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The application of Basel III in Portugal: Previsions Based on 2012 and 2013 Banking Balance-sheets

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Abstract:
The Basel Committee on Banking Supervision (BCBS) introduced new regulations for banking supervision in December 2010, better known as Basel III recommendations that aimed at guaranteeing the solidity of banks worldwide and the mitigation of new banking crises risks. The European Union transposed these directives through the Credit Review Directives IV (CRD IV). Portugal adopted CRD IV by a new decree-law no. 157/2014, on 24th October 2014, enforced from 24th November 2014. While individual banks have been given the option of using the internal ratings based method, this study analyses the compliance levels of all Portuguese banking institutions using the standard method, also prescribed by BCBS. Our results show that out of thirteen banks on 31-12-2013 only five banks were in a comfortable position and the remaining eight could not reach the minimum requirements set up by BCBS for 1-1-2014.
Keywords: Basel III; CRD IV, Tier I; Tier II, Capital ratios

Introduction:

As per the BIS (2010), one of the main reasons that plunged the world in an economic and financial crisis in 2007, was the excessive level of leverage in and out of the balance sheets of banks. Simultaneously, several banks in various countries had gradual erosion in the quality of their capital basis and lacked sufficient liquidity reserves to cope up. The banking sector was not able to neither absorb the huge systemic losses of the respective economies nor respond to the enormous exposures created by shadow banking intermediation. Financial institutions are always interlinked by a gamut of transactions and the effects of the crisis were cascading. With the aggravation of the crisis, the markets lost confidence in the banking sector that had started contracting credit and liquidity affecting thus the rest of the economy. Finally, the governments of various countries were forced to intervene to save their respective banks, by injecting huge sums of money and giving guarantees, using the tax-payers money. The effect on the banks and other financial intermediaries of the countries in the epicenter of the crisis was immediate, but it spread quickly also to the remaining countries of the globe via indirect channels of transmission, resulting in a severe contraction of liquidity and international credit, fall in exports and increase in unemployment worldwide. This crisis was comparable only to the one of the 1930s (Cardoso, 2013).

The BCBS (2010) came out with several recommendations that came to be known as Basel III with the aim of increasing bank prudence and transparency as well as solidity and the adoption of less leveraged business models. As per these recommendations banks will have to increase their capital reserves to protect against future crises. The main recommendations of *Basel III* are:

- High quality capital (made up of common equity shares and retained earnings) should increase to 4.5% of the risk weighted assets (2% in *Basel II*) between 2013 and 2015 and be maintained at that level.
- Minimum tier 1 capital (made up of common equity, retained earnings, preferential shares, hybrid instruments of capital and perpetual debt) should reach 6% (4% in *Basel II*) till 2015 and be maintained at that level.

- A capital conservation buffer of 2.5% of the risk weighted assets should be gradually created between 2016 and 2019 (0.625% to 2.5%). This reserve will restrain the payment of dividends to shareholders and bonuses to banking executives in case the bank is not able to stay above the minimum recommended capital ratios.
- A counter cyclical high quality capital buffer of up to 2.5% of the assets weighted by the addition risk could be demanded by the country´s regulatory bodies during credit expansion periods.
- The leverage ratio should be minimum 3%. This ratio will be calculated by dividing the tier 1 capital by the average total consolidated assets of the bank.
- A new liquidity coverage ratio has been proposed, under which the bank should have sufficient high quality liquid assets to cover all outflows of cash for the next thirty days under a stipulated stress regime.
- A new net stable funding ratio has been proposed. It includes client deposits + long term financing + own capital, divided by the long term assets. This ratio should always be maintained above 100%.

The application of these measures hopes to promote stability and efficiency of the banking system, reducing this way the chances of banking insolvency. The tier 1 capital is the limit up to which the bank is able to absorb its losses without closing down operations and the tier 2 capital is the limit up to which the bank is able to absorb its losses in case of insolvency without using the clients funds deposited with it.

In this paper we attempt to study the effect that the recommendations of *Basel III* will have on the capital of fourteen Portuguese banks, using 2012 and 2013 data for comparison.

The implementation of *Basel III* and the implications to the economy

The main role of banks is the financing of the economy and the stability of the entire financial sector of a country (Athanasoglou, Brissimis and Delis, 2005). The study of Chortareas, Girardone and Ventouri (2011) on a sample of banks from twenty two countries between 2000 and 2008 to understand the impact of the regulatory and banking supervision on the development, profitability, stability and corruption in banks showed that such measures have a more significant effect in countries with higher quality of financial institutions as compared to poorer countries. Dietrich and Wanzenried (2010) also agree that the efficiency of an economy´s financial sector can be measured by the profitability of its banks, where high profitability implies a highly concentrated financial sector that is more propitious to inefficiencies and a low profitability implies the absence of financial institutions in the country. Similarly, the Institute of International Finance (2010), in its elaborate study concluded that in non-regulated markets, systemic crises occur at a much higher frequency and the impact is also much larger, thus the main benefits of regulating the banking sector are in the reduction of systemic crises occurrence. The study conducted by Yan, Hall and Turner (2012) shows that the probability of a financial crisis in industrialized as well as developing countries is 4 – 5% annually and results from the vulnerability of the banking sector, especially when banks have low levels of high quality capital, few liquid assets and scarce sources of financing. Shim (2012) says that the cyclical provision to be created by banks as proposed in *Basel III* should ensure the needs of capital of the banking sector taking into consideration the macroeconomic sector of operation. When the economic cycles are in a boom, banks should create reserves that are sufficient to ensure stability, as they may experience systemic shocks during recessive economic situations.

Dedu and Nitescu (2012), in their study mention that the financial crisis proved that only auto-regulation is not sufficient for systemically important institutions and financial markets. It was the permissive regulations of central banks that accelerated the growth of the banking sector and resulted in the financial crisis. They believe that *Basel III* will fortify the financial institutions at a prudential capital level as well as the liquidity and will create a global banking and financial system much more resilient to the systemic shocks seen in the 2008 financial crisis. *Basel III* is based on micro-level

prudence, that means in controlling the risk at an individual bank level, resulting in more resilient banks to the financial shocks and thus in a stronger and more stable economy in totality. Arnold, Borio, Ellis and Moshirian (2012) analyzed several problems that have to be resolved to promote financial stability. Some of those problems are the measurement of systemic risk and the contribution of financial institutions individually for the same, the proprieties of the financial cycle and the pro-cyclical effect, indicators that show the accumulation of factors could result in a financial crisis and the importance of liquidity and capital for the resilience of the markets. In their study, Antão and Lacerda (2011) proved that the Euro zone banks were highly leveraged and were thus not able to absorb credit and market losses that ended up being paid by the tax-payers of the respective countries, resulting in drastic reductions of industrial production and increase in unemployment. Cabral (2013) also showed in his study that prior to the 2007-2008 crisis, the profits of the global banking sector were very high but the results from financial intermediation were quite low. He argued that the high profits were obtained by the expansion of the balance sheets and the divergence between the non-fulfillment, liquidity and term risk between assets and liabilities. The large banks started growing but became less liquid creating in this way the conditions needed for a banking crisis. Rossignolo, Fethi and Shaban (2012) after conducting a study of the PIGS (Portugal, Ireland, Greece and Spain) concluded that the economic success of these countries at the beginning of the XXI century was a direct result of the introduction of the Euro as a common currency in the majority of EU countries. This resulted in a fast and excessive increase in credit due to low interest rates as compared to the rates of interest that were applied to the old weaker currencies of these countries. The capital markets rose as a bubble and contributed to an increase in GDP levels never seen in the PIGS. The PIGS´ banks did not have enough capital reserves accumulated to cover any exposure risk that could arise in case of a sudden crash of the markets while still fulfilling the requirements set-up by the respective central banks. The result was a cascading fall of the banking sector in the PIGS during this financial crisis. Vallascas and Keasy (2012) used a vast empirical sample of European listed banks to identify which were the characteristics that could provide coverage against systemic shocks. They came to the conclusion that though the imposition of minimum requirements of capital under *Basel III* may increase banking resilience to systemic events, the risks of banks also depend on the ratio of non-credit based income and on the growth of assets. They are of the opinion that regulators should impose a maximum absolute size to banks, a limit that would depend on the size of the economy, with small economies working with small banks that would avoid large exposures outside the country and large economies with bigger banks, but still with a limit on the size, to be controlled on a case to case basis.

Pakravan (2011), in his study of the *Basel III* recommendations feels that the new regulations should bring banks back to their function as financial intermediaries, reducing thus risks and minimizing the costs of bank financing, but advises a simple, transparent and accountable implementation of the recommendations of BCBS so as not to increase the pressure on banks due to strict capital requirements and rigorous regulations, in order to have no negative impact on the economy. Yilmaz (2009) also reiterated that banking capital regulation will affect the credit to the economy, though it may help prevent or even reduce the risk of insolvency of banks. The regulation of the banking sector can lead to a shortage of liquidity in the economy affecting all the sectors and thus reducing the GDP of the country. He also noted that the capital recommendations that are based on risk (*Basel III*) change the composition of the bank´s assets and liabilities. Even though he considers the recommendations important, he advises prudence in their implementation to avoid a negative impact in the economy. His point of view is also partially shared by Allen, Chan, Milne and Thomas (2012) who feel that the impact of the implementation of *Basel III* should be much lighter than the opinion of many critics, but recommend a careful management of the changes in the business models, processes and management to avoid a severe shortage of liquidity in the markets. They agree with many critics that the implementation *Basel III* as proposed by BCBS could drastically reduce the availability of credit and reduce economic activity. The main problem will be the adaptation of the financial sector to the new regulations. The regulatory authorities should involve banks and investors in the process of implementation and change. If this is not done, "the cure could be worse than the disease." Wignall-

Blundell and Atkinson (2010) studied the proposals of *Basel III*, mainly the impact on the capital of banks that are too large to fail and that in the past opted to take unnecessary risks in order to grow further. They are of the opinion that the recommendations of BCBS in *Basel III*, mainly the leverage ratio, capital buffer and cyclical provision for estimated losses are excellent. However, *Basel III* does not address properly the fundamental regulatory problem of promises that are inherent in any financial system. Banks have the possibility of moving their funds to other sectors like insurance activities where the regulation is not as strict and thus manipulate their balance sheet. Similarly, shadow banking activity by banks has not been sufficiently addressed in the *Basel III* recommendations and this could result in various types of financial manipulations by banks to reach the minimum ratios without any increase in capital.

Using the data of sixty global banks, Bučková and Reuse (2011) created a balance sheet of a fictitious bank to analyze the effect of the recommendation of *Basel III* on the new ratios, the *Liquidity Coverage Ratio* (LSR) and the NSFR (*Net Stable Funding Ratio*) that should help maintain the necessary minimum liquidity level of banks on a short and long term basis. According to them, treasury bonds will become more attractive for banks as long as they continue to carry a weight of 0% on the risk weighted assets. European banks may start mixing national treasury bonds with international ones that offer high rates of interest in order to reduce the risk weight of their assets. The country wide result could be a major demand for long term funds by banks that could make long term loans costlier to the economy, as well as increase the rates of interest on long term deposits. Hyun and Rhee (2011) observed that banks can fulfill the regulatory recommendations to increase ratios by issuing new shares to the public or by reducing loans. Given the high cost involved in the issue of new capital, banks would prefer to reduce loans, usually when the economy is running through a crisis. This means that the implementation of *Basel III* could reduce economic activity in case banks opt to reduce credit to their clients in order to reach the minimum ratios. In a similar study that covered British banks, Francis and Osborne (2012) noted that the BCBS recommendations may not be as effective as expected when banks can fulfill the capital requirements by using debt instruments (tier 2 capital) that are cheaper and easier to raise than capital (tier 1 capital), that proves costlier in the long run. Banks may try to manipulate their balance sheets to reach the minimum requirements of BCBS by increasing the tier 2 capital without altering the tier 1 capital, or in other words, without improving capital quality. Das and Sy (2012) also feel that banks can manipulate tier 1 and tier 2 capitals by showing lower values of risk weighted assets in order to reduce the minimum requirements of capital. A comparison made by them of banks in various regions of the world led them to the conclusion that where regulatory authorities allow the use of the IRB models, the value of the risk weighted assets is lower than in the regions where the credit risk is calculated using the standard method. These variations could have damaging results during financial crisis.

In February 2011, the OECD estimated that the medium term economic impact of *Basel III* implementation would be in the range of -0.05 to -0.15 percentage points in the GDP, due to the increase of bank spreads (Slovik and Cournède, 2011). Based on the banking sector balance sheets for 2010, Härle et al. (2010) estimated that for the full implementation of the recommendations of *Basel III* till 2019, the European banking sector will need an addition 1.1 trillion Euros of tier 1 capital, 1.3 trillion Euros of short term liquidity and about 2.3 trillion Euros of long term funds. The impact on the United States banking sector will be lower (as the total assets of American banks is smaller than those of European banks) and it will need about 600 billion Euros of additional tier 1 capital, 800 billion Euros of short term funds and 2.2 trillion Euros of long term funds, respectively. Nucu (2011), in a comparative study of the effect of the implementation of *Basel III* in Romania and the European Union, feels that the recommendations of the BCBS are certainly applicable to a post-crisis world. The reforms proposed are of prudential levels that seek to reduce the occurrence of systemic shocks in future. She expects a fall of 3.7 to 4.3 percentage points in the ROE of European Union banks from the current level of 15%. Cosimano and Hakura (2011) analyzed the impact that the minimum capital requirements of *Basel III* can have on the interest rates of banking loans and on the growth of credit.

Their study covered the largest one hundred banks and concluded that there will be an increase in the ratio of capital to total assets by 1.3 percentage points on a long term basis, implying a reduction in the volume of loans by 4.6% in developed economies that witnessed a financial crisis between 2007-2009 and by 14.8% in the banks of the countries that did not suffer from the said financial crisis, with individual variations country wise, thus reducing drastically global economic growth.

The CRD IV (Credit Requirement Directive IV)

The European Union is working on a European legislation named Credit Requirement Directive IV (CRD IV) that will be based on *Basel III* and that should be implemented from November 2014 onwards in Portugal. This method, while enforcing the same minimum ratios as prescribed by BCBS, may give the option to banks to use the standard method of calculation or the internal ratings based method. This is a cautious way if implementing the recommendations in order to avoid a contraction of credit in the EU member states.

In Portugal, the central bank, Banco de Portugal in order to comply with the CRD IV directives instructed all banks and financial institutions to have a minimum capital ratio of 7% for 2014 and altered significantly the meaning of financial and credit institution, thus eliminating some types of institutions. It also enhanced the supervisory and controlling authority and insisted on greater internal control of governance of the financial institutions (Banco de Portugal, 2013, 2014).

Methodology

The Portuguese Association of Banks (APB), on 30th of June of 2013, listed 23 domestic banks and 10 foreign banks as members, out of which 13 published annual reports:

- Banco Português de Investimento, S.A. (BPI)
- Banco Comercial Português, S.A. (BCP)
- Banco Espírito Santo, S.A. (BES)
- Caixa Económica Montepio Geral (Montepio)
- Caixa Geral de Depósitos, S.A. (CGD)
- Banco Finantia, S.A. (Finantia)
- Banco Internacional do Funchal, S.A. (BANIF)
- Banco de Investimento Global, S.A. (BIG)
- Banco Invest, S.A. (Invest)
- Banco Popular, S.A. (Popular)
- Banco Santander Totta, S.A. (Santander Totta)
- Crédito Agrícola, S.A. (Crédito Agrícola)
- Banco BIC Português, S.A. (BIC)

Using the consolidated balance sheets, (except in the case of Banco Popular and Banco BIC where there was no consolidation), for the year ended on 31st of December of 2012 and 2013, a study was made for 1st of January of 2013 and 2014 respectively of the ratios proposed by *Basel III*, as per the BCBS document *Basel III: A global regulatory framework for more resilient banks and banking systems* (2010).

To have a more meaningful comparison of individual banks and to reach a more just conclusion that eliminates the weight or influence of certain investments in different sectors of activity can have on the risk weighing of assets, we used the standard method and not the IRB method that still is commonly used in the country, as recommended by Banco de Portugal in its notice no. 6/2010 (based on *Basel II*).

This study covered the following values and ratios:

- Risk weighted assets using the standard method (method 1)
- Tier 1 ordinary capital

- Tier 1 additional capital
- Tier 2 capital
- Total capital
- Tier 1 ratio
- Tier 1 total ratio
- Total capital ratio

While using the standard method for quantifying the risk weighted assets on the balance sheet, off-balance sheet and for contingent items, the following weights have to be used:

Table 1: Risk weights

TYPE OF ASSET IN THE BANK BALANCE SHEET	RISK WEIGHT TO BE ALLOTED
Cash and inter-bank loans	0%
Commercial and other investments	100% a 600%
Net loans to clients	100%
Interest due on loans to clients	100%
Accounts receivable and other assets	100%
Net fixed assets	100%
Off balance sheet items (short term) or contingent liabilities (with maturity below one year)	20%
Off balance sheet items (long term) or contingent liabilities (with maturity above one year)	50%

Source: http://kdid.org/microfinance-financial-reporting-standards-draft-public-comment/a1-calculating-risk-weighted-assets

In Portugal, the classification of risk weights is based on the internal ratings method that is calculated by each bank. Though easier to apply, it does not allow for a fair comparison between banks, as each one will define the risk weights based on slightly different ratings. Some Portuguese banks were selected for recapitalization by EBA in order to reinforce the stability of the country´s financial system. The core tier 1 ratio is calculated in accordance with notice 6/2010 of Banco de Portugal and the total risk weighted assets are calculated as 12.5 times the total requirement of funds. The value of the core tier 1 is different from the value that would be obtained using the recommendations of *Basel III* for method 2 (IRB) and from the value that would be obtained using the EBA method.

Using an excel spreadsheet, the balance sheet items were segregated by their respective weight risks. Some of the items had to be restated in order to comply with the recommendations of *Basel III* in order to accommodate the risk weights, as was the case of loans and interest that are not clearly segregated in the notes to the accounts and had to be given a risk weight of 100%.

Cash and balances with other banks and financial institutions were taken with a risk weight of 0% and investments in shares of third parties, included in financial assets at fair value as well as financial assets held for sale had a risk weight of 300%[1], as they are mostly investments in stock markets.

Other bank investments, namely financial assets held for trading, debt instruments and other assets held at fair value, other applications with credit institutions, investments held till maturity, investments in subsidiaries and affiliates, joint-ventures and non-current assets held for sale had a risk weight of 100%. The same risk weight was used for tangible fixed assets, intangible assets, current and deferred tax assets and other assets of the balance sheet not covered above.

[1] We tested various risk weights but the change in the results was not significant.

Deferred tax assets occurring due to temporal differences should be recognized from 1-1-2013 up to a maximum limit of 15% of tier 1 capital after all other deductions. The balance has to be deducted from the calculation of tier 1 capital. The assets up to the limit of 15% of tier 1capital (that are not deducted) carry a risk weight of 250%.

Off-balance sheet items and contingent liabilities with maturity below one year should have a risk weight of 20% and those with a maturity above one year should be weighed at 50%. As Portuguese banks do not segregate properly these items clearly in the notes of accounts, the risk weight adopted was 50%.

The sum of all the assets of the balance sheet multiplied by their respective risk weight gives the risk weighted assets that is used as the denominator to calculate all the ratios recommended by *Basel III*.

The tier 1 capital is the sum of the issued capital and equivalent items (common shares), issue premium, retained earnings, loss reserves, other accumulated reserves, deferred tax loss reserves, minority interest, negative differences of the first consolidation and negative differences arising on revalidation by the equity method. From this sum, some regulatory adjustments are deducted, namely goodwill and other intangible assets, deferred tax assets that depend on future profits, cash flow hedge reserves, reduction in future estimated loss provisions, gain on sale of securitized assets, non-realized gains and losses due to changes in credit risk estimation, assets and liabilities of defined pension benefit plans and treasury stock. Reciprocal investments in other financial institutions and investments in affiliates above the limit of 10% are also deducted.

Deferred tax assets that occur due to temporary differences, investments in other financial institutions and mortgage servicing rights (MSR) should be recognized from 1-1-2013 up to a maximum limit of 15% of tier 1 capital after deducting all the other deductions listed above. The net value obtained is the tier 1 capital (CET 1).

Additional tier 1 capital is made of issued instruments that do not fall under the definition of tier 1 capital. In the case of Portuguese banks, this item is mainly made up of perpetual subordinated debt with a call option after a minimum of 5 years to be counted from the date of issue. To that are added the issue premiums and minority interests on the said instruments. The regulatory adjustments, if any, as described above, have to be deducted. The net value obtained is the additional tier 1 capital and the sum of both above is the tier 1 total capital.

The tier 2 capital is the sum of all the instruments that are not taken as tier 1 and in Portugal will be composed of non-perpetual debt with initial maturity of at least 5 years, respective issue premium, issue premium, minority interests on the same, estimated loss provisions up to a maximum of 12,5% of the risk weighted assets less the specific regulatory requirements prescribed for this type of debt. The net value obtained is the tier 2 capital (CET 2) that when added to the CET 1, makes up the total capital.

The tier 1 ratio is calculated as follows:

$$\text{CET 1} = \frac{\text{Tier 1 capital}}{\text{Risk weighted assets}}$$

While the tier 1 total ratio is calculated as under:

$$\text{CET 1} = \frac{\text{Tier 1 capital} + \text{Additional tier 1 capital}}{\text{Risk weighted assets}}$$

The total capital ratio is obtained by the formula:

$$\text{CET total} = \frac{\text{Tier 1 capital} + \text{Additional tier 1 capital} + \text{Tier 2 capital}}{\text{Risk weighted assets}}$$

Discussion of Results

Though *Basel III* has been recommended for global implementation from 1st of January of 2013, Portuguese banks still follow notice 6/2010 of Banco de Portugal (Portuguese Central Bank) that recommends that the core tier 1, tier 1 and tier 2 ratios be calculated using an internal ratings based method of evaluation of the bank´s exposure to credit and other operational risks. In this method, the risk weighted assets are calculated as 12.5 times the total requirement of funds. The implementation of *Basel III* in the country will be through the CRD IV, starting in November 2014, and probably showing its impact from 1-1-2015 onwards.

In our paper "The impact of the implementation of the *Basel III* recommendations on the capital of Portuguese banks" (Silva and Fernandes, 2014) we calculated the ratios prescribed as minimal under *Basel III* using the data of 2012, the banks that surpassed the minimum ratios for 2013 were considered as fulfilling banks, while the others that did not reach the minimum levels were considered as non-fulfilling banks. Obviously, if a bank is not able to fulfill the minimum ratios for 2013, it will be a non-fulfilling bank for the next years unless it reduces its risk weighted assets or increases its capital (Yun and Rhee and Das and Sy), as the tier 1 and tier 2 capital ratios keep increasing year after year till 1-1-2019[2]. In this paper, we further our analysis using the data of 2013 to see if all the fulfilling banks continue to fulfill the minimum requirements or not and also make a comparison between 2012 and 2013 for each bank.

Table 2: Results of the study

AS ON 01-01-2013	**TIER 1 CAPITAL ACTUAL & EXCESS/ (DÉFICIT)**		**TIER 1 TOTAL CAPITAL ACTUAL & EXCESS/ (DÉFICIT)**		**TOTAL CAPITAL ACTUAL & EXCESS/ (DÉFICIT)**		**AS ON 01-01-2014**	**TIER 1 CAPITAL ACTUAL & EXCESS/ (DÉFICIT)**		**TIER 1 TOTAL CAPITAL ACTUAL & EXCESS/ (DÉFICIT)**		**TOTAL CAPITAL ACTUAL & EXCESS/ (DÉFICIT)**	
MÍNIMUM VALUES FOR 1-1-2013 (%)	**3.50**		**4.50**		**8.00**		**MÍNIMUM VALUES FOR 1-1-2014 (%)**	**4.00**		**5.50**		**8.00**	
	ACTUAL RA	**EXCESS/ DÉFICIT[3]**	**ACTUAL RA**	**EXCESS/ DÉFICI**	**ACTUAL RA**	**EXCESS/ DÉFICI**		**ACTUAL RA**	**EXCESS/ DÉFICI**	**ACTUAL RA**	**EXCESS/ DÉFICI**	**ACTUAL RA**	**EXCESS/ DÉFICI**

[2] See annex 4 of *Basel III*: A global regulatory framework for more resilient banks and banking systems. *Bank for International Settlements* (2010).

[3] The excess or deficit for each of the banks in all the ratios of this table is the difference between the actual value of the ratio and the minimum recommendations of *Basel III*.

	TIO		TIO	T	TIO	T		TIO	T	TIO	T	TIO	T
BPI	3.55	0.05	3.55	(0.95)	6.60	(1.40)	BPI	4.55	0.55	4.55	(0.95)	7.03	(0.97)
BCP	1.87	(1.63)	2.05	(2.45)	6.63	(1.37)	BCP	0.50	(3.50)	0.70	(4.80)	5.72	(2.28)
BES	6.70	**3.20**	6.93	**2.45**	8.35	**0.35**	**BES**	6.98	**2.98**	7.21	**1.71**	8.48	**0.48**
Montepio	6.50	**3.00**	6.57	**2.07**	8.65	**0.65**	Montepio	6.00	2.00	6.03	0.53	7.58	(0.42)
CGD	5.15	1.65	5.15	0.65	7.48	(0.52)	CGD	5.58	1.58	5.58	0.08	7.71	(0.29)
Fiantia	14.62	**11.12**	14.62	**10.12**	19.77	**11.77**	**Fiantia**	13.21	**9.21**	13.21	**7.71**	17.86	**9.86**
BANIF	(0.64)	(4.14)	0.02	(4.48)	1.60	(6.40)	BANIF	4.09	(0.09)	4.09	(1.41)	5.14	(2.86)
BIG	16.40	**12.90**	16.40	**11.90**	16.40	**8.40**	**BIG**	16.84	**12.84**	16.84	**11.34**	16.84	**8.84**
Invest	7.23	**3.73**	8.87	**4.37**	8.87	**4.87**	**Invest**	9.04	**5.04**	9.04	**3.54**	9.04	**1.04**
Itaú	7.03	3.53	7.03	2.53	7.36	(0.64)	Itaú[4]	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Popular	6.82	3.32	6.82	2.32	6.82	(1.18)	Popular	7.30	3.30	7.30	1.80	7.30	(0.70)
Santander Totta	4.27	0.77	4.28	(0.22)	4.28	(3.72)	Santander Totta	5.92	1.92	5.93	0.43	5.93	(2.07)
Crédito Agrícola	6.20	2.70	6.39	1.89	7.22	(0.78)	Crédito Agrícola	4.96	0.96	5.11	(0.39)	5.78	(2.22)
BIC	8.22	**4.72**	10.39	**5.89**	16.04	**8.04**	**BIC**	6.39	**2.39**	6.39	**0.89**	8.94	**0.94**

Conclusions

Based on table 2, out of the fourteen banks in 2012, only six (highlighted) fulfilled the minimum ratios prescribed by *Basel* III. Out of the five largest banks operating in the country (BPI, BCP, BES, CGD and Santander Totta) only BES has enough capital to satisfy the requirements laid down by *Basel III* till 1-1-2019[5], in case the capital conservation buffer is not taken into consideration. If we consider the capital conservation buffer, the bank is in a comfortable position up to 1-1-2018[6]. In 2013, there were only thirteen banks that published their results[7], and only five (highlighted) fulfilled the minimum ratios prescribed by *Basel III* for 1-1-2014.

Caixa Geral de Depósitos (CGD), the largest bank that is mainly state owned was in a relatively comfortable position in 2012 having only a marginal deficit in the total capital that could be easily fulfilled by reducing slightly the risk weighted assets or with a marginal increase in tier 1 or tier 2 capitals. The position of the bank improved slightly in 2013, but it was still lacking marginally in the total capital minimum ratio.

Santander Totta, an affiliate of the Spanish Santander group shows a slightly weak position in its ratios and should control better its risk weighted assets or go for a new issue of tier 1 or tier 2 instruments in

[4] This bank did not disclose financial information for the year ended 31-12-2013 for Portugal.

[5] As the actual ratios obtained for this bank exceed the minimal requirements prescribed up to 1-1-2019.

[6] As the actual ratios obtained for this bank exceed the minimal requirements prescribed up to 1-1-2018.

[7] Banco Itaú did not publish separate results for Portugal in 2013.

the near future. It improved slightly in 2013, but still lacked as far as total capital minimums are concerned.

BCP and BPI do not have satisfactory ratios for 1-1-2013 and 1-1-2014 when the standard method is used.

From the remaining medium and small banks, BANIF continues to lag behind other banks, owing to the huge losses it posted in both years. Other medium sized and small banks, like Finantia, BIG, Invest, BIC, satisfy majorly all the recommendations of *Basel III* till 1-1-2019[8]. Montepio showed satisfactory ratios in 2012, but in 2013 is slightly below the minimum ratio as far as total capital is concerned. It should try to reduce the risk weighted assets or increase its tier 1 or tier 2 capital. As these banks are small and medium in size, their risk weighted assets are low and thus they were able to maintain the quality of their capital.

As CRD IV has not yet been implemented in Portugal (expected to be introduced from November 2014 onwards), there should be no contraction in credit to the economy in 2014. Banco de Portugal requires banks to hold a minimum ratio of total capital of 7% for 2014 (while *Basel III* recommends 8% for the same period) and only nine banks out of fourteen are able to fulfill this requirement. Any contraction of credit could be seen when implementation becomes compulsory and banks may try first to reduce their risk weighted assets in this way rather than go for the costlier and time consuming process of issue of new capital instruments or even an increase in credit spreads, as mentioned above by Hyun and Rhee (2011). Another point to be noted is whether Banco de Portugal will allow the use of the internal ratings method on implementation of CRD IV or will stick to the standard method.

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[8] As the actual ratios obtained for this bank exceed the minimal requirements prescribed up to 1-1-2019.

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