1-1-2015

Banco Espírito Santo and European banking regulation

Tyler Sloan

BANCO ESPÍRITO SANTO AND EUROPEAN BANKING REGULATION

Tyler Sloan

Introduction

Banco Espírito Santo (BES) traces its origins to a lottery ticket and currency-exchange stand set up in 1869. From that humble start, the Espírito Santo family grew their bank into a massive financial institution. During two World Wars, the bank continued to thrive and expand. BES' growth was fueled by its financing of Europe's trade in tungsten, which could be used to make weapons. The only thing that seemed capable of stopping the bank's growth and prosperity was the government. In fact, as a result of the revolution in 1974 that overthrew the Salazar dictatorship, the new government nationalized the Espírito Santo family's bank and froze their assets. This takeover cost the family its considerable fortune (Johnson and Wise).

The Espírito Santo family remained determined to rebuild their family wealth and set off to Brazil and Switzerland to establish banking businesses. The family was so successful in these ventures that, through a holding company, Espírito Santo International, they began to pursue some of the Portuguese businesses they had once owned. By 1991 the Portuguese government's hostility to the Espírito Santo family subsided, and the government allowed them to buy a controlling stake in BES. However, to protect their wealth, they funded their purchase primarily with debt, allowing the family to preserve its capital (Johnson and Wise). The family utilized a debt-based investment style for most of their business acquisitions, which resulted in considerable leverage. This leverage boosted the family's overall financial standing, as the economy continued to show positive growth and most of their businesses were growing rapidly. However, once the global financial crisis hit in 2007–2008 and Portugal's government was bailed out in 2011, the considerable leverage left the bank vulnerable. As a result, the family entities were forced to find new ways to borrow. Through BES, the family was able to borrow from both institutional and individual customers of the bank, which provided funds to prop up other entities in the holding company. They also tapped into some direct debt funding from BES (Grupo Banco Espírito Santo, "Banco Espírito Santo Group Activity…," p. 6). While this strategy worked for a short period of time, the lack of economic growth in Europe persisted, and Espírito Santo International ultimately filed for bankruptcy in July 2014. Due to the massive write-offs BES incurred, its capital base rapidly shrunk, and it was forced to file for bankruptcy on August 4, 2014. The rise and fall of the Espírito Santo empire provides a case study of many of the difficulties of achieving transparency in modern banking and risk management.

In this article, I review the history of Espírito Santo International and BES. Specifically, I discuss the benefits it obtained and the costs it incurred as a result of its levered strategies. I also analyze the impact of regulations implemented that govern off-balance-sheet vehicles. Finally, I address currently proposed regulations and assess whether they could have flagged the problems at BES in time.

The Espírito Santo Family: "Portuguese Royalty"

The Espírito Santo family experienced power and wealth at the highest levels before their bank was nationalized in 1974. The family was part of the high society of Portugal, providing them with access to presidents, European royalty, and some of the richest families in the United States and Europe. After losing almost everything in 1974, the family was determined to re-acquire the level of power and wealth it previously enjoyed. The Espírito Santo family grew in number with each passing generation but, incredibly, continued to maintain unity. The five branches of the family could have gone in separate directions when their business was seized; instead, they strategically utilized their money to re-establish their empire from afar. They started with very little capital, just $20,000, but were able to build upon prior relationships with lenders, who provided them with much needed capital necessary to open banks in Brazil and Switzerland (Goncalves et al.). As these banks grew and their investments became successful, the family ultimately decided to create a holding company for all their businesses. This holding company, Espírito Santo International, was 57 percent family-owned; the remaining 43 percent ownership consisted of friends of the family and some Portuguese business executives. Through this structure and an internal family council, the Espírito Santo family was able to maintain control of all of their businesses. This control allowed them to put family members in positions of power at each company in their portfolio. At its apex, there were approximately 250 family members working at BES (Johnson and Wise). Figure 1 provides a simplified ownership structure of BES to show how Espírito Santo International indirectly owned BES through a wholly owned subsidiary, Rio Forte, which in turn held a significant interest in Espírito Santo Financial Group (ESFG). Through the privately held companies, Rio Forte and Espírito Santo International, the Espírito Santo family could engage in unmonitored activity that ultimately impacted the bank. Their business successes encouraged the family to continue to expand their empire, paving the way for them to re-obtain their place and role in Portuguese society that had been taken from them in 1974.

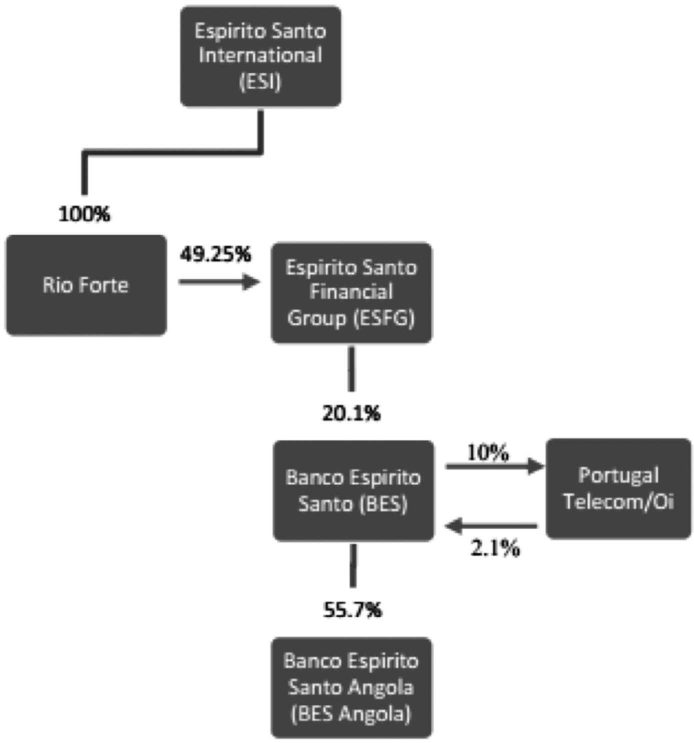
Leverage: Upping the Ante

The Espírito Santo family used debt to purchase many of their companies held under Espírito Santo International. This of course increased the degree of financial leverage employed.[1]

Because the Espírito Santo International holding company was non-listed, its financial reports cannot be obtained to determine the exact level of leverage it had at the time of failure. Similarly, Rio Forte, another non-listed holding company wholly owned under Espírito Santo International, does not provide any public financial data. This leaves the ESFG and BES as the only two sources of public information that could give insight into Espírito Santo International's finances. Furthermore, BES makes up nearly all of the ESFG balance sheet, so viewing BES in isolation gives nearly identical insight into what ESFG's financial statements would provide.

[1] Financial leverage is calculated as the total debt divided by the shareholders' equity in the company.

Figure 1
Simplified Ownership Structure of Banco Espírito Santo



Source: Callaghan, p. 6.

BES maintained a somewhat safe debt-to-equity ratio of 1.9 to 1. However, BES serviced some debt through off-balance-sheet vehicles[2] in an attempt to keep this debt-to-equity ratio low and therefore appear more attractive to potential investors when it needed to raise money. With this additional capital it could provide funds to some of the parent companies that were in financial distress as a result of the economic slowdown and their levered portfolios. BES was essentially using its seemingly clean balance sheet to raise the money needed to prop up its parent companies. When the debt flowing upstream was not enough for the parent companies, however, everything crashed.

Off-Balance-Sheet Financing[3] and Accounting Loopholes

BES held at least €1.75 billion in debt across four off-balance-sheet subsidiaries, which, if on-balance-sheet, would have changed its debt-to-equity ratio to 2.2 to 1. For comparison purposes, that ratio would be higher than the debt-to-equity ratio of each of the five largest US banks ("Bank of America..."; "Bank of New York…"; Chaudhuri; "Citigroup…"; "JP Morgan…"; "Wells Fargo…."). This increase in leverage could have discouraged potential investors, which would have affected the bank's ability to secure funds that it used to assist its

[2]Off-balance-sheet vehicles are subsidiary companies with an asset/liability structure and legal status that make its obligation secure even if the parent company goes bankrupt ("Special Purpose Vehicle/Entity…").

[3]Off-balance-sheet financing is a way of keeping certain expenditures off a company's balance sheet through various accounting classification methods ("Off-Balance-Sheet Financing").

Table 1

Direct Exposure to Espírito Santo Group through Loans, Securities, and Guarantees (in Million Euros)

	6/30/14	3/31/14	12/13/13
Rio Forte and subsidiaries	270.8	69.6	101.7
ESFG and subsidiaries	927.6	416.2	301.3
Insurance companies and subsidiaries	226.2	321.5	298.2
Other	373.4	203.8	301.1
Total exposure	1,798.0	1,011.1	1,002.3

Source: Grupo Banco Espírito Santo. "Banco Espírito Santo Group Activity…," p. 6.

Table 2

Debt Issued by Espírito Santo Group and Subscribed to by Banco Espírito Santo Clients (in Million Euros)

	6/30/14	3/31/14	12/13/13
ESI	766	762	1,565
Rio Forte and subsidiaries	1,882	544	565
ESFG and subsidiaries	251	172	186
Other	208	206	206
Total exposure	3,107	1,684	2,522

Source: Grupo Banco Espírito Santo. "Banco Espírito Santo Group Activity…," p. 9.

parent companies. BES, which was also family run (until family patriarch Ricardo Salgado stepped down in July 2014), did not disclose investments in its parent companies when compiling financial reports (Almeida and Reis). The true extent of the flow of funds upstream was seen only when new management arrived and the firm was already under duress. This detail was released July 31, 2014; Tables 1 and 2 illustrate the direct exposure of BES to the other companies held under Espírito Santo International and the debt issued by the other companies under Espírito Santo International that was subscribed to by BES clients.

By summing the respectively dated columns of each table for the three quarters shown, it is clear that even prior to BES' bankruptcy its exposure to parent company debt was significant. This ranged from €2.6 billion on March 31, 2014, to €4.9 billion by June 30, 2014. Once Rio Forte and Espírito Santo International failed in July 2014, all this debt had to be written off. BES' capital buffer was essentially cut in half as a result of the write-offs. Additionally, BES had internal problems due to a struggling Angolan unit that was posting major losses (Khalip). These two major problems quickly led BES into bankruptcy. Clearly the proper regulations were not in place to highlight the problems at BES in time to save it. However, the regulatory landscape in Europe is changing rapidly, and it is possible that some of the new and proposed regulations could have flagged warning signs at BES before it was too late.

Shifting Regulations: The European Central Bank's New Standards

BES failed just as the European Union (EU) was going through a transition in the oversight of the banking industry. In November 2014, the European Central Bank (ECB) took over as the major supervisor for all banks in the EU. This single supervisory mechanism was intended to establish a level playing field to evaluate all banks across the EU with a goal of re-establishing confidence in the European banking sector (European Central Bank, "Aggregate...," p. 13). Since BES failed in August 2014, it never truly benefitted from this oversight despite the fact that the regulatory transition had started in January 2014. During this time, the ECB was working on a comprehensive assessment of all banks in the EU from January to September and would have been communicating with BES. The main oversight that BES was accustomed to prior to bankruptcy was via the Bank of Portugal. The Bank of Portugal followed the Basel Accords[4] recommendations in evaluating the Core Tier 1 capital[5] of each bank to assess its relative stability, and the Bank of Portugal developed its own minimum standard for banks to achieve. The standard equation for Core Tier 1 is as follows:

$$\text{Core Tier 1} = \frac{\text{Common Stock + Non-redeemable Preferred Stock + Retained Earnings + Declared Reserves}}{\text{Total Assets}}$$

The higher a bank's Core Tier 1 ratio, the less risky it appears to be. A Core Tier 1 ratio of 10 percent suggests that a bank could lose 10 percent of its assets without becoming insolvent (Pietersz). Since January 2013, the standard for Portuguese banks was a Core Tier 1 capital ratio of 10 percent. In comparison, the new ECB oversight requires a Core Tier 1 capital ratio of at least 8 percent. Despite this, one Portuguese bank did fail the comprehensive assessment stress test by the ECB (European Central Bank, "Aggregate…," p. 10). This may be because different parties may include or exclude various items in their Core Tier 1 capital ratio. One of the discrepancies involves the calculation of total assets. Often the total assets are calculated on a risk-weighted basis, which reduces the gross amount of assets, resulting in an increase in the Core Tier 1 ratio. Risk weightings can vary substantially from country to country and the ECB's rules unifying the standard altered several banks' capital ratios. Furthermore, under the Basel Accords, common shares issued by consolidated subsidiaries of a bank and held by third parties can also sometimes be factored in as Tier 1 capital if certain criteria are met. The interpretation of these criteria varies on a country-to-country basis.

One weakness of the Bank of Portugal's use of the Core Tier 1 capital requirement was that it was a purely mechanical application. That is, it only evaluated the Portuguese banks based on historic balance sheet numbers and did not consider a dynamic portfolio evaluation that would show how the bank might be impacted by a global downturn or major world event. Accordingly, the Portuguese regulators did not run any stress tests on capital ratios; their "oversight" role was limited to ensuring that each bank met the 10 percent threshold. Additionally, the Bank of Portugal did not use the fully implemented version of Core Tier 1 capital, resulting in banks achieving a much higher ratio than they would under the fully implemented version. For example, Banco Português de Investimento (Banco BPI), one of Portugal's three largest publically traded banks (Reis), had a fully implemented Core Tier 1 ratio of 11.2 percent at the end of fiscal year 2013. By comparison, the Bank of Portugal calculated its Core Tier 1 ratio to be 16.5 percent. This seemingly lax level of precision could have hidden troubles at BES, which had a Core Tier 1 ratio of 10.6 percent as calculated by the Bank of Portugal; under ECB standards, its Core Tier 1 ratio was likely much lower (Grupo Banco Espírito Santo, "Annual Report…," p. 3).

Although Core Tier 1 ratios can provide relevant insight into the strengths and weaknesses of a bank, it does not tell the whole story. Core Tier 1 analysis highlights when a bank needs additional capital, which was one of the goals of the ECB stress tests. Although Core Tier 1 is a measure of the capital buffers of a bank, it does not capture a bank's leverage or the relative

[4]The Basel Accords are recommendations on banking regulations made by representatives from 28 central banks and regulatory authorities (Bank for International Settlements).

[5]Core Tier 1 capital is the equity capital and declared reserves a bank holds ("Tier 1 Capital Ratio").

short-term liquidity of a bank. In a sense, Core Tier 1 only paints part of the picture; a more detailed analysis of other ratios is needed to properly quantify the health of a bank.

Regulatory Oversight: Who's in Charge?

The ECB comprehensive assessment stress test was a major achievement in the transition to a single supervisory mechanism for the banking industry in the EU. Unifying the standards between various countries for Core Tier 1 calculations and asset quality reviews on a risk-weighted basis was no small feat. Establishing standards provides some much needed clarity; the stress test evaluation process under both normal and adverse scenarios over the course of three years provides a better financial assessment of a bank. Under the adverse scenario, where many of their assets could be wiped out, banks were required to maintain a Core Tier 1 capital ratio of at least 5.5 percent at the end of the three years (European Central Bank, "Aggregate…", p. 3).

Despite the fact that the ECB is now the major regulatory authority in the EU banking sector, its standards will not have a direct impact on all EU banks. Instead, many of the smaller banks will be subject to direct oversight by a national competent authority (NCA) in each bank's country of origin. For Portugal, the NCA is the Bank of Portugal (European Central Bank, "Aggregate…," p. 13). The banks that the ECB will directly supervise in Portugal are limited to Banco BPI, Banco Comercial Português, Caixa Geral de Depósitos, and Novo Banco. Going forward, the ECB will have direct supervisory authority over a bank in the EU if it meets any of the following three criteria:

1. The total value of the bank's assets exceeds €30 billion;
2. The ratio of the bank's total assets to GDP of its country of establishment exceeds 20 percent, unless the total value of its assets is below €5 billion; or
3. The institution is among the three largest credit institutions in a participating member state, regardless of size (European Central Bank, "Aggregate…," p. 20).

Currently, 131 banks in the EU meet at least one of the three ECB oversight criteria. Notwithstanding that the ECB's authority does not extend to small banks, the 131 banks within its scope account for over 81 percent of the total banking assets in the Eurozone (European Central Bank, "Aggregate…," p. 20).

Banco Espírito Santo: Hypothetical European Central Bank Stress Tests

Although BES went bankrupt before it could be subject to the more rigorous ECB stress tests, it is instructive to assess how it might have fared. To this end, the results of Banco Comercial Português provide a good illustration of both the impact of the new ECB requirements and the changes necessary for Portuguese banks. According to the Bank of Portugal's analysis, when BES had a Core Tier 1 ratio of 10.6 percent, Banco Comercial Português had a Core Tier 1 ratio of 13.8 percent. If the new ECB standards are applied, the actual Core Tier 1 starting point for Banco Comercial Português was 12.2 percent. This ratio then dropped to 10.3 percent based on an asset quality review. If projections are applied for year three of the baseline and adverse scenarios, Banco Comercial Português had a Core Tier 1 of 8.8 percent and 3.0 percent, respectively. Accordingly, the ECB identified a capital shortfall of €1.15 billion at Banco Comercial Português. Based on Banco Comercial Português' stress test results, one can postulate that the ECB would have found a much more substantial capital shortfall at BES prior to its collapse. Identifying such problems through the application of the more rigorous ECB stress tests would have provided ample notice to allow bank officials to address and potentially diffuse the situation. BES had a Core Tier 1 ratio of 5.0 percent when it released its first half 2014 financial results, but at that point it was already too late (Grupo Banco Espírito Santo, "Banco Espírito Santo Group Activity…," p. 44). The establishment of a single supervisory mechanism is a major step forward for the Eurozone and should help provide the transparency needed to understand these large banks.

Proposed Regulations

Leverage Ratio: When Is Debt Too Much?

Although a single supervisory mechanism is a step in the right direction for the EU, there is still more that needs to be done. The Core Tier 1 capital ratio, while insightful, does not provide a complete risk analysis of each bank. This is due in part to a variety of off-balance-sheet vehicles that are excluded from a thorough risk analysis. Notwithstanding this limitation, there are several other financial measurements that could be utilized to supplement the Core Tier 1 ratio, which would provide a clearer assessment of a bank's underlying portfolio and structural risks. One such financial tool under consideration is the leverage ratio, which the ECB is requiring every bank to disclose as of January 2015, with the target a minimum leverage ratio of 3 percent starting in January 2018 (European Central Bank, "Aggregate…," p. 128).

The leverage ratio is calculated as follows:

$$\text{Leverage Ratio} = \frac{\text{Equity} + \text{Reserves} - \text{Intangible Assets}^{6}}{\text{Total Assets} - \text{Intangible Assets}}$$

Application and acceptance of the importance of this ratio have started to gain momentum in the banking industry because the global financial crisis of 2007–2009 is widely believed to have been at least partially caused by excessive leverage from the banks. Additionally, three countries already utilize some form of leverage ratio: the United States, Canada, and Switzerland (D'Hulster, p. 2).

The American Standard

The United States utilizes a leverage ratio of 3 percent for banks that the Federal Reserve rates as "strong" and 4 percent for all other banks. However, the United States also has an interesting double standard that requires a minimum leverage ratio of 5 percent for a bank to be considered well capitalized in certain situations (D'Hulster, p. 2). The United States applies the leverage ratio on a consolidated basis, at the level of the holding company, as well as on an individual bank basis. However, because of the simplicity of the leverage ratio model in use in the United States, there is no accounting for, or evaluation of, off-balance-sheet exposures.

The Canadian Standard

Canada utilizes an assets to capital multiple, which is essentially the inverse of the leverage ratio. However, instead of only evaluating Core Tier 1 capital in the equity calculation, it also includes Core Tier 2 capital. Core Tier 2 capital consists of instruments issued by the bank that are not included in Tier 1 capital, such as stock surplus resulting from the issue of instruments, instruments issued by consolidated subsidiaries of the bank and held by third parties, and certain loan loss provisions. This methodology is designed to capture some off-balance-sheet items that are not covered by the United States tests. The multiple in Canada is 20, which is the equivalent of a leverage ratio of 5 percent, and is applied at the consolidated level, which includes the main bank and any subsidiaries. Additionally, Canada can require an even lower multiple for individual banks (D'Hulster, p. 3). Canada maintains a strong leverage ratio so that it can capture some of the inherent uncertainty of off-balance-sheet items. Much credit has been given to the Canadian regulators and their leverage ratio after they successfully avoided the financial crisis.

The Swiss Standard

The Switzerland leverage ratio is similar to that used in the United States and establishes a minimum of 3 percent at the consolidated level and 4 percent at the individual bank level. The major differences between the Switzerland and United States models relate to the criteria applied in calculating a bank's total adjusted assets. Under the rules in Switzerland, the entire domestic loan book is deducted, and the replacement value of derivatives is excluded from the adjusted asset base. Switzerland operates under different accounting standards, the International Financial Reporting Standards, instead of the Generally Accepted Accounting

[6]Intangible assets are assets that are not physical in nature. Some examples are patents, trademarks, and copyrights ("Intangible Asset").

Table 3

Banco Espírito Santo Off-Balance-Sheet Items (in Million Euros)

	12/31/13	12/31/12
Contingent liabilities		
Guarantees and standby letters of credit	7,617.6	8,023.5
Assets pledged as collateral	20,425.2	21,632.5
Open documentary credits	4,230.9	3,776.4
Other	278.5	531.8
	32,552.2	33,964.2
Commitments		
Revocable commitments	7,107.5	5,462.8
Irrevocable commitments	1,655.1	3,281.0
	8,762.6	8,743.8

Source: Grupo Banco Espírito Santo. "Annual Report…," p. 317.

Principles used in the United States (D'Hulster, p. 3). Overall, the Switzerland standard is not as rigorous as the Canadian standard, but it is nonetheless effective.

European Central Bank's Evolving Standard

There are some clear benefits to utilizing the leverage ratio as a financial tool, and the ECB should be commended for adopting a form of it as part of its bank stress tests. First and foremost, the ratio is relatively simple to calculate. Additionally, it serves as a countercyclical measure, whereas the Core Tier 1 capital ratio is rarely a concern during economic booms. However, a significant drawback to focusing primarily on the leverage ratio is that it does not provide any evaluation of underlying asset risks. For the ECB moving forward, the 3 percent minimum in 2018 seems low compared to its counterparts (European Central Bank, "Aggregate…," p. 128). The ECB should try to utilize a leverage ratio similar to that of Canada to help better reign in some of the off-balance-sheet vehicle activities, both of which contributed to the collapse of BES. Calculating BES' leverage ratio based on its balance sheet is not sufficient to show the underlying material weakness caused by its substantial use of off-balance-sheet vehicles. At the time of its final annual report, BES had an on-balance-sheet leverage ratio of 6.4 percent (Grupo Banco Espírito Santo, "Annual Report…," p. 179). By comparison, Banco Comercial Português had a leverage ratio of 5.3 percent (Fundação Millennium bcp, p. 73). However, in the off-balance-sheet items that BES did report, it had more than €28 billion in guarantees and assets pledged as collateral (Grupo Banco Espírito Santo, "Annual Report…," p. 317).

In reviewing BES' off-balance sheet items (Table 3), it can be surmised that the guarantees and assets pledged as collateral were likely tied to their struggling parent companies. A more transparent assessment of the financial strengths and weaknesses of BES would have included adjustments for the most risky contingent liabilities. For example, if the contingent liabilities were brought back onto the balance sheet of BES and then written off, the equity, reserves, and total assets would have shrunk. As a result, its leverage ratio would have potentially fallen below the 3 percent minimum.

When properly applied and calculated, the leverage ratio would provide a strong complement to the Core Tier 1 ratio in bank assessments, but off-balance-sheet leverage needs to be accounted for as well.

Conclusion

The collapse of BES was the unfortunate result of improper utilization of the assets and credit of a subsidiary company and borderline fraud. Questionable management decisions that allowed BES to provide large sums of debt to its parent companies ultimately destroyed an otherwise successful bank. ECB oversight may have caught some of these dealings if it was the regulator in charge of BES before it collapsed, based on the stress test evaluations it performed on thousands of balance sheet items at several EU banks. BES appeared not to be overly levered in the context of its balance sheet but instead was making substantial loans to only a small number of companies. Therefore, simple application of the leverage ratio would have been unlikely to identify these problems. BES and Espírito Santo International were riddled with extensive, undisclosed self-dealings between the bank and its parent companies. The Bank of Portugal or the Portuguese government may have known something about this as they were pushing Ricardo Salgado to step down in the months before he eventually did. However, the Bank of Portugal may have been acting too late when it asked for more transparency from BES, and we may never know how much or how little prior knowledge the Bank of Portugal or the Portuguese government had about these self-dealings. Fortunately for the broader financial markets, most of the damage from the collapse was limited to BES. If nothing else, the circumstances surrounding the bankruptcies of BES and Espírito Santo International should incentivize the ECB to develop and implement rules requiring companies to completely disclose monetary interactions between parent and subsidiary companies. This type of regulation would provide more transparency to investors, lenders, and the ECB to forestall future domino bankruptcies.

REFERENCES

Almeida, Henrique, and Anabela Reis. "The Fall of the House of Espírito Santo." Bloomberg Business. August 7, 2014.www.bloomberg.com/bw/articles/2014-08-07/portugals-espirito-santo-banking-dynasty-collapses. Accessed September 2014.

Banco Português de Investimento. "Annual Report 2013." Accessed November 2014.

Bank for International Settlements. www.bis.org/bcbs/about.htm?m=3%7C14%7C573. Accessed February 2015.

"Bank of America Debt to Equity Ratio (Quarterly)." YCharts.ycharts.com/companies/BAC/debt_equity_ratio. Accessed April 2015.

"Bank of New York Mellon Debt to Equity Ratio (Quarterly)." YCharts. ycharts.com/companies/BK/debt_equity_ ratio. Accessed April 2015.

Callaghan, Ciaran. "The BES (t) Recap Option and Investment Case." Merrion Solutions. July 18, 2014. Accessed February 2015.

Chaudhuri, Saabira. "Ranking the Biggest U.S. Banks: A New Entrant in Top 5." Wall Street Journal. September 15, 2014. blogs.wsj.com/moneybeat/2014/09/15/ranking-the-biggest-u-s-banks-a-new-entrant-in-top-5/. Accessed April 2015.

"Citigroup Debt to Equity Ratio (Quarterly)." YCharts. ycharts.com/companies/C/debt_equity_ratio. Accessed April 2015.

D'Hulster, Katia. "The Leverage Ratio." The World Bank Group. Crisis Response. Note no. 11, December 2009. Accessed February 2015.

European Central Bank. "Aggregate Report on the Comprehensive Assessment." Frankfurt: October 2014. Accessed November 2014.

Fundação Millennium bcp. "Annual Report 2013." Accessed November 2014.

Goncalves, Sergio, Laura Noonan, and Andrei Khalip. "Special Report: The Billion-Dollar Fall of the House of Espirito Santo." Reuters. August 29, 2014. www.reuters.com/article/2014/08/29/us-portugal-espiritosanto-family-idUSKBN0GT0R320140829. Accessed November 2014.

Grupo Banco Espírito Santo. "Annual Report 2013." Accessed October 2014.

Grupo Banco Espírito Santo. "Banco Espírito Santo Group Activity and Results in 1H2014." July 31, 2014. Accessed November 2014.

"Intangible Asset." Investopedia. www.investopedia.com/terms/i/intangibleasset.asp. Accessed April 2015.

Johnson, Miles, and Peter Wise. "Banco Espírito Santo: Family Fortunes." Financial Times. September 11, 2014.www.ft.com/cms/s/0/a63a4a56-32c0-11e4-93c6-00144feabdc0.html#axzz3RZ43l2tX.AccessedOctober 2014.

"JP Morgan Debt to Equity Ratio (Quarterly)." YCharts. ycharts.com/companies/JPM/debt_equity_ratio. Accessed April 2015.

Khalip, Andrei. "Angola's President Ordered $5.7 bln Guarantee of BES-Linked Loans-Newspaper." Reuters. July 19, 2014. in.reuters.com/article/2014/07/19/portugal-bes-angola-idINL2N0PU0D620140719. Accessed October 2014.

"Off-Balance-Sheet Financing." Investopedia. www.investopedia.com/terms/o/obsf.asp. Accessed March 2015.

Pietersz, Graeme. "Risk Weighted Assets." Money Terms. www.moneyterms.co.uk/risk-weighted-assets/. Accessed March 2015.

Reis, Anabela. "Portugal's Biggest Banks Increase Holdings in Nation's Debt." Bloomberg Business. July 30, 2013. www.bloomberg.com/news/articles/2013-07-30/portugal-s-biggest-banks-increase-holdings-in-nation-s-debt. Accessed February 2015.

"Special Purpose Vehicle/Entity – SPV/SPE." Investopedia. www.investopedia.com/terms/s/spv.asp.AccessedMarch 2015.

"Tier 1 Capital Ratio." Wikinvest. www.wikinvest.com/metric/Tier_1_Capital_Ratio%25. Accessed February 2015.

"Wells Fargo Debt to Equity Ratio (Quarterly)." YCharts. ycharts.com/companies/WFC/debt_equity_ratio. Accessed April 2015..