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BASEL III: THE IMPACT OF NEW CAPITAL REQUIREMENTS ON PROFITABILITY OF PORTUGUESE BANKS

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Abstract

This empirical study aims to explore the impact of increased capital ratio requirements, on the ROE of the Portuguese banking sector. The paper employs both a quantitative- and qualitative approach, with the qualitative approach as the main method of research. The method adopted to conduct the qualitative research was semi structured elite interviews with banking executives. Higher capital requirements decrease the ROE of banks in Portugal, but huge impairments charges, macroeconomic factors and increased costs of deposits are clearly the dominant reasons for the reduced levels of ROE the past years. Among the measures taken to increase capital ratios, reduction of RWAs and non-core assets have been the main focus, but the issuance of CoCos is regarded as the most expensive measure due to high interest payments. However, the CoCos will not have any effect on the ROE in the long term. It is difficult to draw any conclusions on the impact of more equity in the balance sheet on the ROE of Portuguese banks, as many banks currently don't generate enough money to pay back on shareholders' investments.

Key words:

Portugal, Banking, regulation, capital, ROE, deleveraging, cost of equity

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1 Introduction

This empirical study focuses on analysing how the new capital ratio requirements imposed by the Basel III regulatory framework, affects the ROE of the banking sector in Portugal. To be able to understand the capital requirements' impact three main issues have been identified: (1) The impact of stricter capital requirements on the ROE of banks in an already challenging economic environment; (2) measures taken to increase capital ratios and (3) the impact of having holding more equity in the balance sheet.

In response to the shortages in financial regulation revealed by the financial crisis of 2007-08, the Bank for International Settlements (BIS) developed a third regulatory framework of the Basel accords, with aim to *reduce the probability and severity of future crisis* (BIS, 2011). To achieve this goal, the BIS imposed new requirements for the banking sector. One of these requirements is a capital adequacy requirement. Banks now have to hold a more robust capital base by having a higher minimum of common equity tier 1 (CET1) relative to their risk-weighted assets (RWAs) with additional buffers on top of this. However, among bankers and investors there is a general tendency of being reluctant to imposed higher capital requirements on banks due to the potential negative impact on banks' profitability.

The structure of this paper is as follows: The second section of this paper will explore the existing literature on the impact of higher capital requirements on banks. Section three will discuss the methodologies used to carry out the research. The fourth section discloses and interprets the findings. Lastly, section five will draw conclusions from the findings and suggest topics for future research.

2 Literature Review

The Basel Committee on Banking Supervision was formed by the central bank governors of the G10 countries due to the aftermath of the collapse of the Bretton woods system of managed exchange rates in 1973. Since then, three sets of international banking regulations have been put forth by the committee; Basel I, II and III. The latter was brought into play due to the shortcomings of Basel II and the financial crisis of 2007-08. Its objective is to improve the banking system's ability of absorbing shocks caused by economic and financial stress (BIS, 2015).

The requirements for banks set by Basel III were implemented in the Portuguese banking sector in 2011 through the Economic Assistance Program with aim to regain economic growth and restore investors' trust (European Commission, 2015). According to post-program reports by the European Commission and the International Monetary Fund from 2014 and 2015 respectively, the implementation of the program has shown to create a more robust banking sector based on results from frequent stress tests. An essential reason for this is the higher levels of capital ratios. The banking sector as a whole showed to have a core tier 1 (CT1) capital ratio above the minimum requirements of 9% after the end of 2011, and 10% from the end of 2012 onwards (European Commission, 2014). This is also well above the 8% benchmark in the EU legislation (Costa, 2013).

A wide range of financial literature has been studying the impact of capital on banks' value but the research has produced varied results. The reason for this is the use of different methodological approaches and performance indicators (Kundid, 2012). According to Berger (1994) the conventional wisdom in banking is that capital-asset ratios (CAR) are negatively related to after-tax returns on equity. There are three explanations for this: higher CAR reduces investors' required return due to a reduction in risk on equity; the tax shield provided by the deductibility of interest payments decreases, and the value of access to federal deposit insurance that at best imperfectly prices risk is being reduced. However, based on data used from US banks from 1983-1989 Berger found that CAR is positively linked to ROE. This is explained by the

reduction in financing costs on uninsured debt caused by decreasing leverage. With a sample of 1,334 banks in 101 countries Demirgüç-Kunt and Huizinga (2009) also found a similar relationship between capital and profitability mainly due to a reduction in cost of funding. On the contrary, Hutchison and Cox (2006) found that there is a negative relationship between bank capital and ROE in the US banking sector for the period 1983-1989 and 1996-2002, by deliberately using a different methodological approach than Berger. Ayuso et al. (2002) find a negative relationship between ROE and surplus capital above minimum requirements. As opposed to Berger (1994) they calculated minimum capital by weighting the assets according to the capital requirements, which may explain the different outcomes of the research. A third view of capital structure is the *Modigliani and Miller view*, for which capital structure decisions are irrelevant in terms of bank value (Bandt, et al., 2014). In 2006, Ngo conducted a research based on data from the 2,500 largest banks in the US for the period 1996-2005. His results showed that there is no significant relationship between capital and profitability. According to the research, holding more capital is costly but it also yields compensating advantages such as a decrease in borrowing costs, which will offset capital costs. Demirgüç-Kunt and Huizinga (2000) also found that capital structure does not have a significant impact on banks' profits and margins.

As mentioned, higher capital requirements may be associated with less risk, which means less leverage and therefore lower expected returns for investors. Thus, capital requirements create a conflict between shareholders and the public interest in safer banking. In a speech held by Caruana (2012) this less leverage-less return view is being challenged. According to Caruana a more robust capital base will lead to sustainable profits and returns in the long term. She shows that historically, the average return on equity has been on the same levels as other industries but at the same time with a much higher risk. Between 1995-2010 equity was on average leveraged more than 18 times in the banking sector, whilst in non-financial firms the equity was only leveraged three times. Additionally, pre-crisis data shows that there was no

relationship between Tier 1 capital and return on equity but when the crisis hit, the more capitalised banks had easier access to funds in the challenging markets conditions.

3 Research Questions, Methodology and Method

The following research questions were developed to answer the strategic question of this study:

Strategic question	Research Questions
<p style="text-align: center;">What is the impact of new capital requirements on profitability of Portuguese banks?</p>	<ol style="list-style-type: none"> 1. To what extent do the capital requirements affect the ROE in an already challenging economic environment? 2. How do the measures taken to increase capital ratios affect the ROE of Portuguese banks? <ol style="list-style-type: none"> 2.1. How does the deleveraging affect the sustainability of Portuguese banks? 3. How do higher levels of equity in the balance sheet impact the ROE of Portuguese banks?

The research questions are deliberately semi structured, which allows the interviewer to explore particular themes or responses further. This empirical study is using both a quantitative approach and elite interviews to conduct research. In the first part of the research, quantitative data has been used to understand the evolvement of the Portuguese banking, in regard to capital ratios and profitability, for the past years. Quantitative research investigates observable phenomena by using statistical, mathematical or computational methods and thus the researcher is hoping the numbers will give unbiased results that can be generalised to a larger sample (Given, 2008). For the second part of the research, semi-structured elite interviews have been conducted to collect qualitative data. Qualitative data uses non-probability samples for selecting the population for a study. A key feature of non-probability sampling is the deliberate selection of units based on the researcher’s discretion, rather than a random selection with a known probability where the purpose is to generate a statistically representative sample (Lewis & Ritchie, 2003).

The qualitative part of the research is used to explain the data gathered in the quantitative section. In other words, *qualitative data can put flesh on the bones of quantitative results, bringing results to life through in-depth case elaboration* (LSE, 2015). This type of research is known as *triangulation, which is defined as the combination of methodologies in the study of the same phenomenon* (Jick, 1979). Both research methods have advantages and the combination of both can therefore extend our understanding of a research problem (LSE, 2015). However, it must be mentioned that the approaches are given unequal emphasis with the qualitative approach as the main research method. The quantitative research is merely used as a mean to frame the issue of this study.

The sample of interviewees has been suggested by the Supervisor of the study, who gathered 6 *elite interviewees*, all in leading positions within the Portuguese banking sector. The participants were UK managing directors (2) and Portuguese members of executive committees (4). *Elite interviewees* are people with *close proximity to power; those who decide on, or influence, policymaking processes and have participated (or still participating) in certain significant situations* (Bozoki, 2011). Hence, the participants were all in relevant positions in terms of experience and knowledge of the myriad of stakeholders, interests and agendas within the Portuguese banking sector. The interviews were conducted face-to-face and were all in English. They lasted between 30-60 minutes and the recordings produced transcripts of between 2000-3000 words each. It was given permission for the interviews to be recorded. Lastly, the participants are given self-selected pseudonyms in order to protect the participants' identities.

4 Discussion and Findings

4.1 Framing the Issue

As mentioned, the Portuguese banking sector has managed to maintain capital ratios above the minimum standards since 2011. Figure 1 shows the CT1 capital ratios for four of the largest Portuguese banks in terms

of assets from 2011-2014; Banco Português de Investimentos, S.A (BPI), Banco Comercial Português, S.A (BCP), Caixa Geral de Depósitos, S.A (CGD) and Banco Santander Totta, S.A.

Figure 1. CT1 Capital Ratios%

	2011	2012	2013	2014
BPI	9.20	15.00	16.50	11.80
BCP	9.30	12.40	13.80	12.00*
CGD	9.48	11.60	11.70	10.90
Santander T.	9.10	9.90	12.40	13.00

Source: Bankscope and BCP Annual Report 2014*

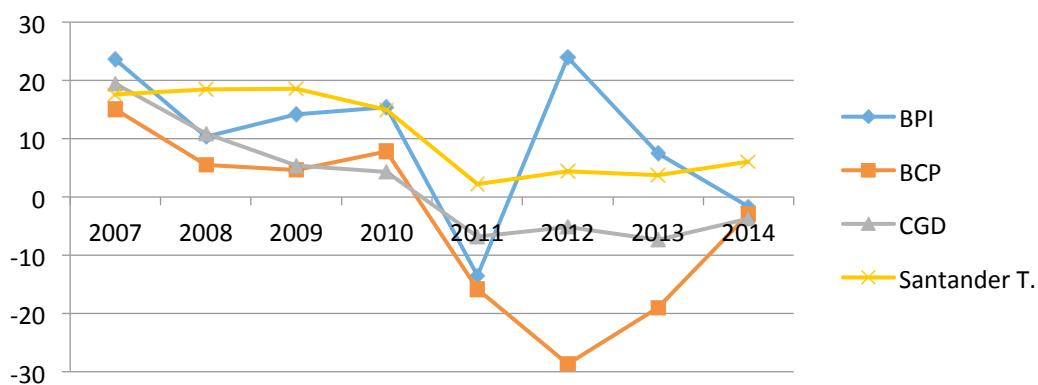
Most of the literature on higher capital requirements and profitability of banks is concerned with the potential upsides or downsides of having more capital in the balance sheets, and not with the measures taken by banks to meet capital ratios. However, there is some research on this topic in the financial literature. Bandt et al. (2014) study the effect of capital structure on banks' profitability in France, and find that methods chosen by the bank such as raising equity or use retained earnings to capitalise, do not alter the result.

According to Cohen (2013) there are four methods to achieve higher risk-weighted capital ratios. The first method is to target retained earnings. However, due to a highly challenging economic environment for Portuguese banks since the debt crisis incurred in 2011, it has been difficult for many banks to use retained earnings to increase capital. As one can see from Figure 2, there has been a significant change in ROE among the biggest banks in Portugal the past eight years. A second strategy is to issue new equity, a strategy that is deemed as less attractive because of high costs and a new share issue tends to decrease the market value of existing shares. In 2012 BPI, BCP and CGD¹ were forced to issue new equity as a consequence of the new solvency ratios. However, issuing equity has also been problematic for Portuguese banks as finding investors has been difficult. The last two methods are concerned with shrinking the balance sheet; selling non-core assets and reduce the amount of risk-weighted assets. These two strategies have been essential for

¹ BPI, BCP and GDP 2012 annual reports.

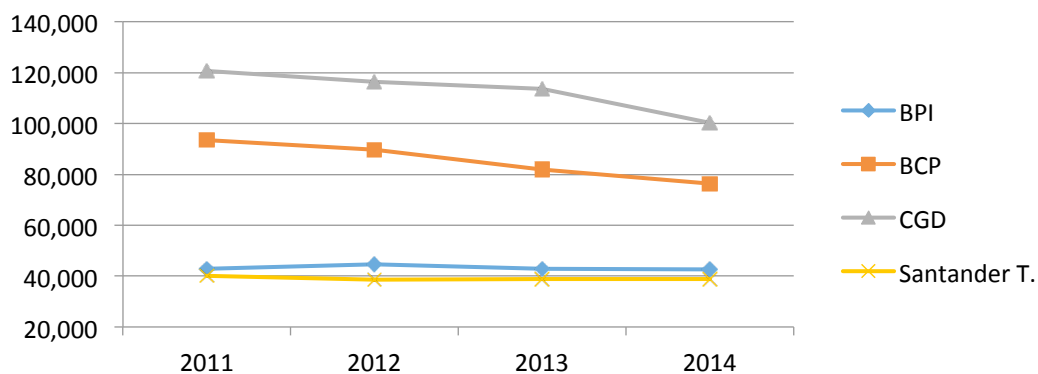
Portuguese banks to achieve higher capital targets due to difficulties in raising equity and generating profit. Through the Economic Assistance Programme the largest Portuguese banking groups agreed to commit to a gradual and controlled deleveraging process, which would reduce the necessity to increase capital to achieve CT1 targets (Banco de Portugal, 2011). According to a Survey on European Bank deleveraging conducted by Deloitte UK (2012), which involved 18 countries (Portugal included), capital requirements are deemed as the main driver of deleveraging. However, assets may be key to competitiveness among banks. Thus, those banks with easier access to capital markets or better solvency situations will avoid this kind of divestitures (La Caixa, 2010). Figure 3 and 4 shows the evolvement of total assets and risk-weighted assets for BPI, BCP, CGD and Santander Totta from 2011-2014.

Figure 2. ROE levels 2007-2014



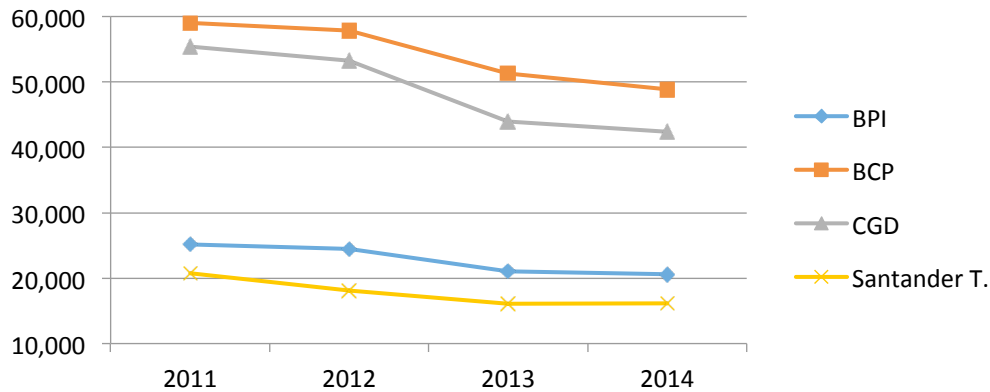
Source: Bankscope

Figure 3. Total assets 2011-2014 (Euro million)



Source: Bankscope

Figure 4. Risk-weighted assets (Euro million)



Source: Bankscope

Other measures taken to increase regulatory capital ratios have been debt to equity conversions and taking loans. The latter strategy has been highly costly but necessary for banks to increase capital. For instance, in June 2012 BPI, BCP and CGD were recapitalised with the aid from state funds of between 0, 9 and 3 billion Euros each in the form of contingent convertible capital instruments (CoCos), because market based solutions to meet CT1 capital ratio were inadequate (European Commission, 2013). With initial annual interest rates as high as 8, 5%, the CoCos have been putting pressure on the profitability of Portuguese banks as well (Governo De Portugal, 2012).

Thus, the next part of this section looks at the main findings from the elite interviews to understand the correlations between higher capital requirements, reduced levels of ROE and actions taken to meet capital requirements in a challenging economic environment. Lastly, to follow up on research from existing literature, next section will also try to explore the impact of having more equity in the balance sheet.

4.2 Main Issues

The following figure shows the main topics addressed during the elite interviews:

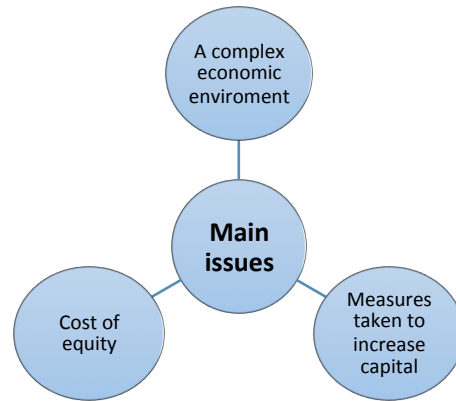


Figure 5: Main issues covered in the interviews

4.3 A Complex and Challenging Economic Environment

4.3.1 The Portuguese Banking Environment

The impact of the capital requirements for Portuguese banks *is more complex than other places because the economy is slow in growing* [Jenny]. *If you go to Germany for instance the effect of capital per se has a bigger impact. The German Economy has a positive balance of payments so they basically have different dynamics. In Germany, ROE levels have been positive since 2003 (Federal Reserve Bank of St. Louis, 2015). Thus, if the only thing that increases in a German bank is the capital base by the double for instance, (...) you decrease the capital base by half. In Portugal it is much more complex because the banks are in a more challenging environment* [Tom]. The macroeconomic situation in Portugal is not good. *Low interest rates, low inflation and low growth rates*² [Bill] have reduced lending. Additionally, *banks were recognising huge amounts of impairments* [Tom,]. Credit impairments as a percentage of gross credit rose from 3, 2% in 2010 to 7, 8% in 2015 (Banco De Portugal, 2015) Hence, due to impairments, banks will

² The interest rate, inflations rate and growth rate in Portugal were 0, 05 (Dec/15), 0, 6 (Oct/15) and (Sep/15) respectively. The data was extracted from www.tradingeconomics.com.

have to charge the P&L account on the cost side. (...) If the new expected value of a loan is 50% of 100% you have to cut 50% through costs. On the liability side there was a huge increase in the costs of deposits. (...) Thus in the end the results were affected by costs of funds, (...) less income from loans and you have impairments charges. (...) This is for the P&L side (the numerator of the ROE). For the denominator you have huge capital increases. (...) So these losses and increase in capital were the perfect storm for profitability [Tom]. If I have to put more capital in my bank (BCP) of course I dilute a small amount of return over a larger amount of capital. (...) So it will have a negative impact on the ROE [Harry]. Before ROE was close to 20% in many banks but today that will be impossible because the capital base is so huge [Tom], and the demand for capital will keep increasing [Harry]. A bank that has a ROE of 10% today is already quite good [Tom]. However, the low levels of ROE in Portugal are not explained by amount of capital that we have increased but basically because our margins (...) are very low [Harry].

4.3.2 Impairments

The capital requirement is very much linked to the impairments the banks should have. Since we have a slowing down economy, (...) a crisis and a lot of firms not performing like they used to perform, there is a substantial increase on bad loans [Sam]. Non-performing loans as percentage of total gross loans in Portugal increased from 7, 5% in 2011 to 11, 2% in 2014 (The World Bank, 2015). Bad loans means impairments and impairments means that you need capital to support your own balance sheet and thus the big problem is that you increase your own capital, and how to increase your profits in the same way is not so clear right now [Sam]. The profitability of the financial sector is quite limited and there are limited prospects that it will improve significantly over the medium term just because of the dynamics of the whole sector. (...) The only way to have profits is not to have impairments. (...) However, in most banks you see improvements of impairments but profitability remains quite low. (...) If you speak to a bank they are relatively surprised that they are not able to increase credit as much as they would like, which is surprising

because they see that the economy is picking up [Jenny]. During the time span of 2011-2015 Portugal has had a GDP growth of 0, 9% (The World Bank, 2015). During the first eight to ten years of this century there was a significant credit growth in Portugal. However, the legacy of the credit portfolio has been critical in the last years in the banks. The banks are now booking loads of impairments due to this legacy portfolio. (...) The credit growth of the first eight years of this century was close to 10% every year. Compounding ten 10% every year for eight years doubles the amount of credit. This is an issue. Another issue, which is empirically proved, is that bigger banks always get the worst credit and because they are big they need more credit to increase with the same rate as the competitors. Due to impairments some banks will never recover before 15-20 years [Bill]. We (BCP) lost a lot of money with impairments. We had non-performing loans (NPLs) that went up something like 14% [Harry].

4.3.3 Macroeconomic Factors

As you know the interest rate is more or less like zero [Sam], and banks usually don't like interest rates as low as they are [Bill]. The capital is not producing on the same level as it did when we (Portugal) had interest rates at the level of 5, 6, 7 or even 10%. (...) To have a negative rate today is changing almost everything. When we had very high interest rates the equity was very well paid [Sam]. Moreover, there is no inflation and the growth rate is very low. Banks like inflation and good growth rate. By good I mean 2-3% in real terms or 5-6% nominal. (...) So the environment of the banking industry is very difficult; low interest rate, low inflation and very low growth rate [Bill].

4.4 Actions Taken To Increase Regulatory Capital Ratios

4.4.1 A “Menu” of Actions

For Portuguese banks, raising equity or use retained earnings *have not been an option [Bill] due to all the different dynamics [jenny]. If they were able to raise equity and pay dividends they would not have the kind*

of legacy portfolio like they have. If they were able to use retained earnings it would mean that banks were profitable, which is not the case for Portuguese banks. Ideally, banks would have 40-50% dividend pay-out, 50-60% retained earnings and ROE of 10-11% with a stable situation in terms of the future. (...) This kind of bank would be able to get new investors and raise capital [Bill]. The problem in Portugal was not only that capital was expensive but it was unavailable as well. Hence, Portuguese banks had to use other levers apart from asking shareholder for more cash. (...) There is a menu for this [Tom]. You see there is a trend, not only in Portugal, but in many countries, that RWAs is a main focus of many banks [Jenny]. BCP for instance decreased RWAs by selling loans and granting less credit, and additionally sold businesses that were non-core assets [Tom]. BCP reduced its participation in insurance, sold a subsidiary in Romania [Harry], sold operations in Poland [Tom] and sold parts of the asset management business [Harry]. Before banks had a lot of participation in different firms and industries, especially real estate projects, and now it's all finished [Sam]. By doing this you have capital gain on one side and the reduction in RWAs on the other side. Additionally, BCP converted bonds into capital and they went to the state asking for capital. This solves the capital base but the problem is to ensure that you have a sustainable business model, because only a sustainable business model will allow you to generate capital (...) and give money to your shareholders in the future. (...) Yields from loans must be greater than the cost of risk (...) and on the cost side you need to decrease your cost base to make sure you have higher revenues than costs. (...) Based on this regulators can require higher capital bases than the initial requirements [Tom].

4.4.2 Actions and Costs

Most of these operations make banks increase capital in the short run, but in the long run you decrease positive results. (...) For instance, when you change debt per equity you are increasing the cost of the bank or if you sell a part of an operation that was yielding results you increase capital (...) but you decrease the ability of generating revenues in the future [Tom]. Banks need to reduce assets but at the same time many of

these assets are not productive. They are to some extent destroying the value of the banks [Bill]. Moreover, it is impossible to reduce RWAs to figures that can reduce the need for more capital because the banks need credit to keep the business alive [Jenny]. The reduction in RWAs clearly affects the profitability of banks but in Europe there are significant differences. In Portugal the banks have RWAs close to 60% of the assets. If you go to Norway, Sweden and so on the RWAs are close to 30% of the assets. So imagine you have 100 million worth of assets in a Portuguese bank and a Swedish bank. In a Portuguese bank you will have 60 million worth of RWAs and 30 million in the Swedish bank. With a 10% CT1 ratio this is 6 million in the Portuguese bank and 3 million in the Swedish bank. Thus, with the same total assets of course eventually stockholders will have better ROE in Sweden than Portugal. (...) Also, selling assets is not easy because companies that buy these assets are offering a very low price. (...) They offer prices as if the banks were going concern [Bill]. Among the different measures the banks have taken to increase the capital ratio the CoCos is no doubt the most expensive one [Sam] because they have a very high interest rate [Bill]. The CoCos were a solution at the time but today some are paying 9-10% in interests on CoCos, which is penalising the profitability [Jenny]. Theoretically it is clear. Equity is more costly than CoCos (...) but banks have not been distributing dividends the last years [Bill]. One reason to be able to say that the CoCos have definitely been the most expensive for banks (...) is that they are measurable and it's there. However, the pressure from shareholders (BCP) is perhaps the more expensive part of our capital. (...) They are always demanding for return on the capital they put in the bank. (...) Additionally, BCP has been selling assets, which has been expensive because it limits the kind of business I can do in the future. (...) I reduced activity in terms of future growth but this is really difficult to measure. (...) At the end I don't know how the pressure from the shareholders or the reduced business can be calculated. (...) Obviously, in numeric terms the CoCos are easy to quantify because we are paying 9, 5% [Harry]. Between 2012 and 2015/2016 the banks' profitability was severely affected by the "recap" measures, notably the CoCos (...) The Cocos are burdening the profitability in the short term but, but will not have any effect on ROE in the long run [Tom].

4.4.3 Deleveraging and Sustainability

The banks did a lot of deleveraging. When you deleverage you either increase deposits or you decrease your credit. The ability for banks to increase deposits was limited because there was no saving due to the crisis. Some institutions have been selling assets but if you look at the Portuguese banking system there are not many assets to sell. (...) Furthermore, by selling assets you are reducing the size of your balance sheet and this is not sustainable because you need assets to get returns [Jenny]. If I (BCP) reduce my activity but can produce by the credit I give and the trading activity I execute, I can have return on the capital invested in the banks, but it has to be at least the average of the sector. (...) This is not an easy exercise because basically what the banks do is credit and all the banks will compete for the best credit [Harry]. New and good credit is the only way you can keep a good interest margin (...) but there is too much offer to a small number of good companies [jenny], in a level where the business is not growing [Tom]. The likely outcome here for some of the troubled banks, is that they will be bought by someone else for a very cheap price. (...) Banif is a good example. (...) These buyers might be foreign entities that can extend to Portugal [Rob]. Another likely outcome is that banks will be forced to merge [Tom]. At least two of the banks in Portugal will disappear. The problem with this is that you don't know, strategically speaking, if shareholders want to or not because they are looking for different things [Sam]. In terms of merging the market is quite small and already quite consolidated. You might see one or two consolidations (...) but if two big banks consolidate they become too big to fail and it becomes systemic [Rob]. Banks being forced to merge is the only solution due to higher capital base and reduction of revenues [Tom].

4.5 The Effect of Holding More Equity in the Balance Sheet

4.5.1 The Present Situation

Regulators are putting a tremendous burden on banks as equity is both expensive to issue and expensive to have in the balance sheet (...), especially in the case for Portugal [Rob]. It is difficult to understand the cost

of equity but theoretically (...) investors should get a better return from equity than debt instruments. However, this is the theory. (...) In practise this has not been the case for the last years (...) because banks have not been distributing dividends [Bill]. We (BCP) cannot pay any dividends before we have repaid the CoCos [Harry]. BCP still has 750 million Euros outstanding (Millennium BCP, 2015). In normal terms the dividends would be more costly than both the interests from the CoCos and the decrease in profit from selling parts of my business. Shareholders will also demand even more if the past experience with shares is not so positive, which currently is the case. So at the end it could be one of the most significant costs, in terms of capital, that I have. (...) Moreover, now my income should be concentrated on paying back loans and then start looking at the return on capital to my shareholders. Because as you know, shareholders look at the return, not only in terms of dividends of course, but also in the valuation in the shares themselves. (...) If I generate more income and the market recognises it, the shares will go up and the remuneration on capital is thereby the valuation of the equity and not just by the dividends [Harry]. The effect of equity all depends on the return that I get. You know in theory costs go up when you have more equity. If you increase equity you have more balance sheet to put in play but at the same time you need to make sure that the balance sheet you put into play has a return and no impairments. Then you will increase ROE [Jenny]. However, the cost of equity today is not far from 10-12%. (...) For Portuguese banks to get return on equity higher than this is difficult. That is why the banks are struggling with finding shareholders willing to put money in the banks [Rob]. If I (BCP) don't get an ROE above 10% I will probably have to close the bank [Harry]. You can absorb more losses on non-stable moments if you are very well capitalised. But it is more and more difficult to get money to capitalise (...) because capital is not very numerated. A normal investor today needs between 6 and 10% return. With the interest rate of zero or one it is very difficult to achieve this. Investors have instead other alternatives like real estate [Sam].

Lastly, with these new requirements we cannot understand clearly what is the impact on profitability. (...) Of course theoretically, when you increase the need of capital you are eventually reducing your ROE [Bill].

(...) On the other side you need to see what kind of risk-return you get from this. More equity means less risk but less profitability. (...) If the risk is reduced you should ask for reduced profitability. (...) So I cannot say if the ROE is better or worse, because this is always relative to risk. (...) This is why you can't compare directly the ROE of the banks because banks have different risks [Bill]. On the other hand, more capital doesn't necessarily mean that returns are less risky and can therefore justify the lower levels of ROE. (...) As we have seen in the past, equity can erode very quickly [Jenny].

4.5.2 Future Evolution

The evolution of cost of equity will depend on different factors. Less business risk will reduce the cost of equity. On the other hand, there is a risk of unexpected additional capital requirements both in Pillar I and Pillar II, and there is a new European Resolution Mechanism – before any state bailout to a bank, shareholders should be wiped out. These two factors will increase the cost of equity. Thus, if risk free rate and market risk premium stays the same, the cost of capital could be stable or even increase in the short to medium term due to the uncertainty triggered by the new regulatory framework [Tom]. There will also be a new government and it is unknown what is going to happen with this government [Sam]. However, cost of capital will tend to decrease in the long run as the regulatory environment stabilises and the uncertainty regarding the quality of the banks' balance sheets and capital needs fade away. (...) Furthermore, the evolution of the country risk perception and ECB's monetary decisions will be critical to assess, as these factors are related to the Capital Asset Pricing Model (CAPM) [Tom]. Another problem is that at a certain point, if we keep on demanding more and more capital to the industry, the industry won't attract any new investment at all. (...) If there are alternatives in insurance, in distribution or in energy that pays systematically a ROE that is much higher than the financial sector, the capital will flow to other sectors. (...) So there should be a break even between the amount of capital that is demanded by the supervision and what can be realised by the industry. (...) If I see that the financial sector is demanding more capital and the

return on equity is below what you can find in other sectors (...) for the next 10-20 years, I should sell banking and buy for instance energy, telecommunications or distributions [Harry]

5 Conclusion and Future Research

The financial crisis of 2007-08 revealed severe shortcomings in financial regulation. As a response to this the BIS developed Basel III, which has a strong focus on mitigating the risk of another collapse of the financial banking system. One of the regulatory measures imposed by the Basel III accord is the need for banks to have a higher minimum of capital relative to their assets, which will enable banks to absorb losses better. Higher capital requirements are widely discussed in the financial literature and among bankers and investors due to the potential impact it has on banks' performance. The aim of this empirical research is to explore the impact of these new capital ratio requirements on the ROE of Portuguese banks. Three main issues were identified: (1) the impact on the ROE in an already challenging and difficult economic environment; (2) measures taken to increase capital ratios and (3) the effect of holding more equity in the balance sheet.

A complex and challenging economic environment:

The Portuguese economy and banking sector are in a challenging and complex situation due to several dynamics. Therefore, it becomes difficult to see the true impact of the capital ratio requirements on the ROE of Portuguese banks. The asset side is affected by several macroeconomic factors and huge losses in impairments. The interest rate is almost zero, and the inflation and growth rate is low, which restricts lending. During the first decade of this century there was a significant credit growth in Portugal and today banks are booking huge amounts of impairments due to this. On the liability side there has been a huge increase in costs of deposits. Thus, in the end the results of Portuguese banks have been affected by all these factors, which have decreased the nominator of the ROE formula. At the same time the capital requirement increases the denominator. Thus, less profit is divided by more capital and the ROE decreases. However,

several interviewees emphasised that the decrease of the ROE is largely explained by low margins and not capital increases.

Actions Taken to Increase Capital Ratios:

The most organic ways of increasing capital is to use residual income or issue equity. However, this has been problematic because of low levels of revenues and difficulties in raising capital. Hence, Portuguese banks have been relying on other methods such as issuing CoCos, selling non-core assets, reducing RWAs and converting bonds into equity. Shedding RWAs and selling non-core assets have been a main focus for many banks. This is believed to have a significant impact on the ROE of banks in the long run because it limits the business they can do in the future. Nevertheless, among the interviewees it was clear that the issuance of CoCos has been the most expensive measure due to the high interest payments. This measure is deemed as the most expensive one because the interest payments make it possible to quantify the costs. It is too soon to understand the costs from reduced business volumes or the cost of issuing equity. However, the CoCos will not have any effect on the ROE in the long run.

As a main focus for many banks have been to shed assets there is a question about the sustainability of Portuguese banks. To compensate for reduced businesses banks need to produce good results with the credit they have, to give investors return on capital invested. However, there is not enough good credit for all the banks. This will result in merges or banks being sold to foreign entities. However, the market is already quite consolidated and if too big banks merge the risk of another collapse of the financial system increases.

The Effect of Holding More Equity in the Balance Sheet

The last part of this empirical study tries to follow up on the existing literature on capital requirements and profitability of banks, which seems to be dominated by the potential effects of holding more capital in the balance sheet. In theory, equity should be more expensive than debt instruments but this has not been the case for many Portuguese banks as banks have not been distributing dividends and the valuation of shares have been low. Additionally, the pressure from shareholders becomes even higher due to the past years with

no remuneration, which should make equity even more expensive. For banks like BCP, CoCos have to be repaid before shareholder can enjoy any profits. Furthermore, the equity that is being put in to play needs to have a return and no impairments to be able to increase ROE. However, it will be difficult for banks to get a ROE higher than the cost of equity, which today is 10-12%. In terms of risk and return it is hard to say if the ROE will be better or worse with more equity. In theory, with increased capital investors should ask for reduced remuneration. However, it was argued that capital could erode quickly, which means that more capital doesn't necessarily decrease risk.

Other factors such as uncertainties around regulations and a government will keep the cost of equity high and stable in the short run, but in the long run cost of capital might decrease as the regulatory environment stabilises. However, if the demand for regulatory capital will continue to increase, it might come to a point where the banking industry won't attract any new investment at all, as long as there are other industries that can generate better ROE.

To sum up higher capital requirements decrease the ROE of Portuguese banks but losses due to impairments, macroeconomic factors and increased costs of deposits are undoubtedly the main reasons for the low levels of ROE the past years. Among the actions taken to meet new capital ratios, reduction of RWAs and non-core assets have been the main focus but the CoCos are deemed as the most expensive measure because of high interest rates. However, the CoCos will not have any effect on ROE in the long run. Furthermore, while reducing assets and therefore their business, banks must be able to attract good credit in order to give investors returns on capital invested. If not, banks will be sold or forced to merge. It is difficult to draw any conclusions on how the banks' ROE is affected by holding more equity in the balance sheets, as many banks currently don't generate enough money to pay back on shareholders' investments. It is also argued that uncertainties around regulations and a new government will keep cost of equity expensive in the short run but once the regulatory environment stabilises the cost should go down.

Based on the results from this empirical study two issues remain unresolved and can therefore be relevant for future research: (1) The impact of reduction of RWAs and non-core core assets on the ROE of Portuguese banks. Several of the interviewees believed that these methods of meeting capital requirements will affect the ROE in the long run because it limits the operations banks can generate revenues from. However, as this is still a relatively new- and ongoing process it is too early to understand the real impact of these measures. (2) The effect of holding more equity in the balance sheet. Previous research on the effect of higher levels of regulatory capital on the ROE of banks has produced mixed results and this empirical study also leaves the issue unresolved. As many Portuguese banks still don't generate positive results and are therefore not able to pay back investors on capital invested, it is currently difficult to understand the impact on ROE. It can also be valuable to see if the cost of equity decreases when there are more certainties around the regulatory environment. Future research on these two issues will potentially give a more clear answer to how the Basel III capital requirements will affect the profitability of Portuguese banks.

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