5)	(234,3)	(236,0)	(238,0)	(240,2)	(242,4)
Depreciation	(40,5)	(38,2)	(32,4)	(31,8)	(31,1)	(30,1)	(29,8)	(30,1)	(30,5)
Operating Expenses	**(870,1)**	**(852,9)**	**(690,2)**	**(675,7)**	**(669,4)**	**(677,1)**	**(686,4)**	**(697,0)**	**(707,8)**
Net income bef. impairment	**384,7**	**54,1**	**665,7**	**987,7**	**710,7**	**696,2**	**685,4**	**726,7**	**779,6**
Loans impairment (net of recoveries)	(889,0)	(742,8)	(1.020,8)	(701,2)	(598,3)	(507,8)	(426,5)	(431,7)	(436,8)
Goodwill impairment	-	-	-	-	-	-	-	-	-
Other assets impairment and provisions	(347,8)	(463,0)	(207,7)	(153,0)	(138,9)	(123,0)	(110,5)	(113,0)	(115,6)
Net income before income tax	**(852,1)**	**(1.151,5)**	**(562,9)**	**133,5**	**(26,4)**	**65,4**	**148,3**	**182,0**	**227,1**
Income Tax	190,9	278,0	176,1	(28,0)	5,6	(13,7)	(31,1)	(38,2)	(47,7)
Profit after income tax	**(661,2)**	**(873,5)**	**(386,8)**	**105,4**	**(20,9)**	**51,7**	**117,2**	**143,8**	**179,4**
Non-controlling interests	5,1	(0,1)	(0,4)	0,1	(0,0)	0,0	0,1	0,1	0,1
Net income	**(656,1)**	**(873,7)**	**(387,3)**	**105,5**	**(20,9)**	**51,7**	**117,3**	**143,9**	**179,5**

Figure D.4
Source: MBCP and Own Estimates

Income Statement – Assumptions

€ Million	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Interest income	2.364,9	1.914,3	1.699,4	1.355,0	1.295,6	1.288,5	1.291,5	1.452,5	1.622,9
Operating Income	2.364,9	1.914,3	1.699,4	1.355,0	1.292,6	1.283,8	1.288,5	1.443,6	1.600,8
Average Interest Rate	3,9%	3,5%	3,4%	2,9%	2,9%	3,0%	3,0%	3,3%	3,6%
Interest earning assets	56.904	53.233	47.437	45.789	44.351	43.280	42.889	43.657	44.443
Income from Excess Cash Flow	-	-	-	0,0	3,1	4,7	3,1	8,9	22,1

Income Statement – Assumptions (cont.)

€ Million	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Interest expense	(1.871,6)	(1.571,4)	(1.172,5)	(658,9)	(591,9)	(564,0)	(567,0)	(691,1)	(816,6)
Operating Costs	(1.871,6)	(1.571,4)	(1.172,5)	(658,9)	(591,9)	(564,0)	(567,0)	(691,1)	(816,6)
Average Interest Rate	4,4%	3,1%	2,6%	1,7%	1,6%	1,6%	1,6%	1,9%	2,2%
Interest bearing liabilities	53.124	49.882	41.422	37.822	36.637	34.979	34.466	35.575	36.569
Costs from Shortage of Cash Flow	-	-	-	-	-	-	-	-	-
Dividends from equity instruments	2,8	1,2	2,3	2,9	2,5	2,6	2,4	2,6	2,6
as a % of Financial Assets	0,03%	0,01%	0,02%	0,03%	0,03%	0,03%	0,03%	0,03%	0,03%
Net fees and commission income	446,2	430,3	433,2	448,2	428,7	422,2	419,6	430,2	440,5
Cards and transfers	95,1	92,8	103,6	99,2	100,0	98,1	99,5	102,6	106,5
as a % of Deposits from customers	0,3%	0,3%	0,3%	0,3%	0,3%	0,3%	0,3%	0,3%	0,3%
Loans and guarantees	142,5	125,2	119,0	121,8	109,9	109,5	107,0	108,9	109,9
as a % of loans to customers (gross)	0,3%	0,3%	0,3%	0,3%	0,3%	0,3%	0,3%	0,3%	0,3%
Bancassurance	60,5	72,5	72,7	75,9	67,9	67,9	66,2	67,5	68,0
as a % of loans to customers (gross)	0,1%	0,1%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%
Current account related	116,6	105,1	76,5	83,5	78,9	79,9	79,8	83,0	85,7
as a % of Deposits from customers	0,4%	0,3%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%
State guarantee	(69,2)	(60,1)	(22,7)	0,0	-	-	-	-	-
as a % of Debt securities issued	0,4%	0,5%	0,3%	0,0%	-	-	-	-	-
Other fees and commissions	48,5	34,5	18,8	13,3	14,6	13,2	13,5	13,5	13,7
as a % of Loans to customers (gross)	0,1%	0,1%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Securities operations	47,5	53,8	57,7	47,8	50,3	46,8	46,6	47,6	49,2
as a % of Financial Assets	0,4%	0,5%	0,6%	0,5%	0,6%	0,5%	0,5%	0,5%	0,5%
Asset management	4,5	6,5	7,5	6,7	7,1	6,8	7,0	7,1	7,4
as a % of Assets under management	0,1%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%
Other operating income	(57,0)	(87,6)	13,7	(31,7)	(8,9)	(18,9)	(13,6)	(16,3)	(15,2)
as a % of loans to customers (gross)	(0,1%)	(0,2%)	0,0%	(0,1%)	(0,0%)	(0,0%)	(0,0%)	(0,0%)	(0,0%)
Net trading income	315,2	158,0	343,7	514,5	220,9	211,4	207,8	213,9	220,2
as a % of Financial Assets	2,8%	1,4%	3,5%	5,7%	2,4%	2,4%	2,4%	2,4%	2,4%

Income Statement – Assumptions (cont.)

€ Million	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Equity accounted earnings	54,3	61,9	36,0	33,3	33,1	31,6	31,1	32,0	33,0
as a % of Financial Assets	0,5%	0,5%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%
Staff costs	(530,1)	(549,4)	(410,8)	(406,4)	(404,0)	(411,0)	(418,6)	(426,7)	(434,9)
# employees	8.982	8.584	7.768	7.555	7.445	7.390	7.335	7.280	7.225
Cost per employee (k€)	55,4	49,3	50,2	53,0	54,3	55,6	57,1	58,6	60,2
% growth	-	(11,1%)	2,0%	-	2,3%	2,5%	2,6%	2,7%	2,7%
Other administrative costs	(299,5)	(265,1)	(246,9)	(237,5)	(234,3)	(236,0)	(238,0)	(240,2)	(242,4)
# branches	839	774	695	679	669	664	659	654	649
Cost per branch (k€)	347,4	326,1	336,1	345,7	350,2	355,5	361,2	367,3	373,6
% growth	-	(6,1%)	3,1%	-	1,3%	1,5%	1,6%	1,7%	1,7%
Depreciation	(40,5)	(38,2)	(32,4)	(31,8)	(31,1)	(30,1)	(29,8)	(30,1)	(30,5)
as a % of Other Assets	0,7%	0,7%	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%
Loans impairment (net of recoveries)	(889,0)	(742,8)	(1.020,8)	(701,2)	(598,3)	(507,8)	(426,5)	(431,7)	(436,8)
Cost of risk (bp)	179	157	233	168	149	129	110	110	110
Goodwill impairment	-	-	-	-	-	-	-	-	-
Other assets impairment and provisions	(347,8)	(463,0)	(207,7)	(153,0)	(138,9)	(123,0)	(110,5)	(113,0)	(115,6)
as a % of Financial Assets and Other Assets	2,1%	2,8%	1,3%	1,0%	1,0%	0,9%	0,8%	0,8%	0,8%
Income Tax	190,9	278,0	176,1	(28,0)	5,6	(13,7)	(31,1)	(38,2)	(47,7)
Net income before income tax	(852,1)	(1.151,5)	(562,9)	133,5	(26,4)	65,4	148,3	182,0	227,1
Effective tax rate	22,4%	24,1%	31,3%	21,0%	21,0%	21,0%	21,0%	21,0%	21,0%
Non-controlling interests	5,1	(0,1)	(0,4)	0,1	(0,0)	0,0	0,1	0,1	0,1
as a % of Profit after income tax	(0,8%)	0,0%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%

Figure D.5
Source: MBCP and Own Estimates

Balance Sheet

€ Million	31.12.2012A	31.12.2013A	31.12.2014A	31.12.2015E	31.12.2016P	31.12.2017P	31.12.2018P	31.12.2019P	31.12.2020P
Assets									
Cash and Loans and advances to OCI	1.457	1.395	952	818	1.034	716	790	1.329	1.927
Loans and advances to customers	46.718	44.298	40.749	38.651	37.085	36.039	35.494	35.904	36.313
Financial Assets	11.928	10.800	8.835	9.497	9.266	8.747	8.636	9.109	9.619
Other Assets	5.375	5.540	5.757	5.728	5.523	5.387	5.319	5.383	5.448
Total Assets	**65.478**	**62.033**	**56.294**	**54.695**	**52.909**	**50.889**	**50.240**	**51.725**	**53.307**
Liabilities									
Deposits from OCI	10.090	10.695	8.964	8.038	7.749	7.559	7.464	7.553	7.644
Deposits from customers	32.618	33.911	34.408	34.508	33.835	33.617	33.868	35.062	36.313
Debt securities issued	13.504	9.218	5.277	4.406	3.706	2.106	1.206	1.206	1.206
Other financial liabilities	5.316	5.089	2.847	2.418	2.331	2.274	2.245	2.272	2.299
Other liabilities	843	987	1.141	905	887	882	888	919	952
Total Liabilities	**62.371**	**59.899**	**52.637**	**50.274**	**48.508**	**46.438**	**45.671**	**47.013**	**48.415**
Equity and non-controlling interests	3.107	2.134	3.657	4.421	4.400	4.452	4.569	4.713	4.892
Total Liabilities, Equity and non-controlling interests	**65.478**	**62.033**	**56.294**	**54.695**	**52.909**	**50.889**	**50.240**	**51.725**	**53.307**

Figure D.6
Source: MBCP and Own Estimates

Balance Sheet – Assumptions

€ Million	31.12.2012A	31.12.2013A	31.12.2014A	31.12.2015E	31.12.2016P	31.12.2017P	31.12.2018P	31.12.2019P	31.12.2020P
Assets									
Cash and Loans and advances to OCI	1.457	1.395	952	818	1.034	716	790	1.329	1.927
Operating Investment	1.457	1.395	952	511	493	472	464	477	491
as a % of Total Funding	2,4%	2,4%	1,8%	1,0%	1,0%	1,0%	1,0%	1,0%	1,0%
Excess Cash Flow	-	-	-	307	541	244	327	852	1.436
Loans and advances to customers	46.718	1.159	1.403	1.262	1.403	1.516	1.641	1.771	2.083
Loans to customers (gross)	49.581	47.251	43.783	41.759	40.259	39.271	38.777	39.243	39.713
Companies	26.442	25.173	22.139	20.990	20.638	20.525	20.654	20.902	21.153
Mortgage	20.669	19.916	19.142	18.539	17.470	16.649	16.052	16.244	16.439
Consumer and other	2.470	2.162	2.502	2.230	2.150	2.098	2.071	2.096	2.121
Loan Impairments provision	(2.863)	(2.953)	(3.034)	(3.108)	(3.173)	(3.232)	(3.283)	(3.339)	(3.400)
NPL (%)	12,2%	13,1%	14,0%	14,0%	13,5%	13,0%	12,5%	12,3%	12,0%

Balance Sheet – Assumptions (cont.)

€ Million	31.12.2012A	31.12.2013A	31.12.2014A	31.12.2015E	31.12.2016P	31.12.2017P	31.12.2018P	31.12.2019P	31.12.2020P
Assets									
Financial Assets	11.928	10.800	8.835	9.497	9.266	8.747	8.636	9.109	9.619
Operating Investment	11.928	10.800	8.835	9.366	9.034	8.642	8.496	8.744	9.004
as a % of Total Funding	19,4%	18,3%	17,2%	19,0%	19,0%	19,0%	19,0%	19,0%	19,0%
Excess Cash Flow	-	-	-	132	232	105	140	365	615
Other Assets	5.375	5.540	5.757	5.728	5.523	5.387	5.319	5.383	5.448
as a % of loans to customers (gross)	10,8%	11,7%	13,1%	13,7%	13,7%	13,7%	13,7%	13,7%	13,7%
Liabilities									
Deposits from OCI	10.090	10.695	8.964	8.038	7.749	7.559	7.464	7.553	7.644
Operating Funding	10.090	10.695	8.964	8.038	7.749	7.559	7.464	7.553	7.644
as a % of loans to customers (gross)	20,4%	22,6%	20,5%	19,2%	19,2%	19,2%	19,2%	19,2%	19,2%
Shortage of Cash Flow	-	-	-	-	-	-	-	-	-
Deposits from customers	32.618	33.911	34.408	34.508	33.835	33.617	33.868	35.062	36.313
Term deposits	24.214	24.880	24.334	22.960	22.851	23.040	23.551	24.543	25.419
On-demand deposits	8.405	9.031	10.074	11.547	10.984	10.577	10.317	10.518	10.894
LtD	143,2%	130,6%	118,4%	112,0%	109,6%	107,2%	104,8%	102,4%	100,0%
Debt securities issued	13.504	9.218	5.277	4.406	3.706	2.106	1.206	1.206	1.206
Debt repayment	-	-	-	(100)	(700)	(1.600)	(900)	-	-
Debt Issue	-	-	-	-	-	-	-	-	-
Other financial liabilities	5.316	5.089	2.847	2.418	2.331	2.274	2.245	2.272	2.299
as a % of loans to customers (gross)	10,7%	10,8%	6,5%	5,8%	5,8%	5,8%	5,8%	5,8%	5,8%
Other liabilities	843	987	1.141	905	887	882	888	919	952
as a % of deposits from customers	2,6%	2,9%	3,3%	2,6%	2,6%	2,6%	2,6%	2,6%	2,6%
Equity and non-controlling interests	3.107	2.134	3.657	4.421	4.400	4.452	4.569	4.713	4.892
Beggining of the year value				4.416	4.421	4.400	4.452	4.569	4.713
Capital Increase				-	-	-	-	-	-
Net profit of the year				5	(21)	52	117	144	179
End of year value				4.421	4.400	4.452	4.569	4.713	4.892

Figure D.7
Source: MBCP and Own Estimates

D.2.2 Poland

Income Statement

€ Million	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Interest income	747,6	634,0	616,1	551,8	599,8	630,5	656,9	738,8	831,2
Interest expense	(469,4)	(344,5)	(269,3)	(223,6)	(242,7)	(258,6)	(273,1)	(332,8)	(395,2)
Net interest income	**278,2**	**289,4**	**346,8**	**328,2**	**357,1**	**371,9**	**383,8**	**406,0**	**436,0**
Dividends from equity instruments	1,0	0,4	0,4	0,5	0,6	0,7	0,7	0,7	0,7
Net fees and commission income	130,8	139,7	145,9	144,6	164,8	167,1	174,9	180,2	187,2
Other operating income	(1,6)	(4,1)	(14,3)	(15,4)	(77,3)	(80,6)	(83,9)	(87,4)	(91,1)
Net trading income	57,5	48,7	48,0	51,9	72,9	75,4	78,1	80,8	83,7
Equity accounted earnings	0,5	0,3	(0,1)	(0,7)	(0,4)	(0,6)	(0,6)	(0,6)	(0,6)
Net operating revenues	**466,4**	**474,4**	**526,7**	**509,3**	**517,6**	**533,8**	**553,1**	**579,7**	**615,9**
Staff costs	(133,8)	(129,8)	(130,5)	(131,9)	(132,4)	(136,4)	(141,0)	(145,9)	(151,0)
Other administrative costs	(119,5)	(114,7)	(119,8)	(100,0)	(99,5)	(101,5)	(103,9)	(106,5)	(109,2)
Depreciation	(13,3)	(12,9)	(13,2)	(12,0)	(14,5)	(14,4)	(15,3)	(15,7)	(16,3)
Operating Expenses	**(266,6)**	**(257,4)**	**(263,4)**	**(243,9)**	**(246,4)**	**(252,3)**	**(260,2)**	**(268,1)**	**(276,5)**
Net income bef. impairment	**199,9**	**217,0**	**263,3**	**265,4**	**271,2**	**281,6**	**292,9**	**311,6**	**339,4**
Loans impairment (net of recoveries)	(57,0)	(52,5)	(64,7)	(64,3)	(69,2)	(70,3)	(73,6)	(75,8)	(78,8)
Goodwill impairment	-	-	-	-	-	-	-	-	-
Other assets impairment and provisions	(0,1)	(3,0)	1,3	(2,8)	(3,2)	(3,3)	(3,4)	(3,6)	(3,7)
Net income before income tax	**142,8**	**161,5**	**200,0**	**198,3**	**198,8**	**207,9**	**215,9**	**232,2**	**256,9**
Income Tax	(29,7)	(34,3)	(44,7)	(43,3)	(43,9)	(45,7)	(47,6)	(51,1)	(56,5)
Profit after income tax	**113,1**	**127,1**	**155,2**	**155,0**	**154,9**	**162,3**	**168,3**	**181,1**	**200,4**
Non-controlling interests	-	-	-	-	-	-	-	-	-
Net income	**113,1**	**127,1**	**155,2**	**155,0**	**154,9**	**162,3**	**168,3**	**181,1**	**200,4**

Figure D.8
Source: MBCP and Own Estimates

Income Statement – Assumptions

€ Million	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Interest income	747,6	634,0	616,1	551,8	599,8	630,5	656,9	738,8	831,2
Operating Income	747,6	634,0	616,1	550,7	596,7	625,9	653,8	729,9	809,1
Average Interest Rate	6,2%	4,8%	4,5%	3,8%	3,8%	3,8%	3,8%	4,1%	4,4%
Interest earning assets	12.731	13.496	13.999	15.369	15.901	16.472	17.061	17.672	18.305
Income from Excess Cash Flow	-	-	-	1,1	3,1	4,7	3,1	8,9	22,1

Income Statement – Assumptions (cont.)

€ Million	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Interest expense	(469,4)	(344,5)	(269,3)	(223,6)	(242,7)	(258,6)	(273,1)	(332,8)	(395,2)
Operating Costs	(469,4)	(344,5)	(269,3)	(223,6)	(242,7)	(258,6)	(273,1)	(332,8)	(395,2)
Average Interest Rate	4,1%	2,8%	2,1%	1,6%	1,6%	1,6%	1,7%	2,0%	2,3%
Interest bearing liabilities	12.128	12.804	13.333	14.675	15.177	15.713	16.267	16.842	17.437
Costs from Shortage of Cash Flow	-	-	-	-	-	-	-	-	-
Dividends from equity instruments	1,0	0,4	0,4	0,5	0,6	0,7	0,7	0,7	0,7
as a % of Financial Assets	0,07%	0,02%	0,02%	0,02%	0,02%	0,02%	0,02%	0,02%	0,02%
Net fees and commission income	130,8	139,7	145,9	144,6	164,8	167,1	174,9	180,2	187,2
as a % of loans to customers (gross) and Financial Assets	1,2%	1,1%	1,1%	1,0%	1,1%	1,1%	1,1%	1,1%	1,1%
Other operating income	(1,6)	(4,1)	(14,3)	(15,4)	(77,3)	(80,6)	(83,9)	(87,4)	(91,1)
New Tax on Bank's Assets	-	-	-	-	(61,0)	(63,6)	(66,4)	(69,2)	(72,2)
Tax Rate	-	-	-	-	0,39%	0,39%	0,39%	0,39%	0,39%
Other	(1,6)	(4,1)	(14,3)	(15,4)	(16,3)	(17,0)	(17,6)	(18,2)	(18,9)
as a % of loans to customers (gross)	(0,0%)	(0,0%)	(0,1%)	(0,1%)	(0,1%)	(0,1%)	(0,1%)	(0,1%)	(0,1%)
Net trading income	57,5	48,7	48,0	51,9	72,9	75,4	78,1	80,8	83,7
as a % of Financial Assets	4,1%	2,4%	2,0%	1,8%	2,2%	2,2%	2,2%	2,2%	2,2%
Equity accounted earnings	0,5	0,3	(0,1)	(0,7)	(0,4)	(0,6)	(0,6)	(0,6)	(0,6)
as a % of Financial Assets	0,0%	0,0%	(0,0%)	(0,0%)	(0,0%)	(0,0%)	(0,0%)	(0,0%)	(0,0%)
Staff costs	(133,8)	(129,8)	(130,5)	(131,9)	(132,4)	(136,4)	(141,0)	(145,9)	(151,0)
# employees	6.001	5.881	6.108	5.917	5.917	5.917	5.917	5.917	5.917
Cost per employee (k€)	22,3	21,8	21,8	21,9	22,4	23,0	23,8	24,7	25,5
% growth	-	(2,0%)	(0,4%)	-	2,0%	3,0%	3,4%	3,5%	3,5%
Other administrative costs	(119,5)	(114,7)	(119,8)	(100,0)	(99,5)	(101,5)	(103,9)	(106,5)	(109,2)
# branches	447	439	423	410	410	410	410	410	410
Cost per branch (k€)	267,4	259,0	277,9	240,2	242,6	247,5	253,4	259,7	266,2
% growth	-	(3,2%)	7,3%	-	1,0%	2,0%	2,4%	2,5%	2,5%
Depreciation	(13,3)	(12,9)	(13,2)	(12,0)	(14,5)	(14,4)	(15,3)	(15,7)	(16,3)
as a % of Other Assets	7,8%	6,4%	6,1%	5,2%	5,6%	5,4%	5,5%	5,5%	5,5%
Loans impairment (net of recoveries)	(57,0)	(52,5)	(64,7)	(64,3)	(69,2)	(70,3)	(73,6)	(75,8)	(78,8)
Cost of risk (bp)	56	51	61	56	59	57	58	58	58
Goodwill impairment	-	-	-	-	-	-	-	-	-

Income Statement – Assumptions (cont.)

€ Million	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Other assets impairment and provisions	(0,1)	(3,0)	1,3	(2,8)	(3,2)	(3,3)	(3,4)	(3,6)	(3,7)
as a % of Financial Assets and Other Assets	0,0%	0,1%	(0,1%)	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Income Tax	(29,7)	(34,3)	(44,7)	(43,3)	(43,9)	(45,7)	(47,6)	(51,1)	(56,5)
Net income before income tax	142,8	161,5	200,0	198,3	198,8	207,9	215,9	232,2	256,9
Effective tax rate	20,8%	21,3%	22,4%	21,8%	22,1%	22,0%	22,0%	22,0%	22,0%
Non-controlling interests	-	-	-	-	-	-	-	-	-
as a % of Profit after income tax	-	-	-	-	-	-	-	-	-

Figure D.9
Source: MBCP and Own Estimates

Balance Sheet

€ Million	31.12.2012A	31.12.2013A	31.12.2014A	31.12.2015E	31.12.2016P	31.12.2017P	31.12.2018P	31.12.2019P	31.12.2020P
Assets									
Cash and Loans and advances to OCI	1.018	1.229	1.183	1.086	1.207	1.334	1.466	1.607	1.761
Loans and advances to customers	9.804	10.012	10.317	11.090	11.480	11.896	12.327	12.773	13.236
Financial Assets	1.888	2.240	2.501	3.219	3.365	3.520	3.680	3.848	4.026
Other Assets	184	218	214	249	257	267	276	286	296
Total Assets	**12.895**	**13.698**	**14.214**	**15.644**	**16.310**	**17.016**	**17.749**	**18.514**	**19.320**
Liabilities									
Deposits from OCI	1.307	1.353	1.304	1.390	1.438	1.490	1.544	1.599	1.657
Deposits from customers	10.211	10.920	11.149	12.289	12.722	13.182	13.660	14.154	14.667
Debt securities issued	221	169	407	382	382	382	382	382	382
Other financial liabilities	389	362	473	614	635	658	682	706	732
Other liabilities	126	227	208	240	248	257	266	276	286
Total Liabilities	**12.253**	**13.032**	**13.541**	**14.914**	**15.425**	**15.969**	**16.533**	**17.118**	**17.723**
Equity and non-controlling interests	642	666	674	730	885	1.047	1.215	1.396	1.597
Total Liabilities, Equity and non-controlling interests	**12.895**	**13.698**	**14.214**	**15.644**	**16.310**	**17.016**	**17.749**	**18.514**	**19.320**

Figure D.10
Source: MBCP and Own Estimates

Balance Sheet – Assumptions

€ Million	31.12.2012A	31.12.2013A	31.12.2014A	31.12.2015E	31.12.2016P	31.12.2017P	31.12.2018P	31.12.2019P	31.12.2020P
Assets									
Cash and Loans and advances to OCI	1.018	1.229	1.183	1.086	1.207	1.334	1.466	1.607	1.761
Operating Investment	1.018	1.229	1.183	1.075	1.112	1.151	1.192	1.234	1.278
as a % of Total Funding	8,4%	9,6%	8,9%	7,3%	7,3%	7,3%	7,3%	7,3%	7,3%
Excess Cash Flow	-	-	-	11	95	183	274	372	484
Loans and advances to custom	9.804	10.012	10.317	11.090	11.480	11.896	12.327	12.773	13.236
Loans to customers (gross)	10.107	10.327	10.634	11.417	11.816	12.242	12.682	13.139	13.612
Companies	2.599	2.874	3.151	3.407	3.527	3.654	3.785	3.921	4.063
Mortgage	6.677	6.471	6.343	6.651	6.884	7.132	7.388	7.654	7.930
Consumer and other	831	982	1.141	1.358	1.406	1.456	1.509	1.563	1.619
Loan Impairments provision	(303)	(316)	(318)	(326)	(336)	(345)	(355)	(366)	(376)
NPL (%)	2,8%	2,9%	3,0%	3,0%	3,0%	3,0%	3,0%	3,0%	3,0%
Financial Assets	1.888	2.240	2.501	3.219	3.365	3.520	3.680	3.848	4.026
Operating Investment	1.888	2.240	2.501	3.214	3.324	3.441	3.563	3.689	3.819
as a % of Total Funding	15,6%	17,5%	18,8%	21,9%	21,9%	21,9%	21,9%	21,9%	21,9%
Excess Cash Flow	-	-	-	5	41	78	117	160	207
Other Assets	184	218	214	249	257	267	276	286	296
as a % of loans to customers (gross)	1,8%	2,1%	2,0%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%
Liabilities									
Deposits from OCI	1.307	1.353	1.304	1.390	1.438	1.490	1.544	1.599	1.657
Operating Funding	1.307	1.353	1.304	1.390	1.438	1.490	1.544	1.599	1.657
as a % of loans to customers (gross)	12,9%	13,1%	12,3%	12,2%	12,2%	12,2%	12,2%	12,2%	12,2%
Shortage of Cash Flow	-	-	-	-	-	-	-	-	-
Deposits from customers	10.211	10.920	11.149	12.289	12.722	13.182	13.660	14.154	14.667
Term deposits	-	-	-	6.880	7.122	7.380	7.647	7.924	8.211
On-demand deposits	-	-	-	5.409	5.600	5.803	6.013	6.230	6.456
LtD	96,0%	91,7%	92,5%	90,2%	90,2%	90,2%	90,2%	90,2%	90,2%
Debt securities issued	221	169	407	382	382	382	382	382	382
Debt repayment	-	-	-	-	-	-	-	-	-
Debt Issue	-	-	-	-	-	-	-	-	-
Other financial liabilities	389	362	473	614	635	658	682	706	732
as a % of loans to customers (gross)	3,8%	3,5%	4,4%	5,4%	5,4%	5,4%	5,4%	5,4%	5,4%
Other liabilities	126	227	208	240	248	257	266	276	286
as a % of deposits from customers	1,2%	2,1%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%

Balance Sheet – Assumptions

€ Million	31.12.2012A	31.12.2013A	31.12.2014A	31.12.2015E	31.12.2016P	31.12.2017P	31.12.2018P	31.12.2019P	31.12.2020P
Liabilities									
Equity and non-controlling inter	642	666	674	730	885	1.047	1.215	1.396	1.597
Beggining of the year value				693	730	885	1.047	1.215	1.396
Capital Increase				-	-	-	-	-	-
Net profit of the year				36	155	162	168	181	200
End of year value				730	885	1.047	1.215	1.396	1.597

Figure D.11
Source: MBCP and Own Estimates

D.2.1 Mozambique

Income Statement

€ Million	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Interest income	200,4	183,3	206,6	236,9	246,2	265,5	287,2	309,6	360,8
Interest expense	(67,1)	(57,0)	(66,0)	(86,1)	(87,0)	(91,9)	(97,3)	(102,9)	(118,4)
Net interest income	**133,2**	**126,3**	**140,6**	**150,8**	**159,2**	**173,6**	**189,8**	**206,7**	**242,4**
Dividends from equity instruments	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,1
Net fees and commission income	38,7	43,1	45,3	50,0	50,7	55,0	58,8	63,3	73,9
Other operating income	12,1	19,5	14,0	14,0	15,1	16,1	17,5	18,8	22,2
Net trading income	29,4	21,0	23,1	45,9	30,0	31,7	33,6	35,5	40,9
Equity accounted earnings	0,8	-	-	-	-	-	-	-	-
Net operating revenues	**214,3**	**209,8**	**223,0**	**260,7**	**255,0**	**276,5**	**299,7**	**324,3**	**379,3**
Staff costs	(45,8)	(44,5)	(46,5)	(50,7)	(58,3)	(65,5)	(73,3)	(82,0)	(91,4)
Other administrative costs	(40,5)	(39,6)	(41,5)	(49,0)	(56,3)	(62,6)	(69,5)	(76,9)	(85,0)
Depreciation	(9,1)	(9,3)	(10,8)	(12,2)	(12,0)	(13,3)	(14,2)	(15,4)	(18,0)
Operating Expenses	**(95,4)**	**(93,4)**	**(98,9)**	**(111,9)**	**(126,5)**	**(141,3)**	**(157,0)**	**(174,3)**	**(194,4)**
Net income bef. impairment	**118,8**	**116,4**	**124,1**	**148,8**	**128,4**	**135,1**	**142,7**	**150,0**	**184,9**
Loans impairment (net of recoveries)	(12,7)	(11,1)	(12,0)	(30,8)	(28,7)	(27,5)	(20,9)	(22,5)	(26,5)
Goodwill impairment	-	-	-	-	-	-	-	-	-
Other assets impairment and provisions	(1,1)	(0,6)	(2,1)	(0,8)	(1,9)	(1,5)	(1,8)	(1,7)	(1,9)
Net income before income tax	**105,1**	**104,7**	**109,9**	**117,3**	**97,8**	**106,2**	**120,1**	**125,8**	**156,6**
Income Tax	(18,5)	(18,3)	(20,4)	(21,1)	(17,9)	(19,2)	(21,9)	(22,8)	(28,5)
Profit after income tax	**86,6**	**86,4**	**89,5**	**96,2**	**79,9**	**86,9**	**98,2**	**103,0**	**128,1**
Non-controlling interests	(1,1)	(0,9)	(1,1)	(1,1)	(1,0)	(1,0)	(1,2)	(1,2)	(1,5)
Net income	**85,5**	**85,5**	**88,5**	**95,1**	**79,0**	**85,9**	**97,1**	**101,7**	**126,6**

Figure D.12
Source: MBCP and Own Estimates

Income Statement – Assumptions

€ Million	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Interest income	200,4	183,3	206,6	236,9	246,2	265,5	287,2	309,6	360,8
Operating Income	200,4	183,3	206,6	235,3	242,1	259,5	278,6	298,2	347,9
Average Interest Rate	11,5%	9,8%	9,4%	10,5%	10,5%	10,5%	10,5%	10,5%	10,5%
Interest earning assets	1.754	1.988	2.394	2.095	2.309	2.475	2.657	2.844	3.318
Income from Excess Cash Flow	-	-	-	1,5	4,1	6,0	8,6	11,3	12,9
Interest expense	(67,1)	(57,0)	(66,0)	(86,1)	(87,0)	(91,9)	(97,3)	(102,9)	(118,4)
Operating Costs	(67,1)	(57,0)	(66,0)	(86,1)	(87,0)	(91,9)	(97,3)	(102,9)	(118,4)
Average Interest Rate	4,3%	3,3%	3,3%	4,3%	4,3%	4,3%	4,3%	4,3%	4,3%
Interest bearing liabilities	1.589	1.820	2.132	1.854	2.014	2.128	2.253	2.381	2.741
Costs from Shortage of Cash Flow	-	-	-	-	-	-	-	-	-
Dividends from equity instruments	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,1
as a % of Financial Assets	0,02%	0,02%	0,01%	0,01%	0,01%	0,01%	0,01%	0,01%	0,01%
Net fees and commission income	38,7	43,1	45,3	50,0	50,7	55,0	58,8	63,3	73,9
as a % of loans to customers (gross) and Financial Assets	3,0%	3,0%	2,5%	2,6%	2,5%	2,5%	2,5%	2,5%	2,5%
Other operating income	12,1	19,5	14,0	14,0	15,1	16,1	17,5	18,8	22,2
as a % of loans to customers (gross)	1,1%	1,7%	1,0%	1,0%	1,0%	1,0%	1,0%	1,0%	1,0%
Net trading income	29,4	21,0	23,1	45,9	30,0	31,7	33,6	35,5	40,9
as a % of Financial Assets	11,5%	6,7%	4,7%	8,6%	5,7%	5,7%	5,7%	5,7%	5,7%
Equity accounted earnings	0,8	-	-	-	-	-	-	-	-
as a % of Financial Assets	0,3%	-	-	-	-	-	-	-	-
Staff costs	(45,8)	(44,5)	(46,5)	(50,7)	(58,3)	(65,5)	(73,3)	(82,0)	(91,4)
# employees	2.298	2.329	2.367	2.466	2.606	2.746	2.886	3.026	3.166
Cost per employee (k€)	19,9	19,2	19,8	21,0	22,4	23,8	25,4	27,1	28,9
% growth	-	(3,5%)	3,1%	-	6,6%	6,6%	6,6%	6,6%	6,6%
Other administrative costs	(40,5)	(39,6)	(41,5)	(49,0)	(56,3)	(62,6)	(69,5)	(76,9)	(85,0)
# branches	151	157	166	176	186	196	206	216	226
Cost per branch (k€)	268,5	257,3	257,3	286,4	302,5	319,4	337,3	356,2	376,1
% growth	-	(4,2%)	0,0%	-	5,6%	5,6%	5,6%	5,6%	5,6%
Depreciation	(9,1)	(9,3)	(10,8)	(12,2)	(12,0)	(13,3)	(14,2)	(15,4)	(18,0)
as a % of Other Assets	6,6%	6,1%	6,0%	6,6%	6,3%	6,5%	6,4%	6,4%	6,4%
Loans impairment (net of recoveries)	(12,7)	(11,1)	(12,0)	(30,8)	(28,7)	(27,5)	(20,9)	(22,5)	(26,5)
Cost of risk (bp)	121	91	81	229	192	171	120	120	120
Goodwill impairment	-	-	-	-	-	-	-	-	-

Income Statement – Assumptions (cont.)

€ Million	FY12A	FY13A	FY14A	FY15E	FY16P	FY17P	FY18P	FY19P	FY20P
Other assets impairment and provisions	(1,1)	(0,6)	(2,1)	(0,8)	(1,9)	(1,5)	(1,8)	(1,7)	(1,9)
as a % of Financial Assets and Other Assets	0,1%	0,0%	0,1%	0,0%	0,1%	0,0%	0,0%	0,0%	0,0%
Income Tax	(18,5)	(18,3)	(20,4)	(21,1)	(17,9)	(19,2)	(21,9)	(22,8)	(28,5)
Net income before income tax	105,1	104,7	109,9	117,3	97,8	106,2	120,1	125,8	156,6
Effective tax rate	17,6%	17,4%	18,5%	18,0%	18,3%	18,1%	18,2%	18,2%	18,2%
Non-controlling interests	(1,1)	(0,9)	(1,1)	(1,1)	(1,0)	(1,0)	(1,2)	(1,2)	(1,5)
as a % of Profit after income tax	(1,3%)	(1,1%)	(1,2%)	(1,2%)	(1,2%)	(1,2%)	(1,2%)	(1,2%)	(1,2%)

Figure D.13
Source: MBCP and Own Estimates

Balance Sheet

€ Million	31.12.2012A	31.12.2013A	31.12.2014A	31.12.2015E	31.12.2016P	31.12.2017P	31.12.2018P	31.12.2019P	31.12.2020P
Assets									
Cash and Loans and advances to OCI	516	411	386	365	405	441	482	524	591
Loans and advances to customers	976	1.159	1.403	1.262	1.403	1.516	1.641	1.771	2.083
Financial Assets	235	394	588	504	556	600	651	702	796
Other Assets	146	160	199	172	190	205	222	239	282
Total Assets	**1.872**	**2.125**	**2.576**	**2.302**	**2.554**	**2.763**	**2.996**	**3.236**	**3.751**
Liabilities									
Deposits from OCI	186	234	200	164	182	196	212	229	269
Deposits from customers	1.376	1.561	1.906	1.668	1.811	1.910	2.020	2.131	2.451
Debt securities issued	26	25	25	22	22	22	22	22	22
Other financial liabilities	-	-	-	-	-	-	-	-	-
Other liabilities	130	128	147	139	151	159	168	177	204
Total Liabilities	**1.719**	**1.948**	**2.279**	**1.993**	**2.165**	**2.287**	**2.421**	**2.559**	**2.945**
Equity and non-controlling interests	153	177	297	310	390	477	575	678	806
Total Liabilities, Equity and non-controlling interests	**1.872**	**2.125**	**2.576**	**2.302**	**2.554**	**2.763**	**2.996**	**3.236**	**3.751**

Figure D.14
Source: MBCP and Own Estimates

Balance Sheet – Assumptions

€ Million	31.12.2012A	31.12.2013A	31.12.2014A	31.12.2015E	31.12.2016P	31.12.2017P	31.12.2018P	31.12.2019P	31.12.2020P
Assets									
Cash and Loans and advances to OCI	516	411	386	365	405	441	482	524	591
Operating Investment	516	411	386	347	377	399	422	446	514
as a % of Total Funding	32,4%	22,6%	18,1%	18,7%	18,7%	18,7%	18,7%	18,7%	18,7%
Excess Cash Flow	-	-	-	18	28	43	60	78	77
Loans and advances to custom	976	1.159	1.403	1.262	1.403	1.516	1.641	1.771	2.083
Loans to customers (gross)	1.049	1.231	1.481	1.345	1.492	1.610	1.739	1.876	2.206
Companies	778	941	1.148	1.041	1.155	1.247	1.346	1.453	1.708
Mortgage	26	23	44	14	16	17	18	20	23
Consumer and other	244	266	289	300	333	359	388	419	492
Loan Impairments provision	(73)	(72)	(78)	(83)	(89)	(94)	(98)	(105)	(123)
NPL (%)	4,3%	3,9%	4,1%	6,2%	6,0%	5,7%	5,5%	5,5%	5,5%
Financial Assets	235	394	588	504	556	600	651	702	796
Operating Investment	235	394	588	486	528	558	591	624	719
as a % of Total Funding	14,8%	21,7%	27,6%	26,2%	26,2%	26,2%	26,2%	26,2%	26,2%
Excess Cash Flow	-	-	-	18	28	43	60	78	77
Other Assets	146	160	199	172	190	205	222	239	282
as a % of loans to customers (gross)	13,9%	13,0%	13,4%	12,8%	12,8%	12,8%	12,8%	12,8%	12,8%
Liabilities									
Deposits from OCI	186	234	200	164	182	196	212	229	269
Operating Funding	186	234	200	164	182	196	212	229	269
as a % of loans to customers (gross)	17,8%	19,0%	13,5%	12,2%	12,2%	12,2%	12,2%	12,2%	12,2%
Shortage of Cash Flow	-	-	-	-	-	-	-	-	-
Deposits from customers	1.376	1.561	1.906	1.668	1.811	1.910	2.020	2.131	2.451
Term deposits	-	-	-	745	808	853	901	951	1.094
On-demand deposits	-	-	-	924	1.002	1.057	1.118	1.180	1.357
LtD	70,9%	74,2%	73,6%	75,6%	77,5%	79,4%	81,3%	83,1%	85,0%
Debt securities issued	26	25	25	22	22	22	22	22	22
Debt repayment	-	-	-	-	-	-	-	-	-
Debt Issue	-	-	-	-	-	-	-	-	-
Other financial liabilities	-	-	-	-	-	-	-	-	-
as a % of loans to customers (gross)	-	-	-	-	-	-	-	-	-
Other liabilities	130	128	147	139	151	159	168	177	204
as a % of deposits from customers	9,5%	8,2%	7,7%	8,3%	8,3%	8,3%	8,3%	8,3%	8,3%

Balance Sheet – Assumptions (cont.)

€ Million	31.12.2012A	31.12.2013A	31.12.2014A	31.12.2015E	31.12.2016P	31.12.2017P	31.12.2018P	31.12.2019P	31.12.2020P
Liabilities									
Equity and non-controlling inter	153	177	297	310	390	477	575	678	806
Beggining of the year value				282	310	390	477	575	678
Capital Increase				-	-	-	-	-	-
Net profit of the year				28	80	87	98	103	128
End of year value				310	390	477	575	678	806

Figure D.15
Source: MBCP and Own Estimates

Appendix E. MBCP Valuation

E.1 Sensitivity Analysis

		Description	Rationale
PT	Scenario 1	Novo Banco is sold by the Resolution Fund for €3,0B	Assess the impact of the sale price of Novo Banco in the Equity Value and Share Price of MBCP.
	Scenario 2	Novo Banco is sold by the Resolution Fund for €2,0B	
	Scenario 3	Portuguese Banks have to make additional contributions – €1,4B – to the Resolution Fund to cover the capital needs of ECB stress tests	The ECB stress test to Novo Banco identified a shortage of €1.4B of capital. This scenario assesses the impact in the Equity Value and Share Price of MBCP if this requirement had to be sustained by the Resolution Fund.
	Scenario 4	The Portuguese segment manages to have a CoR of 110 bp from FY16 onwards	The target CoR in Portugal should be ~110bp from FY16 onwards according to the IRD – CoR of 172bp in FY15. Hence, in my valuation I have assumed a more conservative recovery and assess in this scenario the impact if the target would be met in FY16.
	Scenario 5	The Portuguese sovereign debt is downgraded to Ba2 (Moody's)	The new minority Government in Portugal has brought a high degree of uncertainty to Portuguese economic perspectives. In this scenario I assess the impact in the discount rate and valuation of MBCP if there is a downgrade in the Portuguese sovereign debt.
	Scenario 6	The Resolution Fund loses the €489M of the guarantee it issued to BANIF for future contingencies.	On December was BANIF sold to Santander-Totta for €150M with the issue of guarantees by the Portuguese State (€1.766M) and the Resolution Fund (€489M) for BANIF's toxic assets. In this scenario I assess the impact in the Equity Value of MBCP if 0% of the toxic assets are recovered.
PL	Scenario 7	90% of the costs of the conversion of loans in foreign currency are costs for Polish banks	The impact in the Equity Value and Share Price of MBCP if the draft law for the conversion requires banks to recognize 90% of the conversions losses as costs.
	Scenario 8	The new tax on bank's assets in not applied	The impact in the Equity Value and Share Price of MBCP if the new Polish Government decides to not apply the new tax on bank's assets.
MZ	Scenario 9	Segment CoR stabilizes at 100 bp	The impact in the Equity Value and Share Price of MBCP if the segment's CoR stabilizes in lower levels than the historic performance of the segment.
	Scenario 10	Segment CoR stabilizes at 140 bp	The impact in the Equity Value and Share Price of MBCP if the segment's CoR stabilizes in higher levels than the historic performance of the segment.
AO	Scenario 11	Adjustment of 5% of the gross value of the combined loan portfolio to the Book Value of Equity	Given that the merger in Angola is pending the adjustments that may arise from a Due Diligence, I have assessed what can be the expected impact from an adjustment to the loan portfolio of the new entity.
Other	Scenario 12	Decrease of 1% in CoE	Assess the impact of changes in the CoE in the Equity Value and Share Price of MBCP.
	Scenario 13	Increase of 1% in CoE	
	Scenario 14	Introduction of a Pillar 2 capital requirement of 1% (min. capital ratio increased to 11,5%)	Assess the impact from additional capital requirements from ECB in the Equity Value and Share Price of MBCP.

Figure E.1
Source: Own Estimates

References

Books and Articles

Andrade, G., Kaplan, S., 1998, *How Costly is Financial (not Economic) Distress? Evidence from Highly Leveraged Transactions that Become Distressed*, Journal of Finance, Vol. 53, No. 5, 1443-1493

Blume, M., 1975, *Betas and their regression tendencies*, Journal of Finance, Vol. 30, No. 3, 785–795

Cooper, I. A., Nyborg, K. G., 2006, *The value of tax shields IS equal to the present value of tax shields*, Journal of Financial Economics, Vol. 81, No. 1, 215–225

Damodaran, A., 2001, *Corporate Finance: Theory and Practice*, 2nd Edition, New York: John Wiley & Sons, Inc.

Damodaran, A., 2002, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*, 2nd Edition – University Edition, New York: John Wiley & Sons, Inc.

Damodaran, A., 2006, *Valuation Approaches and Metrics: A Survey of the Theory and Evidence*, Stern School of Business

Damodaran, A., 2009, *Valuing Financial Service Firms*, Stern School of Business

Damodaran, A., 2010, *The Dark Side of Valuation: Valuing Young, Distressed, and Complex Businesses*, 2nd Edition – Pearson Education, Inc.

Fama, E. F., French, K. R., 2004, *The Capital Asset Pricing Model: Theory and Evidence, Journal of Economic Perspectives*, Vol. 18, No. 3, 25-46

Fernandez, P., 2004, *The value of tax shields is not equal to the present value of tax shields*, Volume 73, Issue 1, 145-165

Fernandez, P., 2007, *Company valuation methods. The most common errors in valuations*, IESE Business School, IESE Working Paper, No. 449

Francis, J., Olsson, P. and Oswald, D., 2000, *Comparing the Accuracy and Explainability of Dividend, Free Cash Flow, and Abnormal Earnings Equity Value Estimates*, Journal of Accounting Research, Vol. 38, No. 1, 45-70

Georgiadis, N. I., 2003, *Valuing banking stocks: A Synopsis on the Basic Models - The Pros & Cons Utilizing Evidence from European Equity Research Practices*, Investment Research & Analysis Journal

Gordon, M. J., 1962, *The Savings Investment and Valuation of a Corporation*, The Review of Economics and Statistics, Vol. 44, No. 1, 37-51

Harris, R. S., Pringle, J. J., 1985, *Risk–Adjusted Discount Rates – Extension From The Average –Risk Case*, Journal of Financial Research 8, Fall, 237–244

Koller, T., Goedhart, M., and Wessels, D., 2010, *Valuation: Measuring and Managing the Value of Companies*, 5th Edition – University Edition, New Jersey: McKinsey and Company

Lim, A., 2010, *Pan-European Banks*, Matrix Group Research

Luehrman, T., 1997, *What's it worth? A General Manager's Guide to Valuation*, Harvard Business Review, Reprint Number 97305

Luehrman, T., 1997, *Using APV a better tool for valuing operations*, Harvard Business Review, Reprint Number 97306

Miles, J. A., Ezzell, J. R., 1980, *The Weighted Average Cost of Capital, Perfect Capital Markets, And Project Life: A Clarification*, Journal of Financial and Quantitative Analysis, Vol. 15, No. 3 (September), 719–730

Miller, M., 1977, *Debt and Taxes*, Journal of Finance, Vol. 32, No. 2, 261-275

Modigliani, F., and Miller, M., 1958, *The Cost of Capital, Corporate Finance and the Theory of Investment*, American Economic Review, Vol. 48, No. 3, 261-297

Modigliani, F., and Miller, M., 1963, *Corporate income taxes and the cost of capital: A correction*, American Economic Review, Vol. 53, No. 3, 433-443

Myers, S., 1974, *Interactions in Corporate Financing and Investment Decisions—Implications for Capital Budgeting*, Journal of Finance, Vol. 29, 1-25

Pearl, J. and Rosenbaum, J., 2009*, Investment Banking: Valuation, Leveraged Buyouts, and Mergers & Acquisitions*, New Jersey: John Wiley & Sons, Inc.

Penman, S. H., 2001, *On Comparing Cash Flow and Accrual Accounting Models for Use in Equity Valuation: A Response to Lundholm and O'Keefe*, Contemporary Accounting Research, Vol. 18, No. 4, 681-692

Pettit, J., 2007, *Strategic Corporate Finance Applications in Valuation and Capital Structure*, New Jersey: John Wiley & Sons, Inc.

Ruback, R., 2000, *Capital Cash Flows: A Simple Approach to Valuing Risky Cash Flows*, Graduate School of Business Administration, Harvard University

Saunders, A., Cornett, M. M., 2008, *Financial Institutions Management a Risk Management Approach*, New York: McGraw-Hill/Irwin

Vernimmen, P., Quiry, P., Dallocchio, M., Fur, Y. L., and Salvi, A., 2009, *Corporate Finance: Theory and Practice*, Chichester: John Wiley & Sons, Ltd.

Warner, J.N., 1977, *Bankruptcy Costs: Some Evidence*, Journal of Finance, Vol. 32, No. 2, 337-347

Weiss, L., 1990, *Bankruptcy Resolution: Direct Costs and Violation of Priority of Claims*, Journal of Financial Economics, Vol. 27, No. 2, 285–314

Welch, I., 2009, *Corporate Finance An Introduction*, 1st Edition, Boston: Pearson Education Inc.

Williams, J., 1938, *The Theory of Investment Value*, Cambridge: Harvard University Press

Young, M., Sullivan, P., Nokhasteh, A., & Holt, W., 1999, *All Roads Lead to Rome: An Integrated Approach to Valuation Models,* Goldman Sachs Investment Research

MBCP

Firm website (Portugal) – www.millenniumbcp.pt/

Firm website (Poland) – www.bankmillennium.pl/

Firm website (Mozambique) – www. millenniumbim.co.mz/

Annual Reports 2012, 2013 and 2014

Half Year Report June 2015

First Quarter Report March 2015

Third Quarter Report September 2015

Earnings Presentation 2012, 2013, 2014, 2015(1Q), 2015(2Q) and 2015(3Q)

Institutional Presentation

Company Announcements

Other

Banco de Portugal – website – www.bportugal.pt/

Banco de Portugal – Boletim Estatístico

Banco de Portugal – Relatório de Estabilidade Financeira

Banco de Portugal – Statistic Database

Banco de Moçambique – website – www.bancomoc.mz

Banco de Moçambique – Statistic Database

Bloomberg Terminal

Caixa Banco de Investimento, BCP, 28.07.2015

Caixa Banco de Investimento, BCP, 07.08.2015

Caixa Banco de Investimento, Sector Flash Note, 08.09.2015

Damodaran – website – http://people.stern.nyu.edu/adamodar/

Economist Intelligence Unit – Financial Services Industry Report (Portugal) – 2015

Economist Intelligence Unit – Financial Services Industry Report (Poland) – 2015

Euronext Lisbon – website – www.bolsadelisboa.com.pt/

International Monetary Fund – World Economic Outlook – October 2015

International Monetary Fund – Financial Access Survey

JP Morgan Cazenove, BCP, 29.07.2015

National Bank of Poland – website – www.nbp.pl

National Bank of Poland – Statistic Database

Official Journal of the European Union, Regulation (EU) No 575/2013 of the European Parliament and of the Council on Prudential Requirements for Credit Institutions and Investment Firms, 27.06.2013

Reuteurs Terminal